

***Architecture  
Program Report***

**Ball State University**  
Master of Architecture  
(Track 1 and Track 2)

September 7, 2021



National  
Architectural  
Accrediting  
Board, Inc.

**Architecture Program Report (APR)**  
2020 Conditions for Accreditation  
2020 Procedures for Accreditation

<b>Institution</b>	<b><u>Ball State University</u></b>
<b>Name of Academic Unit</b>	Department of Architecture
<b>Degree(s)</b> <i>(check all that apply)</i>  <b>Track(s)</b> <i>(Please include all tracks offered by the program under the respective degree, including total number of credits. Examples:</i>  150 semester undergraduate credit hours Undergraduate degree with architecture major + 60 graduate semester credit hours Undergraduate degree with non-architecture major + 90 graduate semester credit hours)	<input type="checkbox"/> <u>Bachelor of Architecture</u> Track:  <input checked="" type="checkbox"/> <u>Master of Architecture</u> <b>Track 1: Undergraduate degree with architecture major + 57 graduate semester credit hours</b>  <b>Track 2: Undergraduate degree with non-architecture major + 99 graduate semester credit hours</b>  <input type="checkbox"/> <u>Doctor of Architecture</u> Track:  Track:
<b>Application for Accreditation</b>	<b>Continuing Accreditation</b>
<b>Year of Previous Visit</b>	2013
<b>Current Term of Accreditation</b> <i>(refer to most recent decision letter)</i>	Continuing Accreditation (Eight-Year Term)
<b>Program Administrator</b>	Master of Architecture Program Director – Professor Pam Harwood
<b>Chief Administrator</b> for the academic unit in which the program is located <i>(e.g., dean or department chair)</i>	Dean David Ferguson Interim Chair Olon Dotson
<b>Chief Academic Officer of the Institution</b>	Provost Susan Rivera-Mills
<b>President of the Institution</b>	President Geoffrey Mearns
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## INTRODUCTION

### **Progress since the Previous Visit (limit 5 pages)**

In this Introduction to the APR, the program must document all actions taken since the previous visit to address Conditions Not Met and Causes of Concern cited in the most recent VTR.

*The APR must include the exact text quoted from the previous VTR, as well as the summary of activities.*

**Program Response:** (PLEASE NOTE: ALL TEXT FROM THE 2013 VTR IS ITALICIZED)

### **2. Conditions Not Met:**

#### **11.1.1 Student Performance Criteria**

- *B.7. Financial Considerations:*
- *C.7. Legal Responsibilities*
- *C.8. Ethics+ Professional Judgment*
- *C.9. Community and Social Responsibilities*

### **3. Causes of Concern:**

- A. **Staffing issues pending to be addressed and previously identified in the 2007 VTR:** *The range of technical and support staff is sufficient, although with a graduate program, there seems to be a need for advising to be addressed more holistically. Since the last visit, staff numbers have remained the same, while the number of professional graduate students and the demands on the program have increased. Overall a competent staff is stretched thin, though staff appears to be capable of addressing current departmental needs. Work specific to the graduate program requires additional work load that is currently not performed by staff that are more proficient in undergraduate program responsibilities.*
- B. **SPC B.7. Financial Considerations:** *Although course syllabi in ARCH 520 – Professional Practice and some high-pass course work observed in ARCH 602 - Final Project Studio pointed to construction cost-related curriculum in the program, no student work or course materials were found by the team that demonstrated fundamental understanding of building costs, acquisition costs, or building operating costs. This concern is listed since the criterion in question remains unmet since the previous team visit.*
- C. **IDP communication effectiveness and Internship Facilitation:** *The department currently places importance on the educational learning in the required internship but a more effective communication of the IDP process will lessen frustrations on the part of students and avoid potential loss of IDP credits. It will also allow students to earn IDP credit before they enter the internship program. Students noted that the department was not helpful in assisting them in finding internships outside of known firms in the Indianapolis area.*
- D. **Student engagement activities (graduate level):** *There is concern related to the engagement of students at the graduate level outside of studio. A majority of those involved in student organizations (such as AIAS and NOMAS) and supplementary experience not defined by curricular objectives are students enrolled at the undergraduate level. Student engagement with departmental structure and governance could be more fully realized as an asset to propel and strengthen the program.*
- E. **ARCH 520 Professional Practice:** *The visiting team expressed concerns about the volume of criteria that were to be demonstrated through material in this course. During the review of this course's material, presented student work represented a small percentage of the realm C criteria.*
- F. **SPC A.10. Cultural Diversity:** *The visiting team was able to find evidence of this criterion through a broad range of student work in ARCH 503 - Research Methods and ARCH 603 - Final Project Prep. However, the evidence of understanding of this criterion was not demonstrated in the courses listed on the matrix as provided by the program. The visiting team found evidence of this understanding in studio projects where students self-selected the subjects, rather than in work responding to explicit curricular objectives related to the understanding of cultural diversity and its role within architecture.*

**Detail:**

**B.7 (became B.10) FINANCIAL CONSIDERATIONS:** *Understanding of the fundamentals of building costs, such as acquisition costs, project financing and funding, financial feasibility, operational costs, and construction estimating with an emphasis on life-cycle cost accounting.*

[X] Not Met

**2013 Team Assessment:** *Although course syllabi in ARCH 520 - Professional Practice and some high-pass course work observed in ARCH 602 - Final Project Studio pointed to construction cost-related curriculum in the program, no student work or course materials were found by the team that demonstrated fundamental understanding of building costs, acquisition costs, or building operating costs.*

**B.7 - RESPONSE** (text from the 2018 IPR)

Since the last IPR, the department has continued addressing this SPC, Financial Considerations, through the required Professional Practice course in the M.Arch program (ARCH 520). The instructor for this course developed several means of ensuring and assessing student understanding of building cost fundamentals including acquisition costs, project financing/funding, financial feasibility, operational costs, and construction estimating with emphasis on life-cycle cost accounting. Guest lecturers have been consistently invited into the course to discuss these financial aspects in detail. A final exam was instituted for the course, which included questions regarding financial considerations detailed in the SPC. Student journals were also required to address this topic area. At least one assignment focused on finances and design/construction. This SPC on Financial Considerations has been an area of concern for two successive accreditation visits. As suggested by the visiting team, a reason for this is placing sole responsibility for a wide range of topics on one course. A secondary reason was the lack of definitive student work showing evidence of engagement from student work.

**Current:** Since the previous 2013 VTR and 2018 IPR, the department continues to explore opportunities to expose students to Financial Considerations in their professional education. There are now **two pro-practice courses in both M.Arch program tracks**. Course content in both courses enhances student understanding of building cost fundamentals including acquisition costs, project financing/funding, financial feasibility, operational costs, and construction estimating with emphasis on life-cycle cost accounting. Guest lecturers are invited, as needed, into the course to discuss these financial aspects in detail; assignments and exams include questions regarding financial considerations to assess student understanding. Additionally, financial considerations are consistently addressed in (ARCH 602) **Integrated Architecture Design Studio** where all students participate in the U.S. Department of Energy (DOE) Solar Decathlon Design Challenge (SDDC). One of the aspects of this design competition that students must analyze in the market analysis challenge is the financial feasibility of their proposal, looking at the process of cost estimating and addressing considerations of affordability and the likely adoption of design by intended occupants for impactful, cost-effective design. Affordability and financial feasibility to meet the current market expectations for the owner are evaluated. Life-cycle cost comparison occurs between a minimally code-compliant building and proposed design. Students must consider operational and maintenance cost estimates.

**C.7 (now D.4) LEGAL RESPONSIBILITIES:** *Understanding of the architect's responsibility to the public and the client as determined by registration law, building codes and regulations, professional service contracts, zoning and subdivision ordinances, environmental regulation, and historic preservation and accessibility laws.*

[X] Not Met

**2013 Team Assessment:** *Although course syllabi and some assignments (limited to certain sections) of ARCH 520 - Professional Practice indicated that material related to this criterion was part of course curriculum, no evidence in the form of student work was provided.*

**C.7 - RESPONSE** (text from the 2018 IPR)

As identified in the 2015 IPR, ARCH 520 (Professional Practice) was retooled to effectively address this student performance criteria. The professor refined the delivery of course content, ensuring and assessing student engagement with professional legal responsibilities and securing student work evidence. Student journals are required to address student understanding of this topic area following lectures and invited panel discussions by professionals/stakeholders in class. The final exam for the course includes assessment of this SPC.

**Current:** Both M.Arch tracks require two professional practice courses where we believe this student learning objective is most effectively addressed. Student learning of Legal Responsibilities is assessed (and demonstrated) in the course materials and student work (projects, papers, exams). Building codes and regulations and zoning and subdivision ordinances are covered in ARCH 601 and ARCH 602 as students work with actual projects, sites, and the client community CDC in Indianapolis.

**C.8 (now D.5) ETHICS AND PROFESSIONAL JUDGMENT:** *Understanding of the ethical issue involved in the formation of professional judgment regarding social, political and cultural issues in architectural design and practice.*

[X] Not Met

2013 Team Assessment: ARCH 520 - Professional Practice, taken by both Track I and Track II students, is listed in the SPC matrix as the course that satisfies this SPC. While some of the syllabi of the various sections of ARCH 520 mention ethics as a topic in one week, there were only a total of two papers (one high pass and one low pass) where ethics was mentioned to an inconclusive degree.

**C.8 RESPONSE** (text from the 2018 IPR)

As identified in the 2015 IPR, ARCH 520 (Professional Practice) was retooled to effectively address this student performance criteria. The professor refined the delivery of course content, ensuring and assessing student engagement with Ethics and Professional Judgment and securing student work evidence. Student journals are required to address student understanding of this topic area following lectures and invited panel discussions by professionals/stakeholders in class. The final exam for the course includes assessment of this SPC.

**Current:** Both M.Arch tracks require two professional practice courses where we believe this student learning objective is most effectively addressed. Student learning of Ethics and Professional Judgment is assessed (and demonstrated) in the course materials and student work (projects, papers, exams).

**C.9 (now D.1 and A.8) COMMUNITY AND SOCIAL RESPONSIBILITY:** *Understanding of the architect's responsibility to work in the public interest, to respect historic resources, and to improve the quality of life for local and global neighbors.*

[X] Not Met

2013 Team Assessment: Evidence provided in ARCH 520 - Professional Practice for both Tracks I and II does not truly cover this topic, nor was any student work presented that would provide evidence to meet this criterion. There is some evidence of this criterion in ARCH 503 - Research Methods that social issues are covered, but this evidence is inconsistent between various instructors and semester taught.

**C.9 – RESPONSE** (text from the 2018 IPR)

As stated in the 2015 IPR we recognize that an error in developing the SPC matrix provided to the visiting team led to confusion regarding evidence of student engagement with this SPC—and to a Condition Not Met. Since the accreditation visit the department proposed, developed, and sought approval for an undergraduate Minor in Social and Environmental Justice and a 12---credit hour Graduate Certificate in Social and Environmental Justice. The Graduate Certificate in Social and Environmental Justice has been approved by the university and received ICHE (Indiana Commission Higher Education) approval in 2016.

**Current:** We believe our programs' focus upon Social and Environmental Justice issues in design education is distinctive and appropriate to long-held departmental values. Our current Departmental Mission statement further articulates our commitment to providing our students the grounding of a rigorous professional education "with the critical thinking skills, creative and intellectual confidence, ethics, and self-awareness to allow them to succeed in their professional aspirations in a rapidly changing world. Committed to social and environmental justice, equity, and stewardship, our graduates will be ready to serve the needs of diverse global communities as engaged professional leaders." Our Studio Culture Policy also affirms this deeply held value. The department continues work on the unit Inclusive Excellence plan fall 2021 to further elevate the importance of this issue in our educational community. Additionally, two studios (ARCH 503 and ARCH 601) specifically address alignment between graduate study and community initiatives, linking design with public interests.

## **CAUSES OF CONCERN**

### **A. *Staffing issues pending to be addressed and previously identified in the 2007 VTR:*** (text from the 2018 IPR)

The department agrees with the observation that that our department's "competent staff is stretched thin." Our departmental staff is exceptionally proficient in both programs and all student needs are addressed... (we) agree that the graduate program has increased the complexity and 'additional work.' ...Working with our existing resources, we believe that we are successfully advising our graduate students these ways: the Programs Assistant staff member is extremely fluent in the graduate course flow, attending all Graduate Curriculum Committee meetings and effectively addressing any questions students might have each semester; this staff member provides all grad students with a curricular 'check sheet' (updated each semester) that students use to take the correct courses for degree completion. The Graduate Program Director is proactively engaged with advising all graduate students to address concerns beyond their curricular course flow. The director meets with all graduate students over the course of each semester.

**Current:** Since the 2013 accreditation visit and the 2018 IPR, there has been an increased interest at the administrative level on assessment and statistics as a means towards demonstrating accountability and continual improvement efforts to stakeholders. This focus lead to university support for: **1)** the addition of a full-time Accreditation and Assessment professional staff member (at the college level) to provide accreditation and assessment support for continual improvement efforts and a holistic perspective on the delivery of all professional programs within the college; **2)** a full-time Undergraduate Academic Advisor professional staff member (at the university level) off-loading that responsibility from the department's Program Assistant (who now focuses solely on graduate student progress towards degree completion. Graduate programs and students are well supported by providing the department's Programs Assistant the time to focus on this work that is required for the graduate programs (assisting the Graduate Program Director with advising - tracking student progression through degree completion, transcript/syllabi review of course equivalencies from other universities, marketing and recruitment, and admissions).

### **B. *SPC B.7 Financial Considerations***

(Please see above under SPC detail in first section of Program Response.)

### **C. *IDP communication effectiveness and Internship Facilitation*** (text from the 2018 IPR)

The department believes this Cause of Concern is the result of the perception of a few students and not a broad reality. Historically, no student has failed to find an appropriate internship that would lead to IDP credits...the M.Arch Director meets with prospective students to better communicate graduate program expectations—including the internship.

**Current:** Since the 2018 IPR, the following curriculum and program changes further address this concern: NCARB's new Architecture Experience Program (AXP) is introduced and discussed with all architecture students at the time they declare architecture as their major at the end of the CAP common first year, and in (ARCH 320) **Introduction to Professional Practice** of the undergraduate program. These two touch points provide students within the College of Architecture and Planning (CAP) who are pursuing Track 1 understand the Architecture Experience Program (AXP) process prior to the beginning of their graduate studies. For students pursuing Track 2, Architecture Experience Program (AXP) is introduced in (ARCH 520) **Introduction to Professional Practice**. ALL students are encouraged to register for the AXP (Architecture Experience Program) to avoid their "losing" any work hours completed 6 months prior to registering. In Fall 2020, Ball State's M.Arch programs received approval from NCARB for our Integrated Path to Architectural Licensure (IPAL) program. This program and related courses elevate student awareness about paths to licensure and the importance of documenting their work experiences under the mentorship of a licensed architect. During the one-year of academic study at the Ball State CAP: Indy Center, graduate students are offered the opportunity for a part-time, full-year internship with a local firm as part of the "Indianapolis Internship Initiative." As a result, it is common for firms to extend the opportunity of internship beyond one year on a part-time

basis and over the summers (and perhaps after graduation, full time). Finally, in spring, the college teaming with the university Career Center, holds a job/internship fair.

**D. *Student engagement activities (graduate level):*** (response (text from the 2018 IPR)

The department believes this Cause of Concern is impacted by the greater diversity of school, work and life-balance considerations graduate students in our program have (compared to undergrads). The department is committed to engaging our graduate students with extracurricular activities and supplementary experiences in as many ways as possible. Steps taken to strengthen the student cultural context that our graduate students are working and learning within include: strong participation by graduate students in the annual NOMA Student Design Competition (with monetary support from the university's Graduate School); participation by M.Arch graduate students in the Urban Land Institute Hines Student Competition with Ball State Master of Urban Design students; participation, and contribution to Department Student Council; enhancing the Graduate Assistantship experience with assistantship positions offered to a large majority of all graduate students; graduate student participation in other M.Arch recruitment efforts; Graduate student participation in AIA Indianapolis events, monthly meetings, regional AIA conventions, and AIA YAF (Indianapolis).

**Current:** Although student engagement (i.e., AIAS; NOMAS; Freedom by Design, ASHRAE, etc.) outside of studio is primarily at the undergraduate level in Muncie on the main campus, graduate students can participate in these same student engagement activities during their studies in Muncie. Students also participate in monthly AIA Indianapolis Chapter meetings/presentations at the Ball State CAP Indy Center or activities supported by the Young Architects Forum (AIA) during their one year of study in Indianapolis. We again note the distinction between undergraduate and graduate students in regards to engagement, time commitment, family, and work responsibilities. While undergraduates look at student organizations as opportunities for social and professional engagement, graduate students often find engagement within their studies in the form of teamwork on projects that especially surround community outreach and advocacy opportunities. The program focuses on building a strong overall graduate cohort (encouraging more interaction, sharing and overlap of activities, among the three graduate year levels) is effective. One graduate student representative from each year level serves on the Department Chair's Student Council. Further a new graduate student organization (tentatively titled 'Associated Graduate Students of Design') is in the exploratory phase.

**E. *ARCH 520 Professional Practice: C.7; C.8; C.9 Professional Practice*** – (text from the 2018 IPR)

The department has been shifting the burden for demonstrating compliance with the large number of SPC from the purview of one course. At the same time, the Professional Practice course (ARCH 520) instructor has been modifying course deliverables to better reflect engagement with and understanding of financial, legal, and ethical considerations. Assignments and journal writing requirements have been modified to provide better specific evidence of engagement. In a fairly radical move, the instructor instituted a final exam as a benchmarking element for SPC related concerns.

**Current:** To assure that all students receive a more thorough exposure to professional practice, an additional professional practice course was added to the curriculum to increase depth and rigor of professional practice content being delivered. Both tracks require an introductory professional practice course as well as (ARCH 620) **Professional Practice** that ALL students in the year cohort take together in Indianapolis. Professional architects are often incorporated into the educational experience as adjuncts, guest speakers or consultants, who have various areas of expertise providing students with more clarity in their observations of professional practice. Additionally, students are encouraged to participate in professional practice activities such as the AIA Indianapolis Chapter holding their monthly meetings/presentation at the Ball State CAP: Indy Center, activities supported by the Young Architects Forum (AIA) or take advantage of the optional Integrated Path to Architectural Licensure (IPAL) seminar elective courses.

**F. *SPC A.10. Cultural Diversity***

Please see above under SPC detail in first section of Program Response. This learning criteria is a strength of our programs, supported by dedicated faculty interest, and demonstrated by student work.



## Program Changes

Further, if the Accreditation Conditions have changed since the previous visit, the APR must include a brief description of changes made to the program as a result of changes in the Conditions.

*This section is limited to 5 pages, total.*

### PROGRAM RESPONSE:

The 2020 Conditions and Procedures have changed significantly from the 2014 Conditions and Procedures. The 2020 Conditions and Procedures seem to have a stronger emphasis on a more holistic review approach of program and student criteria with an added emphasis on assessing the effectiveness of content delivery on the student's ability and/or understanding of criteria. The primary evidence being faculty teaching materials and a broader focus on comprehensive design student deliverables. The 2014 Conditions and Procedures seemed to have a broader review approach on student performance criteria reviewing student deliverables from each individual curricular component of the program (not just comprehensive design) to assess the effectiveness of content delivery on the student's ability and/or understanding of content. The primary evidence being student deliverables; although teaching materials were also provided. The other change (partly due to COVID-19, but not entirely) was shift from a physical in-person exhibit format to a virtual digital format.

Track 1 and Track 2 were previously slated to be reviewed by NAAB Spring 2021 under the 2014 Conditions and Procedures. Having recently gone through candidacy and initial accreditation for our B.Arch program, the faculty had become very familiar with the 2014 Student Performance Criteria and expectations for addressing them and collecting student deliverables. Due to COVID-19, the Spring 2021 NAAB visit was not possible resulting in rescheduling the accreditation visit to Spring 2022 and using 2020 Conditions and Procedures to address this past spring, summer and fall.

Adapting/modifying the graduate curriculum to meet the new 2020 Conditions and Procedures is in its beginning stages starting with the development of a new PC/SC curricular matrix, engagement of graduate faculty in the new accreditation process and making course changes accordingly, and development of an assessment plan.

### Actual changes that have occurred in anticipation of the 2020 Conditions and Procedures:

The elimination of required general, professional and extra-curricular, required hours by NAAB allows the department greater latitude in developing a curriculum that reflects departmental values and provides its own distinctive identity (apart from the undergraduate program) making the graduate program more competitive and affordable.

This latitude under NAAB 2020 Conditions and Procedures also is an opportunity to affirm our program's unique characteristics and identity, and the impetus of distinguishing our M.Arch programs from the M.Arch program to be offered by Indiana University, and our own undergraduate B.Arch program. In 2018, the department initiated a review of the M.Arch program to more effectively address both of these contextual influences. The themes that the faculty shaped the new program around are core values of our department that have existed since its inception in 1972. These are **local engagement** (applied learning experiences connecting students and the study of architecture with actual community needs); **global awareness** (immersion in contemporary responsibilities for environmental stewardship as well as social justice; travel learning; broadening of students' cultural awareness in diverse communities); fostering **student's self-actualization and intellectual independence** (options for specialization - certificate programs, dual master's degrees, Integrated Path to Architectural Licensure (IPAL); and the final independently identified design + research exploration); **professional preparation** (connectivity with professionals for internship and other experiences).

Framed by these values and while keeping several strong aspects of the program the same (such as graduate certificate options, comprehensive design studio in the first year, independently defined final project in the last semester), the faculty modified the M.Arch curricula in 2018-19. One significant change

was changing the way in which the internship experience was incorporated into the curriculum. In the prior curriculum, one semester was entirely devoted to internship. Students were divided with approximately half starting an internship in the fall and course work in Muncie spring, and the other half starting course work in Muncie fall and internship spring. Internship would now be waived for anyone with undergraduate internship experience or work experience and students would have the option of selecting a graduate assistantship or paid internship and four full semesters of course content can now be delivered with an entire cohort having a common starting point – an essential aspect when students from different backgrounds are coming together.

This change, along with Ball State University's committed support to the Ball State CAP: Indy Center, also provided the opportunity to be able to offer an entire full year of the program in the largest metropolitan area in our state – Indianapolis (where before only one semester was offered at the Ball State CAP: Indy Center) increasing access to/experience with communities in an urban setting and connectivity with a network of professionals, community partners, non-profit leaders, and committed change makers. The final year of the program would be in Muncie allowing for the more student-focused, individually defined thesis work, advised by faculty colleagues, while providing access to the university's diverse and extensive resources.

Additionally, credit hours for Track 1 increased from 46 to 57 for students with a pre-professional undergraduate degree and credit hours for Track 2 were decreased from 104 to 99 credit hours pulling this program into closer alignment with other accredited "career change" three-year programs. Additionally, the first year of Track 2 was completely reworked so that all foundational "preparatory" courses went from undergraduate level to graduate level allowing Track 2 students to be able to obtain a graduate assistantship in their first year of studies where they were unable to before due to taking undergraduate courses.

This revised curriculum has only been in place for two full years (one of which was COVID-19). We see the caliber of teaching and learning opportunities that have arisen and are accelerating our discussion and incorporation of establishing consistent assessment methods to measure our effectiveness in addressing student learning criteria an essential aspect of the 2020 Conditions and Procedures.

**Program assessment, in general, is seeking feedback regarding:**

1. effectiveness of the teaching methods in achieving the desired student learning outcomes;
2. perceived quality of learning opportunities for students;
3. the clarity of articulated values, pedagogical focus, and identity of the program;
4. perceived relevance and effectiveness of students' preparation for their professional and educational aspirations.

In support of these assessment goals, the department initiated a graduation exit survey for all students in Spring 2021. The results of this survey are directly linked to the program criteria identified in the 2020 Conditions and Procedures, as these program criteria reflect the student experience of the program. This survey will be conducted every spring so we can collect data and identify trends, concerns and improvements.

Three years ago, the department initiated end-of-semester faculty meetings for each year level of all professional programs. Faculty are asked to discuss the learning objectives of the course and present student work deliverables that address objectives. This work and alignment with learning objectives are then discussed by faculty for effectiveness and/or possible methods for improvement.

Current 2020 Program and Student Criteria were mapped to specific courses in all professional programs through multiple rounds of discussion (Program Directors, Department Chairperson, Assessment and Accreditation Manager). After generating a draft, faculty were invited to suggest edits to alignment – again discussed). Faculty loaded for those courses were then asked to describe how their course would be defined to address the desired outcomes. (See \* in "proposed changes" below).

In further support of the 2020 Conditions and Procedures thematic of ongoing self-assessment, the planning, acting and assessing processes, have become much more integrated into the department's culture (with still more to come). Two summers ago (2019) we framed our department's Strategic Plan by the goals of Ball State's new Strategic Plan – [Destination 2040: Our Flight Path: 2019-2024](#). This Plan's five overarching goals will guide all planning processes through 2040 (35 specific "strategic imperatives" defining goals through 2024 are embedded within these five goals; strategic imperatives will be adjusted every five years).

Guided by these values and mission, in 2019 the department developed a new Strategic Plan in collaboration with faculty, student and stakeholder input. The department's resulting Strategic Plan was submitted in Summer 2019 to the college and then to the university. Our Strategic Plan conveys our goals as "priorities for action" while also identifying action "champions" and essential collaborators. It targets a timeline to accomplish these goals, embodying actionable steps for program improvement. We are now starting the third year of this Plan, making steps of progress in realizing our prioritized aspirations. Ongoing self-assessment is a critical aspect of this process. The overarching goal of the department's planning and assessment processes is continuous improvement of our program offerings.

The college's Assessment and Accreditation Manager on a semester basis, enters into a software tool called Cascade, the department's activities that support each Strategic Plan goal's progress. From here progress can be reviewed by the department, college Dean's Office and the university. We believe the framework of our Plan is tangible and will result in increased productivity, identity and impact of our multiple program offerings. Goal 1 of the university's plan focuses on **undergraduate excellence**; Goal 2 on **graduate education and life-long learning**; Goals 3, 4, and 5 focus on aspects of **community engagement, enriched design opportunities, cultural wellness, and diversity and inclusivity** – all of which directly influence the success of our professional degree programs and align with strengthening our identity detailed in our defining perspectives: **collaboration and leadership; design; professional opportunity; stewardship of the environment; community and social responsibility**.

As the departmental mission, goals and desired student learning outcomes, were used to frame the departmental Action Plan our progress on achieving our mission is imbedded in successfully accomplishing our Strategic Plan. In support the university Strategic Plan, the department's planning process is approached as a continuum of setting goals and assessing progress towards their accomplishment. The assessment includes definition of incremental planning targets to accomplish goals; data collection; stakeholder engagement (faculty, students, alumni, professionals and the university administration); goal adjustment, revision and/or continuation, based upon assessment data.

#### **Proposed changes that will occur in light of the 2020 Conditions and Procedures:**

To prepare for this accreditation assessment, the department is asking each faculty to describe how their course will be designed (pedagogy, specific activities, student learning assessment methods, etc.) to address of the Student Criteria more specifically and be assessed at the individual course level. This is an approach (**\*course planning through narrative**) that will continue each semester.

The department is also discussing organizational methods to more tightly assess the student performance results in each of Student Criteria 1-6. The graduate curriculum committee is one standing committee that will be tasked this semester with reviewing how effectively EACH SC is addressed in the aligned courses. Student work results in each SC aligned course (spring and summer courses will be reviewed in fall semester and fall courses will be reviewed in spring) will be assessed one at a time and a baseline of course effectiveness will be identified, and potential SC matrix re-alignment will be explored. Faculty course narratives (per SC) that are provided by all faculty will be a part of this assessment of the course's address of student learning criteria.

At this phase of the process, our initial benchmark would be "average" acquisition of the understanding or ability as defined by the SC. That means benchmarks of minimum 75% student accomplishment in each assessment method. The Graduate Curriculum committee will also be asked to suggest benchmarks that more effectively address our programs' unique strengths.

## 1—Context and Mission

To help the NAAB and the visiting team understand the specific circumstances of the school, the program must describe the following:

The institutional context and geographic setting (public or private, urban or rural, size, etc.), and how the program's mission and culture influence its architecture pedagogy and impact its development. Programs that exist within a larger educational institution must also describe the mission of the college or university and how that shapes or influences the program.

*Program must specify their delivery format (virtual/on-campus).*

### Program Response:

Ball State University is the fourth largest residential state-supported school in Indiana. The university is located in Muncie, Indiana approximately an hour's drive (50 miles) northeast of the state's capitol city of Indianapolis. Considered a 'typical American small city,' Muncie and its residents were the focus of sociologists Robert and Helen Lynd's *Middletown: A Study in Modern American Culture* (1929) and *Middletown in Transition; A Study in Cultural Conflicts* (1937). It retains that average, small city character today. Muncie's population is approximately 66,000, many residents are connected to the university, which is one of the largest employers in the city. Indianapolis, the state capitol and home to the Ball State CAP: Indy Center, has a larger, more racially, culturally, and socio-economically diverse population of close to 900,000 residents.

Ball State has a combined undergraduate and graduate student population of approximately 21,500 students, roughly 15,500 of which are undergraduate and 6,000 of which are graduate students. As a state institution, the vast majority of students are Indiana residents (close to 90% of freshmen are from Indiana), however all 50 states, the District of Columbia, and close to 70 foreign nations are represented in the undergraduate and graduate student body.

Most of Ball State's programs are in-person modality, and students are located on the university's main campus in Muncie. Prior to the pandemic approximately 5,000 BSU students (of which 4,300 were graduate students) were enrolled in online-only coursework. Our M.Arch program coursework is predominately on-campus, in person – only a couple courses are an exception to that (Research Methods is online, and the Environmental Systems courses are hybrid delivery). Due to COVID this past year (2020-2021), all programs were forced to integrate "hyflex" teaching modalities that incorporated both online and place-based learning. This coming fall we are planning a return to "normal" in-person teaching and learning.

Ball State University's core values since its origins have remained steady. Unchanged. [Beneficence](#) is the icon that embodies the legacy of the Ball brother's generosity that founded the university, and the [Beneficence Pledge](#) is the ethos of the university community. Ball State's new [Strategic Plan](#), approved December 2018, reinforces the university's long commitment to these core values with the Mission Statement reading: "*We engage students in educational, research, and creative endeavors that empower our graduates to have fulfilling careers and meaningful lives enriched by lifelong learning and service, while we enhance the economic, environmental, and social vitality of our community, our state, and our world.*" This focus on the student educational experience and resulting meaningful lives of our graduates, directly aligns with the goals of our department and college.

The Department of Architecture faculty, staff and administration, have defined their mission to "*provide a distinctive education for architecture and historic preservation students, providing students the grounding of a rigorous professional education with the critical thinking skills, creative and intellectual confidence, ethics, and self-awareness to allow them to succeed in their professional aspirations in a rapidly changing world. Committed to social equity and environmental stewardship, our graduates will be ready to serve the needs of diverse global communities as engaged leaders advancing their discipline.*"

**The Department of Architecture is propelled by our core values for:**

- student focused culture of teaching excellence
- design studio centered
- multidisciplinary learning experiences
- community engaged and applied learning
- professional connections
- environmental stewardship
- social and environmental justice in design
- new and innovative technologies
- design communication media
- travel learning experiences

The program's role in and relationship to its academic context and university community, including how the program benefits—and benefits from—its institutional setting and how the program as a unit and/or its individual faculty members participate in university-wide initiatives and the university's academic plan. Also describe how the program, as a unit, develops multidisciplinary relationships and leverages unique opportunities in the institution and the community.

**Program Response:**

The Department of Architecture at Ball State is one of four departments in the R. Wayne Estopinal College of Architecture and Planning (CAP or ECAP); the other departments are: Landscape Architecture, Urban Planning, and Construction Management + Interior Design. Degree programs are offered in architecture, landscape architecture, planning, construction management, interior design, historic preservation, and urban design. CAP is *"a learning community committed to growing careers and educated citizens through education, research and professional service for a sustainable built environment,"* with CAP's mission to *"graduate practice-ready students who are professionally prepared, locally engaged, creatively curious, and globally aware."* This in turn, aligns with the Department of Architecture mission statement and core values.

The Department of Architecture values its place in a College of Architecture and Planning with programs in the allied design and construction disciplines. We constantly seek to establish more multidisciplinary student educational experiences, bringing together students from the different programs in the college of the built environment. The department offers accredited professional degree programs in architecture (professional Master of Architecture and Bachelor of Architecture degrees) as well as the MSHP degree in Historic Preservation. From 1966 to 2017 we offered the *only* state-supported public, accredited, professional architecture degree program in the state of Indiana; Notre Dame also has accredited B.Arch and M.Arch degree programs. In March 2017 Indiana University received state approval to start a second state-supported Master of Architecture program. The Indiana Commission of Higher Ed (ICHE's) approval stipulated six conditions in a signed partnership agreement between IU and Ball State University including *"IU will not offer a master's degree program in architecture in any other community in Indiana nor online...IU additionally affirms that IU will not seek to establish an undergraduate architecture program on any of its campuses. The bachelor degree would remain an exclusive offering of BSU, subject to ICHE approval."* (ICHE March 2017 Meeting Agenda <https://www.in.gov/che/files/March-2017-Commission-Meeting-Agenda.pdf> - note that link only works through a search from within ICHE's website).

The Department of Architecture and R. Wayne Estopinal College of Architecture and Planning (CAP) as a whole, are valued by the university for our success in providing excellent, student-focused, and innovative educational experiences that effectively prepare our graduates for success in their professional pursuits. The caliber of our student body as measured by GPA is consistently the best (or top two) of among all colleges in the university. Our department faculty are also leaders in providing "high-impact" learning opportunities for students as desired by the university Strategic Plan, often while positively impacting our local community. Three department faculty recently received a Provost Immersive Learning Grant in support of the U.S. Department of Energy (DOE) Solar Decathlon (Local) Build Challenge (SDBC) entry for students in architecture and all other departments in the college. Our department and college are consistently at the forefront (university-wide) of these outward focused, applied and learning-by-doing, educational experiences with community partners.



In 2019, Ball State University committed to supporting an alternative teaching site for our college and other departments in the university. Named the Ball State CAP: Indy Center, this turn-of-the-century glass factory building was renovated into an office building for an Angie's List Inc. call center. Located at 25 N. Pine Street in Indianapolis (an easily accessible 60-minute drive from Muncie) one year of the Master of Architecture program is located here, as is the college's Master in Urban Design (MUD) program. Ball State administration is encouraging other college's in the university to initiate other programming in this facility – we look forward to more multi-disciplinary potential.

The ways in which the program encourages students and faculty to learn both inside and outside the classroom through individual and collective opportunities (e.g., field trips, participation in professional societies and organizations, honor societies, and other program-specific or campus-wide and community-wide activities).

### **Program Response:**

Perhaps because of Ball State's location in a small middle American city, with limited cultural diversity, "getting out" is a commonly shared pursuit for all our faculty and students. The Ball State CAP: Indy Center is one aspect of that – both faculty and students enjoy the opportunity to live and work in a city context where the exposure to more diverse cultural opportunities exist. Both studios that occur in that location use the opportunities inherent in the location to get our students out into the community, meeting community member that are not (typically) architects, but rather committed individuals who are interested in improving the neighborhoods in which they live through good design. While framed by "classroom" assignments, the extroverted, community oriented activities of the students are impactful and long lasting in their broader live education. Also at the Ball State CAP: Indy Center, the college actively invites professional organizations to use the facility for weekly or monthly meetings, allowing students to participate in HSW Continuing Education presentations and/or other diverse professional discussions and presentations.

Educational travel is another constant in the culture of the college, department and programs. This travel ranges from small day or half-day or class-time trips to (for instance) the [geothermal](#) heat-pump plant on Ball State's campus to show students the mechanics of a that type of environmental system or trips to renovated/adaptively reused noteworthy architecture in Indianapolis as part of the Urban History and Theory course located there or studio trips to visit a lumber-mill, limestone quarry or state park, when doing research for a studio assignment.

A mainstay travel experience that all students in CAP participate in is CAP Field Trip Week. For a week every fall semester (end of September, early October) CAP class meeting times are canceled and students from the college travel across the country, and world, on trips organized by their studio professors addressing themes identified in the particular studio. Students experience exemplar architecture and urban design as well as meet civic leaders and activists from diverse communities. Since the inception of CAP Field Trip Week in the 1970's (40+ years ago), the only pause of this terrific opportunity for students and faculty was the Fall of 2020 – due to the COVID-19 pandemic.

The college also (typically) has several [study abroad programs](#) for either a semester or summer session that exemplify faculty-initiated international educational opportunities, promoting student learning outside the classroom. Tenure-line faculty also are supported by the university to take a semester of assigned leave – traveling, studying, or creating, to re-ignite their intellectual curiosities and passions – important time for them to refuel their tanks for more excellent teaching.

### **Summary Statement of 1 – Context and Mission**

*This paragraph will be included in the VTR; limit to maximum 250 words.*

### **Program Response:**

In our small Midwestern city, Ball State's architecture programs, the work by students and faculty, are valued by the university and impactful in our communities. We embrace our mission to prepare our students for professional success while instilling in them our commitment to architecture that elevates the

well-being of all people. This 50<sup>th</sup> successful year as an accredited program has reaffirmed our core identity for providing an excellent education in a supportive and innovative teaching and learning environment, as we continue working to elevate our programs' futures. Our programs focus on each student's educational growth, looking outward at our settings in Muncie and Indianapolis, connecting student learning with community.

A recent influence on our programs has been our transition from being the sole state-supported professional Master of Architecture degree program to one of two (2017 addition of Indiana University's M.Arch). Another influence is the addition of a B.Arch option for our undergraduate students in response to meeting student demographic needs. Furthering a trend over the last decade, there has been a diminishing volume Ball State undergraduates entering the Track 1 M.Arch. program. Both of these influences have encouraged us to clarify and elevate our M.Arch program's identity. We are strengthening connections between our program and the profession as well as between our students and practicing architects. Additionally, we are elevating our history of success in connecting our students with outward focused, applied, learning-by-doing, educational experiences with community partners – a distinguishing characteristic of Ball State's M.Arch program and are enjoying the process.

## 2—Shared Values of the Discipline and Profession

The program must report on how it responds to the following values, all of which affect the education and development of architects. The response to each value must also identify how the program will continue to address these values as part of its long-range planning. These values are foundational, not exhaustive.

**Design:** Architects design better, safer, more equitable, resilient, and sustainable built environments.

Design thinking and integrated design solutions are hallmarks of architecture education, the discipline, and the profession.

Program Response:

1. **DESIGN OPPORTUNITIES FOR ALL STUDENTS** – how this value is addressed through curricular and non-curricular activities:

**The Master of Architecture curricula were framed by these four program + department values:**

- **Locally engaged** – applied learning experiences connecting students and the study of architecture with actual community needs;
- **Globally aware** – immersion in contemporary responsibilities for environmental stewardship and social justice, travel learning, and broadening of students' cultural awareness in diverse communities;
- **Students' intellectual independence and "self-direction"** - through specialized focus (certificate programs – Historic Preservation; Social and Environmental Justice; Digital Design; High Performance Building Design; dual master's degrees; Integrated Path to Architectural Licensure option) and the final, independently identified design + research exploration;
- **Professional Preparedness** – strengthen the program's connectivity with the profession; partner students with professionals for internship and other experiences.

Design is seen as having no "right" or "wrong" answer, but rather is seen as emerging from rigorous investigation, speculation and productivity. Undergraduate design experiences (Track 1) and foundational design studios in (Track 2) are followed by studios in the Indianapolis year that reinforce our shared program values of environmental stewardship, social justice and community engagement. The final year of the program invites students to articulate and assert their own unique design voice through their independently driven final studio project.

We seek to instill in our students the knowledge that **design is an iterative process**, led by values, informed by research, tested and shared through clear communication and constructive discussions. Through the sequence of design studios in all programs, we want students to become confident in an effective design process of ideation, iteration and integration. The ultimate outcome is that they use this design confidence to grow their unique voice as an architect, to pursue a professional path informed by both shared (environmental stewardship; social justice; community engagement) and individual values while having the collaborative skills essential for the successful teamwork necessary to address the complex problems our world faces.

This desired student learning outcome is pursued over the course of the Track 1 and Track 2 curriculum. As seen in the pre-professional [major in architecture](#) degree program and the Master of Architecture [curricular map](#), courses in technology, communication and history/theory, are positioned earlier in the program curricula to establish foundational knowledge and dialogue. Learning in these multiple threads is then woven into the design studio where students demonstrate advancing levels of competency and complexity in their design process.

All students in a year-level cohort take lecture/seminar courses at the same time as they move through the studio sequence facilitating the integration of content from these courses with the explorations, research and discussions, undertaken in the design studio. Teams of faculty (studio and all aligned courses) at each year level are formed to facilitate the curricular overlay between studio and lecture/seminar courses. Core support courses provide students the knowledge and curiosity to integrate these ideas into their own design values and studio process. Design synthesis and building integration are seen as integral to architectural design and are engaged in all upper level studios. The progression of design experiences is sequenced to encourage students to synthesize foundational knowledge of technology, culture and practice culminating into a thesis proposal.



This individually defined design work is fully documented from research to programming to site/contextual analysis to design process to final results, and provides students the opportunity to explore, reflect, assess and articulate their own values and design approach into a final design project.

Exposure to design ideas through travel (local and global) is also seen as an opportunity to affirm the value of design as an essential quality of healthy communities locally and world-wide. CAP Field Trip Week and CAP trips provide this opportunity (although due to COVID-19 last year has not provided opportunities to substantiate this aspect of our programs). The CAP Guest Lecture Series provides further exposure to diverse themes and approaches in architectural design.

## 2. **HOW DESIGN VALUE INSTILLED, FOSTERED:**

To **support the diversity of each student's perspective** (and affirm the value), we similarly support a diversity of thoughts, values, and approaches by faculty in design – fostering faculty engagement in turn to foster student learning. The Department of Architecture has a reputation for providing strong design and practice-centered programs supporting the value of diverse instructional points of view to expose students to a wide range of ideas, design values, process methods, and ultimately career trajectories. Faculty hired to teach in the department embody a diversity of architectural educations, practical experiences, theoretical pursuits, and professional credentials. We believe this diversity makes the department well qualified to mentor all types of architecture students with the ultimate objective being the student's educational development and identification of their own disciplinary beliefs and path.

The [design studio](#) is the established **heart of our programs** in pedagogy, time, and emphasis. Through pattern (every semester, typically MWF 1- 5 PM), focus (faculty to student ratios in the graduate programs of roughly 1:6 through 1:11), and faculty/student discussion (studio culture policy, reviews) the importance of the design studio experience in the education of architects is established. We encourage diversity of thought both in instruction and in student effort – resulting in a variety of ideas, design processes and results.

## 3. **DESIGN VALUES INTEGRATED INTO LONG RANGE PLANNING:**

**Strategic Planning:** The department's Strategic Plan was generated by department faculty, staff and administration, with input from students. It was submitted in Summer 2019 to the college, and then to the university. Our Strategic Plan conveys our goals as "priorities for action" while also identifying action "champions" and essential collaborators. The Plan targets a timeline to accomplish these goals and embodies actionable steps for program improvement. We are currently in the second year of this Plan, making steps towards progress in realizing our prioritized aspirations. Ongoing self-assessment is a critical aspect of this process. The overarching goal of the department's planning and assessment processes is continuous improvement of our program offerings.

**Design-specific related aspects of our unit's action plan (framed by the goals of the University Strategic Plan) include:**

- Enhance student written communication skills (as part of design process, research);
- Consistently integrate environmental stewardship in design studio experiences at all year levels;
- Integrate multi-disciplinary student experiences in studios; establish opportunities (and funding) to consistently integrate other disciplinary expertise into studios;
- Increase student participation in outward focused applied learning experiences with actual community partner(s);
- Undergraduate and graduate studio design + build (solar decathlon local build) program – connect with Muncie; (Undergraduate) and Indianapolis near eastside neighborhood (Graduate) – funding support from neighborhood development groups;
- Use Design Innovation Fellow faculty to attract innovative and cutting-edge researchers in architectural discipline

### **Faculty Planning:**

#### **Additional planning discussions in service to our pursuit of program excellence occur in:**

- **Year-level faculty groups:** Year-level faculty groups (studio as well as seminar courses) meet prior to the start of each semester to review and discuss the alignment of specific learning objectives associated with each course at that year level. Faculty groups identify and share effective methods to address the student learning goals. In addition to subsequent coordination meetings over the course of the semesters, at the end of each semester each year level faculty group meets again to present and discuss the resulting assignments/student deliverables with departmental leadership and the Accreditation and Assessment Manager. This is done to assure successful address of student and program criteria/expectations while supporting diversity of teaching assignments and methods across different sections of the same studio or lecture/seminar course.

### **Curriculum Committee Planning:**

- **Graduate Curriculum Committee:** This elected committee is charged at the beginning of the academic year to look at curricular opportunities (existing and potential) throughout the professional graduate program to propose where strategic steps and methods for addressing these goals may occur both short and longer term through the curriculum. Curricular revisions that address student success and departmental planning objectives are identified by the Graduate Curriculum Committee, discussed/approved by all faculty, and moved forward through university governance.

#### **4. DESIRED STUDENT OUTCOMES:**

Specific to DESIGN value, our program seeks to instill in our students:

- **Knowledge** that design is led by shared and individual values, informed by research, tested and shared through clear communication and constructive discussions.
- **Confidence and efficacy in a design process** of ideation, iteration, and integration.
- **Confidence to grow a unique voice as an architect**, to pursue a professional path informed by their values.
- Ability to apply **collaborative skills** essential for the successful teamwork necessary to address complex problems.
- Awareness that architectural design integrating considerations of **environmental stewardship and social justice** will positively influence the health and well-being of people and communities.
- Excellent communication skills – graphic, writing, verbal.
- Engaged, ethical, aware professionals.

#### **5. ASSESSMENT of OUTCOMES:**

- Faculty assessment of student work through student work (presentations, reviews, reports, etc.)
- End of semester faculty presentation and discussion of student work
- U.S. Department of Energy (DOE) Solar Decathlon Design and Build Challenges (SDDC + SDBC)
- Exit interviews
- Graduate surveys
- Assessment of all our student learning outcomes occur throughout the semester (student feedback, peer assessment, feedback from reviewers and community partners, course evaluations, and end-of-semester faculty discussions of all student courses and work outcomes) as well as in exit surveys when students graduate. We find the end-of-semester discussions, organized per year level in all programs, to be a valuable opportunity for all to share and see the broader context of the students' educational experience, to provide feedback and encouragement, and even new ideas to improve student achievement of the design studio learning objectives.

#### **6. CURRENT STATUS of DESIGN VALUE:**

Healthy. Students in the final design studio, in the projects/interests that they describe, demonstrate their integration of environmental stewardship and social justice issues. Solar Decathlon Design competition success affirms successful address of design synthesis and building integration design values.

**Environmental Stewardship and Professional Responsibility:** Architects are responsible for the impact of their work on the natural world and on public health, safety, and welfare. As professionals and designers of the built environment, we embrace these responsibilities and act ethically to accomplish them.

Program Response:

1. **ENVIRONMENTAL STEWARDSHIP + PROFESSIONAL RESPONSIBILITY OPPORTUNITIES FOR ALL STUDENTS** – how this value is addressed through curricular and non-curricular activities:

Environmental stewardship is a pillar of our college and department identity and program pursuits, and has been so historically. The importance of connecting environmental stewardship with the professional education of architects is undisputable. The department recognizes the significant impact of architecture (and the allied environmental design disciplines) on the future health of our world, and local to global communities. Environmental stewardship is integral to our students' professional careers. We embrace the responsibility for preparing students to become architects who meaningfully contribute to the world's health, and see the educational experience we deliver as being the foundation of that ability to contribute. The last sentence of our departmental mission statement is: *"Committed to social equity and environmental stewardship, our graduates will be ready to serve the needs of diverse global communities as engaged leaders advancing their discipline."*

The department supports the student group Emerging Green Builders (EGB/USGBC) and an American Society of Heating, Refrigerating and Air-Conditional Engineers (ASHRAE) student chapter; both are active in the school and provide opportunities for students to engage environmental concerns beyond the classroom. Faculty from the college are leaders in the BSU Council on the Environment ([COTE](#)) Chapter.

The Center for Energy Research/Education/Service ([CERES](#)) is located in our college and embodies our ethos of environmental stewardship. The Director is a tenured Professor of Architecture member in the Department of Architecture. Along with invigorating the discourse surrounding environmentally sensitive design, CERES offers design tools to all students to facilitate students' consideration of energy usage based upon material assembly, orientation, daylighting, heat flow, air flow, etc. CERES provides opportunities for student scholarships and research funds as a way to further incentivize student and faculty leadership in this critical area. CERES provides access to Sefaira (energy modeling software to develop high-performance building envelopes and strategies) free to all architecture students in the department.

Ball State University provides an exemplary context for this educational focus. The university is consistently recognized for its sustainability efforts and institutional [commitment to environmental stewardship](#). The university is a signatory to the Climate Leadership Commitment, the [Talloires Declaration](#), and the American College and University Presidents' Climate Commitment. Ball State is a charter member of the Sustainability Tracking and Rating System ([STARS](#)), and the university's [Sustainability Statement](#) frames our campus-wide investment and leadership in environmentally supportive strategies. Ball State's [Geothermal Energy System](#) is the largest such facility in the country and an excellent educational resource that is discussed and toured by our architecture students in (ARCH 373) **Environmental Systems 2** (pre-professional program) as well (ARCH 571) **Active Environmental Systems** (Track 2) M.Arch foundation year.

2. **HOW ENVIRONMENTAL STEWARDSHIP + PROFESSIONAL RESPONSIBILITY VALUE INSTILLED, FOSTERED:**

This commitment is demonstrated through faculty expertise (currently three full time tenure line faculty with environmental systems expertise, one-part time faculty with same). The relationship between environmental and architectural design is consistently considered in all design studios, in other required coursework, in our university culture and steady student interest. Our department offers a graduate certificates in High Performance Building Design, Social and Environmental Justice, and the college offers a graduate certificate in Sustainability.

The curriculum, faculty and culture, of the graduate programs strive to provide the knowledge and values that will develop individual student abilities to positively impact the environment. Both Track 1 and Track 2 have two required environmental systems courses that, in brief, cover passive and active environmental systems for architecture, establishing the significance of this critical aspect of design. All students in Track 1 and Track 2 take (ARCH 602) **Integrated Architecture Design Studio** located in the Ball State CAP: Indy Center. Since our curriculum was changed two years ago (removing the internship semester and adding another full semester of coursework), this studio has used the Department of Energy's (DOE) Solar Decathlon Design Challenge (SDDC) (previously "Race to Zero" design competition) as the frame for the studio prompt. Every single Master of Architecture student participates in this studio providing a shared experience driven by the values of environmental stewardship. Our faculty and students' success in this competition is celebrated campus-wide including at the end of year awards celebration at the department and college level. Additionally, two 12 credit hour online graduate certificate programs address this value – High Performance Building Design (department) and Sustainability (college) and are available to all graduate students as part of their elective requirements. The Social And Environmental Justice (department) certificate also addresses our value for environmental responsibility.

### 3. **ENVIRONMENTAL STEWARDSHIP + PROFESSIONAL RESPONSIBILITY VALUE INTEGRATED INTO LONG RANGE PLANNING:**

**Strategic Planning:** The department's Strategic Plan was generated by department faculty, staff and administration, with input from students. It was submitted in Summer 2019 to the college, and then to the university. Our Strategic Plan conveys our goals as "priorities for action" while also identifying action "champions" and essential collaborators. The Plan targets a timeline to accomplish these goals and embodies actionable steps for program improvement. We are currently in the second year of this Plan, making steps towards progress in realizing our prioritized aspirations. Ongoing self-assessment is a critical aspect of this process. The overarching goal of the department's planning and assessment processes is continuous improvement of our program offerings.

**Environmental Stewardship related aspects of our unit's action plan (framed by the goals of the University Strategic Plan) include:**

- Consistently integrate environmental stewardship in design studio experiences at all year levels
- Research market demand for on-line high performance building certificate (part of approval process for new certificate program offered by the Department of Architecture in High Performance Building Design)
- Initiate graduate studio design + build (solar decathlon local build) program – connect with Indianapolis near eastside neighborhood with funding support from community groups.

#### **Faculty Planning:**

**Additional planning discussions in service to our pursuit of program excellence occur in:**

- **Year-level faculty groups:** Year-level faculty groups (studio as well as seminar courses) meet prior to the start of each semester to review and discuss the alignment of specific learning objectives associated with each course at that year level. Faculty groups identify and share effective methods to address the student learning goals. In addition to subsequent coordination meetings over the course of the semesters, at the end of each semester each year level faculty group meets again to present and discuss the resulting assignments/student deliverables with departmental leadership and the Accreditation and Assessment Manager. This is done to assure successful address of student and program criteria/expectations while supporting diversity of teaching assignments and methods across different sections of the same studio or lecture/seminar course.

#### **Curriculum Committee Planning:**

- **Graduate Curriculum Committee:** This committee is charged at the beginning of the academic year to look at curricular opportunities (existing and potential) throughout the professional graduate program to propose where strategic steps and methods for addressing these goals may occur both short and longer term through the curriculum. Curricular revisions that address student success

and departmental planning objectives are identified by the Graduate Curriculum Committee, discussed/approved by all faculty, and moved forward through university governance.

- A further embodiment of our programs' commitment to environmental stewardship are the graduate certificate programs in [High Performance Building Design](#), [Social and Environmental Justice](#), and [Sustainability](#) (this latter certificate is offered by the BSU Academy for Sustainability, not the department). As previously noted in this report, all graduate architecture students are asked to consider a certificate program to complement their Master of Architecture degree – 12 credit hours of coursework is open for them to define. Proposal for High Performance Building Design was approved by the Graduate Curriculum Committee, department, college, and Graduate Education Committee last year.

**4. DESIRED STUDENT OUTCOMES** in ENVIRONMENTAL STEWARDSHIP and PROFESSIONAL RESPONSIBILITY:

- Developing graduates who are prepared to both understand and take responsibility for stewardship of the environment and natural resources
- **Consistent exposure** to considerations of environmental stewardship as an integral aspect to the practice of architecture.
- Effectively teach students to **effectively collaborate** with others to make positive advances in the complex, interconnected problems of global environmental wellness – this is not a value to be studied in isolation.
- Student recognition of, and value in, the impact of environmental stewardship leadership as professionals.
- Recognition and success for BSU teams in the U.S. Department of Energy (DOE) Solar Decathlon Design Challenge (SDDC)
- Connect student interest with courses in the certificate programs in High Performance Building Design, Social and Environmental Justice, and Sustainability.
- Students have the necessary technical skills and knowledge to successfully design for reduced energy or net zero, and to lead in that area when they join the profession.

**5. ASSESSMENT of OUTCOMES** in ENVIRONMENTAL STEWARDSHIP and PROFESSIONAL RESPONSIBILITY:

- Curricula analysis – and end of semester faculty discussion of semester work – evidence of engagement, knowledge, skills for integrating environmental stewardship with design.
- Student work assessment in environmental systems classes
- Exit surveys of students at graduation regarding the relative importance of this value
- Solar Decathlon Design Challenge – finalist standing, presentations, award recognition
- High Performance Building Design, Social and Environmental Justice, and Sustainability certificate course enrollment
- Number of final theses for the M.Arch programs which involve the integration of environmental stewardship in their thesis exploration

**6. CURRENT STATUS** of ENVIRONMENTAL STEWARDSHIP + PROFESSIONAL RESPONSIBILITY VALUE:

In Spring 2021 graduate faculty received a Provost's Immersive Learning Grant in support of their proposal to engage both graduate and undergraduate students in the U.S. Department of Energy (DOE) Solar Decathlon Build Challenge (SDBC). Extending the success of the SDDC, students in (ARCH 601) **Community Engaged Applied Learning Studio** this fall will design proposals for a duplex housing unit that is highly energy efficient, innovative and affordable. This project is done in concert with the [Englewood CDC](#), nearby the Ball State CAP: Indy Center where M.Arch students are located. The design will also integrate budget limitations established by the CDC (\$140-\$150/s.f.). In addition, after project completion, the home will be monitored for energy performance, with data collected to demonstrate energy-use reduction, life-cycle cost reduction and operational cost reduction. It will be used as a model to demonstrate (to other communities) the benefits of architectural design that incorporates energy-use mitigation strategies for sustainable design.

Our commitment to this core value of the department is directly assessed and demonstrated through the track record of student success in the Department of Energy (DOE) Solar Decathlon Design Challenge (SDDC), the focus of (ARCH 602) **Integrated Architecture Design Studio**. Every single Master of Architecture student participates in this studio providing them a shared experience driven by the values of environmental stewardship. Our students' success at this Competition is remarkable and a testament to the faculty expertise and passion in this area of architectural design. Over the last five years, M.Arch students have received "Finalist" status 13 times, along with a First Place award (2017 – Suburban Single Family); two honorable mention awards (2018 + 2020 both Urban Single Family); and a 3<sup>rd</sup> Place Award (2021 Elementary School). This track record of accomplishment embodies the value for environmental stewardship as part of professional architects' responsibility.

**Equity, Diversity, and Inclusion:** Architects commit to equity and inclusion in the environments we design, the policies we adopt, the words we speak, the actions we take, and the respectful learning, teaching, and working environments we create. Architects seek fairness, diversity, and social justice in the profession and in society and support a range of pathways for students seeking access to an architecture education.

Program Response:

1. **EQUITY, DIVERSITY, AND INCLUSION opportunities for all students** – how this value is addressed through curricular and non-curricular activities:  
Our department, college, and university value equity, diversity, and inclusivity as essential values of all sustainable, healthy communities, including the general population in cities, towns, and rural communities – but also essential for the health of our professional communities, our university, departmental, and program communities as well. Ball State's Department of Architecture's learning community, and our programs, are shaped by our pursuit of, and shared belief in, the essentialness of inclusivity, equity, and diversity. At a detail level, our programs' curricula, and specific coursework in social and environmental justice, manifest this value. At the community level, we continually seek to establish a positive, inclusive culture of teaching and learning that is built upon the mutual respect between faculty, students, and staff, in service to a supportive, productive, professional environment. We work to increase enrollment by diverse students and support their educational success, as that is the essential start to diversifying the profession, a goal critical to meaningfully address the needs of all people and communities for well designed, healthy built environments.

This value is also at the core of our [Studio Culture Policy](#) – a document that is annually discussed, assessed, and edited by faculty with input from student leaders. This describes our values of equity, diversity, and inclusivity holistically – even beyond the studio. Part of this document affirms:

*Together, we create an intellectually diverse community of professionals committed to inclusive excellence. Every member of our learning community benefits from the diverse backgrounds, values, and approaches each member brings to the studio environment. The administration and staff provide the supportive structure for faculty and student accomplishment. The faculty acknowledge their vital role as leaders who provide students with an inclusive framework for learning and success. Students cultivate the quality of the studio culture through their work effort and mutually respectful support of colleagues in accordance with Ball State University's Inclusive Excellence Plan. The studio atmosphere should enable students to participate in co-curricular and extra-curricular activities that enhance the learning experience. To fully benefit from this unique learning environment, students must commit to establishing a rigorous work effort in the studio before, during, and after class hours. The ultimate objective for all students is self-discovery; developing a commitment to life-long learning, acquiring architectural knowledge, skills, values, and character traits that can propel their professional and life pursuits.*

This policy is shared and discussed by all faculty and students, through the particular studio course that all of our students participate in, at the start of every semester. Student leadership (student



council members are elected by their classmates and attend monthly meetings with the chair of the department) is encouraged to connect students with this policy as well.

We seek to provide all interested students the opportunity and support to successfully pursue their education in architecture and in their professional aspirations. To this end, the Department of Architecture has three professional degree programs – one at the undergraduate level, and two at the graduate level. We believe these multiple options provide the best opportunity for different students to identify their best, most accessible path into the profession. Part of the motivation for reviving the department's Bachelor of Architecture program was the consideration that this degree path was more accessible and affordable to first generation, and/or minority students in their pursuit of professional licensure. Often, Indiana students with qualifying family incomes can join the [21<sup>st</sup> Century Scholars](#) program which provides full tuition support for 8 undergraduate semesters.

At the graduate level, admitted students are provided financial support through either a graduate assistantship position or their participation in the Indianapolis Internship Initiative. The latter allows interested students to work part-time while in graduate school – a possibility facilitated by our Indianapolis location (home to the most architectural firms in the state). The M.Arch Program Director has established ongoing relationships with professional firms in Indianapolis where students can gain both valuable work experience as well as earn money (standard relationship is 15 hours per week at a minimum of \$15/hour). Otherwise qualified students are offered graduate assistantships to secure in-state tuition rates as well as a semester stipend. Because of the dedicated efforts of the Program Director, and the department's Administrative Coordinator and Programs Assistant, students are matched with either of these opportunities (graduate assistantship or internship), covering close to 100% of all students (only students on academic probation are not allowed a graduate assistantship per the Graduate School, and are discouraged from participating in the internship program until they've addressed their grades).

## 2. **HOW THE EQUITY, DIVERSITY, AND INCLUSION VALUE IS INSTILLED AND FOSTERED:**

Required coursework Social and Environmental Justice (SEJ) occurs in both the undergraduate and graduate architecture programs – coursework that has been in place for almost a decade and to our knowledge, it is the first formal program in SEJ in a design school. At the graduate level, we provide students the opportunity to achieve a certificate in Social and Environmental Justice by taking 12 elective credits of courses framed through that topical lens; this elective coursework fits into the program requirement for 12 elective credits of students' choosing. Studio work, particularly at the graduate level, is infused with applied learning experiences connecting students to local community organizations and people that have needs where design ideas can make a difference, most directly evidenced by the (ARCH 601) **Community Engaged Applied Learning Studio** and (ARCH 602) **Integrated Architecture Design Studio** in Indianapolis where projects are connected to the real needs of the surrounding community and community organizations such as [Englewood CDC](#). We believe this curricular aspect has served to elevate everyone's awareness of inequities that exist in the world, and the need to connect architecture with the work needed to move towards a more inclusive society. Because of this focus, we optimistically see our graduates as change agents in the profession as we all seek to provide good design, healthy environments, for all communities.

Ball State's Integrated Path to Architectural Licensure (IPAL) program for the Master of Architecture was approved by NCARB in Spring 2021. Our first M.Arch student is enrolled and will begin the program this fall semester. This is an ideal opportunity for students with "gap-year" work experience and prepares all IPAL students for success as they launch their professional career. We hope that it will attract diverse students and support them in their pursuit of accreditation, but the program is too young to have yet established evidence in that regard.

The Department of Architecture has a reputation for providing strong design and practice-centered programs while fostering a diversity of thoughts, values, and approaches in the studio and classroom. Through this support for diverse instructional points of view, students are exposed to a wide range of ideas, design values, process methods, and ultimately career trajectories. Faculty hired to teach in the

department embody a diversity of architectural educations, practical experiences, theoretical pursuits, and professional credentials. We believe this diversity makes the department well qualified to mentor all types of architecture students with the ultimate objective being the student's educational development and identification of their own disciplinary beliefs and path.

3. **EQUITY, DIVERSITY, AND INCLUSION VALUE IN LONG RANGE PLANNING:**

**Strategic Planning:** The department's Strategic Plan was generated by department faculty, staff and administration, with input from students. It was submitted in Summer 2019 to the college, and then to the university. Our Strategic Plan conveys our goals as "priorities for action" while also identifying action "champions" and essential collaborators. The Plan targets a timeline to accomplish these goals and embodies actionable steps for program improvement. We are currently in the second year of this Plan, making steps towards progress in realizing our prioritized aspirations. Ongoing self-assessment is a critical aspect of this process. The overarching goal of the department's planning and assessment processes is continuous improvement of our program offerings.

**Equity, Diversity, And Inclusion specific related aspects of our unit's action plan (framed by the goals of the University Strategic Plan) include:**

- **Access to architecture education** – explore the redefinition of our existing BSED degree as a lateral entry point to feed graduate programs (architecture and across the college). Currently the BA/BS degree path (pre-professional component of Track 2) has same start-gate of freshman year. The lateral BSED is a thought on how to invite other students at the university to consider architecture at a later point in their undergraduate educations, providing necessary coursework in design and support coursework. This could also be a defined entry point for undergraduate transfers – we are interested in exploring articulation agreements with institutions such as Ivy Tech, Vincennes, and Indiana State. Vincennes currently has an articulation agreement (with Southern Illinois University Carbondale) for their two-year Architectural Studies Technology degree program.
- Support synchronic academic + (internship) work for graduate students in curricular delivery while in Indianapolis (for financial support and mentorship opportunities)
- **Update departmental diversity and inclusivity plan** – Our programs and department benefit from the university's concentrated focus upon the goal of inclusivity, equity, and diversity. Ball State's Strategic Planning goals, articulated in the [university Strategic Plan](#) of 2018-19 articulate our collective pursuit of inclusive excellence. In 2018 College of Architecture and Planning established a Diversity Planning Task Force as a proactive means to address societal challenges to diversity and inclusivity within the CAP environment. Actions of this Task Force, led by the Architecture Department, included but were not limited to Implicit Bias Training made available to all CAP faculty and staff. Additional desired outcomes are outlined below. The university followed upon this with the [university's Inclusive Excellence Plan](#), with the expectation that all units would follow with plans of action specific to their college, or department. This past year the department faculty initiated a process to identify our unit's Inclusive Excellence Action Plan. Guided by the [Inclusive Excellence Toolkit](#), all faculty, staff, administrators, as well as the department's student council, participated in a series of faculty meetings and working-group discussions, first discussing, **assessing** and inventorying our existing conditions. This was followed by further discussions to **analyze** our strengths and weaknesses and opportunities, ending with the identification of several **actions** we could take to further the culture of inclusive excellence in our department. In-process but with a strong foundation of observations and aspiration, our goal is to have a task force to conclude this work with a summary draft, articulating an action plan along with identified champions and targeted benchmarks.
- **Faculty lunch-time conversations** – sharing an aspect of their creative efforts or scholarship with other interested faculty and students.
- Assess the existing certificate programs (SEJ) for successes, ways to improve.
- Formalize existing New-Faculty mentorship program and initiate graduate student mentorship

**Faculty Planning:**

**Additional planning discussions in service to our pursuit of program excellence occur in:**



- **Year-level faculty groups:** Year-level faculty groups (studio as well as seminar courses) meet prior to the start of each semester to review and discuss the alignment of specific learning objectives associated with each course at that year level. Faculty groups identify and share effective methods to address the student learning goals. In addition to subsequent coordination meetings over the course of the semesters, at the end of each semester each year level faculty group meets again to present and discuss the resulting assignments/student deliverables with departmental leadership and the Accreditation and Assessment Manager. This is done to assure successful address of student and program criteria/expectations while supporting diversity of teaching assignments and methods across different sections of the same studio or lecture / seminar course.

**Curriculum Committee Planning:**

- **Graduate Curriculum Committee:** This elected committee is charged at the beginning of the academic year to look at curricular opportunities (existing and potential) throughout the professional graduate program to propose where strategic steps and methods for addressing these goals may occur both short and longer term through the curriculum. Curricular revisions that address student success and departmental planning objectives are identified by the Graduate Curriculum Committee, discussed/approved by all faculty, and moved forward through university governance.

**4. DESIRED STUDENT OUTCOMES in EQUITY, DIVERSITY, AND INCLUSION:**

- Increased access to architecture education by a diversity of students – across ALL professional programs
- Student academic success and degree completion, particularly under-represented groups.
- Students feel comfortable, welcomed, valued and respected in all programs by faculty, administration, and their peers
- Students have consistent opportunity at start of programs and start of semesters to share and collectively celebrate their diversity of backgrounds
- Student's recognize the essentialness of integrating issues of equity, diversity, and inclusivity into their architectural design investigations
- Diversity of student learning styles is accommodated by more flexible learning environments

**5. ASSESSMENT of OUTCOMES in EQUITY, DIVERSITY, AND INCLUSION:**

- Count trend (number) of thesis projects in M.Arch program that incorporate themes of social and environmental justice in design (required for graduate students in the SEJ certificate program)
- Assess progress in creating a more diverse student body (racial, ethnic, gender) of all programs collectively and individually
- Assess degree completion by all students - identify reasons for non-degree completion
- Assess the culture of welcoming, respect, inclusivity (surveys of students, exit surveys for graduates)
- Implement faculty and staff surveys for identification of inclusivity and diversity issues and opportunities for improvement
- Establish, quantify, and assess success of student mentoring program by alumni and peer to peer student mentoring
- Number of meaningful, applied student learning experiences in diverse communities in M.Arch programs
- Survey assessment of alignment of program experience with Inclusive Excellence Plan and practices (when plan established and approved and shared to all in community, planned for 2021-2022 AY)
- ADA assessment report on CAP, particularly restrooms, to discuss with university
- Survey students for effectiveness of working environment - diversity of our studio spaces could facilitate different ways of learning and different values.

**6. CURRENT STATUS of EQUITY, DIVERSITY, AND INCLUSION VALUE:**

Our university, college and department, along with faculty, staff and students, are working to put in place an Inclusive Excellence Plan that embodies the actions we can take to further our shared

interests, climate of inclusivity and access to an architectural education. The department's Plan is organized around planning objectives in Recruitment; Retention; Rewards and Recognition; Inclusive Excellence Training Development and Curriculum; Culture and Climate of Inclusion; and Inclusive University Policies, Systems and Infrastructure. Our department is defining a unit-specific plan that will impact all programs within the department. Because of work by faculty and student groups last spring, the department is poised to articulate an action plan to address our goals for Inclusive Excellence. The discussions have highlighted the interest in, and commitment to, this value for all programs, students, staff and faculty. The increasing diversity of our faculty, demonstrated by recent hires, is supported through job postings and hiring practices – supported by Human Resources our searches over the past two years have yielded “excellent” pools of qualified candidates relative to the diversity of the pool. While we have made progress in the last several years to grow a more diverse undergraduate and graduate student body, ongoing success (through specific actions identified in our Plan) will be measured over time.

Department faculty are currently and consistently engaged in outreach initiatives (often supported by students) in local neighborhoods and community schools, connecting the potential of a design education with local youth of all races and genders. The location of the M.Arch program in Indianapolis for one year of the program has facilitated greater connectivity between graduate architecture students and diverse communities in that area, communities that can benefit from the design thinking of our students. This location also connects our students with professionals, providing a network for support and success for our students with part-time employment opportunities, AIA monthly meetings, adjunct professors active in the profession and for professional involvement in project reviews. One specific example of this is the department's relationship with a minority-owned alumni firm in Indianapolis – Meticulous Architecture + Design (located in the same campus as Ball State CAP: Indy Center). Firm leaders there have offered to help support and mentor all students (with particular focus on minority students) struggling to succeed in any of our programs. We have connected several students with this firm this past COVID-19 year and their mentorship was crucial in putting those students on a successful path. At the graduate level, their involvement is more evident in consistent participation in studio reviews.

**Knowledge and Innovation:** Architects create and disseminate knowledge focused on design and the built environment in response to ever-changing conditions. New knowledge advances architecture as a cultural force, drives innovation, and prompts the continuous improvement of the discipline.

Program Response:

1. **KNOWLEDGE + INNOVATION VALUE OPPORTUNITIES FOR ALL STUDENTS** – how this value is addressed through curricular and non-curricular activities:

The Department of Architecture supports faculty and student efforts towards disciplinary innovation and the generation of new knowledge. Faculty scholarship and creative work is encouraged through policies (Promotion and Tenure; Salary/Merit), culture (lunch-time faculty discussions; support for a diversity of interests) and practice (financial support for travel, technology and materials). Master of Architecture students (with faculty support) integrate their research with innovative final project explorations and results. This final project experience encourages students to push at the boundaries of the discipline with clarity of thought and nurtured risk taking.

Fabrication Labs in the CAP building are fully operational and constantly updated to provide access to innovative tools and technologies such as the CNC mill, robot, laser and 3D printers. The CAP Simulation (SIM) Lab, contains fast computer towers, running software (rendering, performance, BIM and design modeling) and is accessible for any student via faculty request. The graduate certificate in Digital Fabrication, as well as High Performance Building Design, are options for students interested in furthering their exploration, innovation and research, into cutting-edge aspects of architectural design and fabrication methods.

In 2012, the department with university support, converted a tenure line position into a Design Innovation Fellowship – a two-year maximum, full-time contract faculty term for a recent graduate or

other faculty invested in cutting-edge research. The fellow pursues a research agenda, often working with students and faculty, teaches in our undergraduate and graduate architecture programs, and shares their ideas and work in presentations and an exhibit that are open to the university community. The CAP Guest Lecture Series supports presentations by designers and other experts, often at the forefront of current architectural thinking. All students, but those at the Ball State CAP: Indy Center in particular, are invited/encouraged to attend the AIA Indianapolis monthly meetings which host a variety of guest speakers introducing new technologies, products, ideas. These are aligned with continuing education for professionals. Similarly, the program's consistent participation in the department of Education's Race to Zero and Solar Decathlon Design + Build competitions elevates student awareness of the necessity for innovation and research to advance towards solutions to some of the world's most challenging problems such as climate change and social equity.

## 2. **HOW KNOWLEDGE + INNOVATION VALUE INSTILLED, FOSTERED:**

In the curriculum structure, students are invited to define and engage a final project of their own definition in the final semester. This invitation to follow an area of their own interest encourages exploration, potentially innovation, and the advancement of disciplinary knowledge. Required coursework in Research Methods and Final Project Preparation provide the skills for success in these efforts and establishes a culture of support for the unique pursuits in an effort to establish a community where nurtured risk taking, necessary in the generation of new knowledge, can occur.

Faculty scholarly and creative work establish models in innovation and knowledge generation for students to see and appreciate. Students seek out faculty advisors with expertise that align with their own interests in this final project, inviting supportive mentoring for student effort in this regard, and provoking faculty ideas as well.

CAP guest lectures include professionals who integrate research with their practices. These guest lectures are Mondays at 4 PM typically and we have integrated the use of zoom to facilitate access by students and faculty. Graduate students are invited to meet with and often "host" the speaker (if in person) or be the moderator during the Q+A after the presentation.

## 3. **KNOWLEDGE + INNOVATION VALUE IN LONG RANGE PLANNING:**

**Strategic Planning:** The department's Strategic Plan was generated by department faculty, staff and administration, with input from students. It was submitted in Summer 2019 to the college, and then to the university. Our Strategic Plan conveys our goals as "priorities for action" while also identifying action "champions" and essential collaborators. The Plan targets a timeline to accomplish these goals and embodies actionable steps for program improvement. We are currently in the second year of this Plan, making steps towards progress in realizing our prioritized aspirations. Ongoing self-assessment is a critical aspect of this process. The overarching goal of the department's planning and assessment processes is continuous improvement of our program offerings.

**Knowledge and Innovation specific related aspects of our unit's action plan (framed by the goals of the University Strategic Plan) include:**

- Further the **Design Innovation Fellowship program** to attract innovative, cutting-edge researchers in the discipline of architecture (publicize position, share results)
- Support passions and continued growth of faculty through continued support of release time for research/scholarship/creative activities and distribute opportunity to teach electives (in areas of faculty interest)
- Support faculty lunchtime conversations – sharing/discussion of individual interests, research, experiences with colleagues and students
- Develop public/private partnerships between the knowledge group/unit, units in CAP, the university, and the community at large to advocate for the importance of quality design and planning – and help facilitate – meaningful place-based initiatives amongst stakeholders, as they relate to the redevelopment of the University Village and surrounding neighborhoods.
- On-line and micro-credentialing: Define methods to provide courses for credit to professionals as well as the opportunity for certification. This will appeal to current students as well as working

professionals (micro-credentialing); identify (following the structure of sustainability online certificate) additional micro-credentialing opportunities in programs and certificates

**Faculty Planning:**

**Additional planning discussions in service to our pursuit of program excellence occur in:**

- **Year-level faculty groups:** Year-level faculty groups (studio as well as seminar courses) meet prior to the start of each semester to review and discuss the alignment of specific learning objectives associated with each course at that year level. Faculty groups identify and share effective methods to address the student learning goals. In addition to subsequent coordination meetings over the course of the semesters, at the end of each semester each year level faculty group meets again to present and discuss the resulting assignments/student deliverables with departmental leadership and the Accreditation and Assessment Manager. This is done to assure successful address of student and program criteria/expectations while supporting diversity of teaching assignments and methods across different sections of the same studio or lecture/seminar course.

**Curriculum Committee Planning:**

- **Graduate Curriculum Committee:** This elected committee is charged at the beginning of the academic year to look at curricular opportunities (existing and potential) throughout the professional graduate program to propose where strategic steps and methods for addressing these goals may occur both short and longer term through the curriculum. Curricular revisions that address student success and departmental planning objectives are identified by the Graduate Curriculum Committee, discussed/approved by all faculty, and moved forward through university governance.

**4. DESIRED STUDENT OUTCOMES in KNOWLEDGE + INNOVATION:**

- Student awareness for the necessity of research and innovation to advance disciplinary knowledge
- Link student research efforts to practice needs
- Faculty productivity in research, publications, contemporary practice, and design
- Faculty currency with contemporary skills and knowledge
- Student exploration, synthesis of current disciplinary discourse, and (nurtured) risk-taking in final projects studio (ARCH 604) **Independent Final Project Studio**

**5. ASSESSMENT of OUTCOMES in KNOWLEDGE + INNOVATION:**

- Faculty productivity – presentations/papers in national and international conferences, design work in competitions, practice that integrates current innovations in building assembly methods
- Student enrollment in coursework for certificates in Digital Fabrication and High Performance Building Design
- Student participation and success in U.S. Department of Energy (DOE) Solar Decathlon Design Challenge (SDDC) design + build competitions
- CAP guest lecture series content – for exposure to research in profession
- AIA Indianapolis monthly meetings – content
- M.Arch student participation in Graduate School Three Minute Thesis competition and awards
- Final thesis projects by M.Arch students – topic areas

**6. CURRENT STATUS of KNOWLEDGE + INNOVATION VALUE:**

The department, college, university support active faculty research and travel intended to advance their scholarship and continuing education. Though foiled by the pandemic this past year, our graduate faculty are very active in presenting their work to national and international forums. Three tenure-line faculty in the department recently published books with Routledge and Actar, discussed their scholarship and writing through a CAP Library-sponsored open zoom presentation. Other faculty are active in design competitions and the practice of architecture with intent to integrate contemporary innovations in their design. Software, hardware, and as-needed educational needs are provided for through the college's IT budget and departmental foundation accounts as needed. Student research initiatives and accomplishment are also supported by the department. M.Arch thesis students annually

compete in the 3 Minute Thesis competition, necessitating a clear and succinct “pitch” of their design research investigations. Since the inception of this competition two years ago, M.Arch students have been finalists (3 of 11 this past Fall 2020), successfully communicating their innovative design explorations to a general audience.

Our most recent Design Innovation Fellow, was selected as a university fellow in the most recent [Exhibit Columbus](#) exhibition. Fabrication of a pavilion structure through the use of the robot, green sand formwork, and concrete, involved a diverse group of students from all year levels, as well as faculty. The Design Innovation Fellow also teaches in both the undergraduate and graduate architecture programs, gives a couple of presentations, and an exhibit of their research work in the CAP gallery at the end of their term.

The required (ARCH 602) **Integrated Design Studio** consistently researches and integrates cutting-edge tools, methods, and products into their architectural design proposals – innovation is essential to the pursuit of net zero design.

**Leadership, Collaboration, and Community Engagement:** Architects practice design as a collaborative, inclusive, creative, and empathetic enterprise with other disciplines, the communities we serve, and the clients for whom we work.

#### **Program Response:**

##### **1. LEADERSHIP, COLLABORATION, AND COMMUNITY ENGAGEMENT OPPORTUNITIES FOR ALL STUDENTS –** how this is addressed through curricular and non-curricular activities

Community engaged applied learning is a program pillar for our department, college, and Ball State University. Twenty years ago, the Boyer Report advocated for more connectivity between the education of architects and the needs of communities; the authors noted that Ball State is invested in *“preparing future architects for lives of civic engagement, of service to the nation... to help increase the storehouse of new knowledge to build spaces that enrich communities, prepare architects to communicate more effectively the value of their knowledge and their craft to society.”* (Building Community, Ernest Boyer + Lee Mitgang) We continue this pursuit. The College of Architecture and Planning’s long history in community based projects demonstrates our unique approach to architectural education, using real-world situations consistently in studio offerings as a way to connect students with the community context of architecture. Students frequently apply their education to benefit local non-profit organizations and communities. Integrated off-campus experiences (study abroad, field trip week, design-build projects) expose students to diverse communities and how the practice of architecture can contribute to community health and human needs.

The department also strives to develop our students’ leadership skills by supporting multiple opportunities for students to get involved in organizations outside of studio. These include active chapters of AIAS, ASHRAE, USGBC, NOMAS, and the Associated Students of Historic Preservation (ASHP). Our active [AIAS Freedom by Design](#) student-led organization seeks opportunities to engage community by assisting with the design and build needs of local Muncie residents. The department’s Student Council is comprised of student organization leaders as well as elected class representatives from each year-level of all programs. These students meet monthly with the Department Chair to discuss departmental and student organization initiatives, often leading in discussions providing student perspective on department initiatives such as Strategic Planning and inclusive excellence initiatives.

The M.Arch program has established curricular opportunities to develop our students’ collaboration and leadership abilities. This entails establishing an effective balance between developing a student’s individual abilities while also providing opportunities for teamwork and collaboration. Architecture coursework and studio projects integrate teamwork into the pedagogy, thereby developing the abilities of students to coalesce different perspectives into common pursuits and learn from each other.

Students collaborate on course assignments and studio projects at different points in their education, particularly during the year in Indianapolis (first year of Track 1, second year of Track 2), as this is when students have the foundational individual skillsets established to meaningfully contribute to collaborative assignments.

2. **HOW IS THE VALUE of LEADERSHIP, COLLABORATION, AND COMMUNITY ENGAGEMENT INSTILLED and FOSTERED:**

By consistently integrating applied learning opportunities into the year of coursework in Indianapolis, student accomplishment in engaging real community needs necessitates collaboration, and (within that) leadership by students who invest fully in their different roles. By consistently using community-connected educational explorations that integrate/necessitate student practice in their leadership and collaboration abilities, the program hopes to foster future professional leaders and community activists who are invested in their communities' health and well-being wherever that may be.

3. **LEADERSHIP, COLLABORATION, AND COMMUNITY ENGAGEMENT VALUE IN LONG RANGE PLANNING:**

**Strategic Planning:** The department's Strategic Plan was generated by department faculty, staff and administration, with input from students. It was submitted in Summer 2019 to the college, and then to the university. Our Strategic Plan conveys our goals as "priorities for action" while also identifying action "champions" and essential collaborators. The Plan targets a timeline to accomplish these goals and embodies actionable steps for program improvement. We are currently in the second year of this Plan, making steps towards progress in realizing our prioritized aspirations. Ongoing self-assessment is a critical aspect of this process. The overarching goal of the department's planning and assessment processes is continuous improvement of our program offerings.

**Leadership, Collaboration, and Community Engagement** specific related aspects of our unit's action plan (framed by the goals of the university Strategic Plan) include:

- Undergraduate and graduate studio design + build (solar decathlon local build) program – connect with Muncie (Undergrad) and Indianapolis near eastside neighborhood (Grad) – funding support from neighborhood development groups
- Muncie Makes Lab and MADJAX first Thursday participation show casing CAP student and faculty work; BSU School of Art work; community K-12 schools' student art work
- Increase engagement between graduate students and the Center for Civic Design at Ball State CAP: Indy
- Increase student participation in outward focused applied learning experiences with actual community partner(s)
- Increase opportunities for students to experience different cultures and communities
- Initiate internships and graduate assistantships with community service organizations

**Faculty Planning:**

**Additional planning discussions in service to our pursuit of program excellence occur in:**

- **Year-level faculty groups:** Year-level faculty groups (studio as well as seminar courses) meet prior to the start of each semester to review and discuss the alignment of specific learning objectives associated with each course at that year level. Faculty groups identify and share effective methods to address the student learning goals. In addition to subsequent coordination meetings over the course of the semesters, at the end of each semester each year level faculty group meets again to present and discuss the resulting assignments/student deliverables with departmental leadership and the Accreditation and Assessment Manager. This is done to assure successful address of student and program criteria/expectations while supporting diversity of teaching assignments and methods across different sections of the same studio or lecture/seminar course.

**Curriculum Committee Planning:**

- **Graduate Curriculum Committee:** This elected committee is charged at the beginning of the academic year to look at curricular opportunities (existing and potential) throughout the

professional graduate program to propose where strategic steps and methods for addressing these goals may occur both short and longer term through the curriculum. Curricular revisions that address student success and departmental planning objectives are identified by the Graduate Curriculum Committee, discussed/approved by all faculty, and moved forward through university governance.

4. **DESIRED STUDENT OUTCOMES in Leadership, Collaboration, and Community Engagement:**
  - Student awareness of diverse communities and stakeholders as integral to impactful architecture
  - Connect learning with real community needs
  - Effective leadership and communication skills
5. **ASSESSMENT of OUTCOMES in Leadership, Collaboration, and Community Engagement:**
  - Applied student learning opportunities consistently integrated into curriculum
  - Course exit surveys and program exit surveys for students
  - Number of students enrolled in SEJ coursework
  - Faculty review of student work outcome in community engaged studio work
  - Success in U.S. Department of Energy (DOE) Solar Decathlon Design Challenge (SDDC) and Solar Decathlon Local Build application
6. **CURRENT STATUS of Leadership, Collaboration, and Community Engagement:**

Extracurricular student organization opportunities are intended to help develop architects who are engaged with their communities and poised to become leaders in the profession. We note that graduate student participation in these student organizations is less robust than that of our undergraduate students; we believe the work-life balance for graduate students is a more complex juggle than that of undergraduates. That said, our graduate students meet with the Indianapolis chapter of YAF and network with professionals at the monthly meetings and during reviews – these provide opportunities for our M.Arch students to develop awareness of professional leadership opportunities and to envision what their position in the profession might be.

The department is committed to providing an education connecting students with community and social responsibility. Our Strategic Plan includes goals dedicated to supporting community engagement and social responsibility, particularly through community-based projects. Two of our graduate studios are centered upon community engagement – (ARCH 601) **Community Engaged Applied Learning Studio** and (ARCH 602) **Integrated Architecture Design Studio**. Student design work has explored aspirational pursuits of the local community; students worked with community stakeholders to fully understand programming needs. Social + Environmental Justice coursework similarly connects the student and faculty thinking with action in service to community. Our Social and Environmental Justice values, made tangible by specific course offerings, further develop student awareness of the social context for design, the necessity for the ethical practice of architecture, and the influence society and cultural issues have on the whole of architecture past, present, and future.

(ARCH 503) **Design Application Workshop** (Track 2 summer studio) students recently completed a community design + build project for residents in the [8Twelve](#) neighborhood impact area in Muncie, designing, building, and installing community enhancement features that were programmed with stakeholders in the neighborhood. Graduate students have also contributed to our Freedom by Design student group that emphasizes community service to improve the lives of local residents; [ecoREHAB](#) is a department faculty initiated non-profit involved in turning abandoned properties into affordable housing with recent graduate student participation in the design and build of one of the dwellings for transitional housing for the Muncie Mission. Students are also active participants in local Habitat for Humanity efforts, most recently contributing to the designed renewal of the [8twelve Neighborhood Coalition](#). [Muncie Makes Lab](#), a downtown Muncie BSU/CAP-owned building, as well as [MADJAX](#), are places where students and faculty share their work with the community during the city's monthly First Thursdays.



**Lifelong Learning:** Architects value educational breadth and depth, including a thorough understanding of the discipline's body of knowledge, histories and theories, and architecture's role in cultural, social, environmental, economic, and built contexts. The practice of architecture demands lifelong learning, which is a shared responsibility between academic and practice settings.

**Program Response:**

1. **LIFELONG LEARNING VALUE OPPORTUNITIES FOR ALL STUDENTS** – how this value is addressed through curricular and non-curricular activities:  
Best practices in architecture continually evolve as new technologies, building science knowledge, materials, and fabrication methods are introduced, and as new, increasingly challenging needs that the design of the built environment must address become evident. The successful practice of architecture inherently requires a commitment to life-long learning. The practice of lifelong learning results in “T shaped” professionals that are knowledgeable about the breadth of issues that architecture connects with as well as the importance of a depth of knowledge often in a specific area of expertise, that draws on the breadth but moves the needle in the depth. We believe this value is instilled in our program curricula (certificates), nurtured through our teaching and learning culture, activated by participation in national and international competitions, and ultimately demonstrated by our graduates.
2. **HOW LIFELONG LEARNING VALUE INSTILLED, FOSTERED:**  
Our M.Arch curricula seek to steadily establish a confidence in our students through the steady accretion of knowledge from semester to semester. The methodical layering of coursework builds the awareness of the complexity of architecture, the breadth of the issues that influence it, and an awareness also of what each student individually connects with. We seek to connect students with their unique passions within the broader scope of architecture. The individual final project is one aspect of how our programs invite students to “own” their educations (and by extension, their professional and life path) and realize the importance of defining their own success. Also, the certificate programs are available to all students and are elevated by faculty champions modeling the ideal of the intellectual nourishment necessary in developing their own passions. These certificates allow students to begin the journey of delving into their own values and interests, ideally initiating a lifelong desire to pursue their interests and develop an active engagement with the learning necessary to continually be abreast of current work in that area.

Similarly, we seek to establish a learning and teaching culture that nurtures this desire to ask questions, engage in discussions, develop knowledge, propose ideas, and explore solutions within a supportive environment. Our department's belief in supporting diverse faculty interests and activities creates a culture of examples in this pursuit.

Extracurricular opportunities such as the CAP Guest Lecture series (this past year – all online), and AIA Indianapolis monthly meetings in the Ball State CAP: Indy Center that are easily accessed by M.Arch students located there further the students' exposure to new ideas and the importance of educating themselves continually to remain aligned with current discourse in the profession.

3. **LIFELONG LEARNING VALUE IN LONG RANGE PLANNING:**

**Strategic Planning:**

The department's Strategic Plan was generated by department faculty, staff and administration, with input from students. It was submitted in Summer 2019 to the college, and then to the university. Our Strategic Plan conveys our goals as “priorities for action” while also identifying action “champions” and essential collaborators. The Plan targets a timeline to accomplish these goals and embodies actionable steps for program improvement. We are currently in the second year of this Plan, making steps towards progress in realizing our prioritized aspirations. Ongoing self-assessment is a critical aspect of this process. The overarching goal of the department's planning and assessment processes is continuous improvement of our program offerings.

**Lifelong Learning specific related aspects of our unit's action plan (framed by the goals of the university Strategic Plan) include:**



- On-line and micro-credentialing: Define methods to provide courses for credit to professionals as well as the opportunity for certification. This will appeal to current student as well as the working professional (micro-credentialing); identify and provide micro-credentialing opportunities in programs as exemplified by the new Sustainability Graduate Certificate program, and the newly created, fully on-line High Performance Building Design Graduate Certificate program.
- Every two years the department hires a Design Innovation Fellow as a full-time contract faculty member. This fellowship (and fellow) provide student and faculty connection with contemporary discourse, tools, and research unfolding in the discipline – an awareness that begets continued intellectual curiosity and engagement by all.
- Adjunct Faculty who are active, and engaged, professionals (architecture and related practice) are consistently hired at Ball State CAP: Indy Center as ways to bring life-long learning value into the design profession as a whole. Often adjuncts are alumni of the program.

#### **Faculty Planning:**

##### **Additional planning discussions in service to our pursuit of program excellence occur in:**

- **Year-level faculty groups:** Year-level faculty groups (studio as well as seminar courses) meet prior to the start of each semester to review and discuss the alignment of specific learning objectives associated with each course at that year level. Faculty groups identify and share effective methods to address the student learning goals. In addition to subsequent coordination meetings over the course of the semesters, at the end of each semester each year level faculty group meets again to present and discuss the resulting assignments/student deliverables with departmental leadership and the Accreditation and Assessment Manager. This is done to assure successful address of student and program criteria/expectations while supporting a range of teaching assignments and methods across different sections of the same studio or lecture course.

#### **Curriculum Committee Planning:**

- **Graduate Curriculum Committee:** This elected committee is charged at the beginning of the academic year to look at curricular opportunities (existing and potential) throughout the professional graduate program to propose where strategic steps and methods for addressing these goals may occur both short and longer term through the curriculum. Curricular revisions that address student success and departmental planning objectives are identified by the Curriculum Committee, discussed/approved by all faculty, and moved forward through university governance.

#### **4. DESIRED STUDENT OUTCOMES for LIFELONG LEARNING:**

- Development of their intellectual curiosity that provokes an insatiable desire to learn
- Developing and reinforcing the work habits and practices that serve as the foundation for this goal
- Active, engaged sharing of ideas by students in individually defined final project
- Participation of upper level students participate in first year student reviews, invite recent graduates back to reviews, desiring to continue the lifelong learning process

#### **5. ASSESSMENT of OUTCOMES of LIFELONG LEARNING:**

- Employer surveys (interns and graduates) – assessment of character traits
- Student surveys (while in program and recently graduated)
- Ten-year out alumni surveys
- Track enrollment in High Performance Building Design (micro-credentials achieved through coursework) by graduates
- Student self-reflection in thesis reports

#### **6. CURRENT STATUS OF LIFELONG LEARNING VALUE:**

- Culture – instill intellectual curiosity in our students, nurture their confidence for taking risks, being leaders, expanding the edges of their thinking.
- CAP guest lecture series and AIA monthly meetings at Ball State CAP: Indy Center
- CAP and Ball State CAP: Indy setting
- Final individual project and student-selected certificate programs
- Faculty – embody the value by pursuing their own interests in scholarship and creative endeavor lunch time meetings

### 3—Program and Student Criteria

These criteria seek to evaluate the outcomes of architecture programs and student work within their unique institutional, regional, national, international, and professional contexts, while encouraging innovative approaches to architecture education and professional preparation.

#### 3.1 Program Criteria (PC)

**NOTE - Program Criteria Assessment:** Since Program Criteria reflect the holistic experience by students, assessment is conceived of at a holistic, program view. Every aligned, required curricular experience has discreet assessment methods (reviews, exams, grading rubrics, etc.) which contribute to this overall program experience. However, the assessment methods that most accurately gauge holistic program address of these criteria are comprehensive versus particular course or extracurricular opportunity. The holistic assessment methods for program criteria used include surveys (employer surveys, graduating students exit survey, and eventually alumni surveys); feedback from advisory board review; feedback from community stakeholders; final thesis reviews + reports; registration exam pass rates; in-process student feedback during the course of the program; review of end-of-semester faculty discussions; and overall retention and graduation rates.

These assessment metrics relative to each Program Criteria are to be reviewed and discussed annually by the Department Chair, Program Director, and Assessment and Accreditation coordinator to identify any insufficiencies. Matrix realignment and/or curricular/course modifications and/or support for extracurricular opportunities are then proposed and processed through the necessary means (curriculum committee for any course/curricular adjustment). Note that as we are at the start of this process in the application of 2020 Conditions, this cycle of holistic review has only started with the exit survey of graduating students this past spring. EACH course or extracurricular FOLDER within each PC contains the assessment detail that faculty described as well as the results of their individual assessments; when possible, assessment methods for extra-curricular opportunities are also defined in these folders. These folders are accessed in the annual review of PCs.

**PC.1 Career Paths**—How the program ensures that students understand the paths to becoming licensed as an architect in the United States and the range of available career opportunities that utilize the discipline's skills and knowledge.

#### Program Response:

##### Track 1:

- ARCH 320: (OR approved alternative – minimum 450-hour internship with licensed architect, IPAL seminar, or ARCH 520 summer)

##### Track 2:

- ARCH 520: Introduction to Professional Practice

##### Both:

- ARCH 601: Community Engaged Applied Learning Studio
- ARCH 620: Professional Practice

##### And Extra-Curricular:

- IPAL Program
- Topical elective seminars connecting professionals with interested students
- *Indianapolis Internship Initiative* Opportunity
- AIA Indianapolis Monthly meetings in CAP Indy
- Young Architects Forum (YAF) and Women in Architecture (WIA)
- *Lunch and Learn* Events at Ball State CAP: Indy Center
- Optional department sponsored lunch discussions with professionals at Muncie
- Materials Lab in CAP Library sponsored *Lunch and Learn* Events with material representatives, industry sponsors, and design professionals on their expertise
- Professionals, community partners, and industry sponsors as reviewers in all graduate studios with an emphasis on iterative feedback in ARCH 604 Thesis with interim and final reviews

- Community engaged studios (ARCH 503 and ARCH 601) introduce students to career options in public interest design, a human-centered, participatory design practice that engages design professionals in community-centered initiatives
- Certificate programs – Historic Preservation (HP), High Performance Building Design (HPBD), Digital Design and Fabrication (DDF), Social and Environmental Justice (SEJ), Sustainability.
- Dual Degree Program – M.Arch and MSHP (Historic Preservation), M.Arch and MUD (Urban Design), M.Arch and MS in Interior Design, M.Arch and MLA (for example).
- Field Trip Week with frequent visits to Professional Offices and Industry Production and Fabrication Facilities

#### Overview:

The Department of Architecture and all professional programs within the College of Architecture and Planning (CAP), recognize and value the importance of connecting students with the profession of architecture, and their consideration of student's agency in defining their own possible career trajectories. On the home webpage for our [M.Arch programs](#), we link students to thinking about what career paths might be available to them with this professional degree and the resources available to them on their way. During prospective student visits, at open houses, and at student orientation in the fall with the Graduate Program Director, students are made aware of the Indianapolis Internship option (part-time employment with a partner firm in Indianapolis during the year of the program located there) as well as the IPAL program which is available for all M.Arch students. Also at orientation, students are encouraged to be aware of NCARB AXP requirements and the benefit of registering for AXP so they do not lose any credit for work time with a licensed professional.

#### Curricular:

Students in Track 1 take required (ARCH 320) **Introduction to Professional Practice**. Students coming from other 4-year undergraduate architecture programs must have that course or take a 450-hour internship during the course of their graduate education to expose them to foundational professional practice aspects. Track 2 students take required (ARCH 520) **Introduction to Professional Practice** in the summer of their first year of the M.Arch program. One intended objective of these courses is to introduce students to the necessary steps to become a licensed architect in the United States. Also in those introductory classes, faculty and guests share their personal paths into, and connection with the discipline of architecture and allied disciplines in practice.

(ARCH 520) **Introduction to Professional Practice** generally follows the latest edition of *The Architect's Handbook of Professional Practice*, published by the American Institute of Architects to assure that our MARCH Track 2 students understand the paths to becoming licensed as an architect in the United States and the range of available career opportunities that utilize the discipline's skills and knowledge. The *Architect's Handbook*, and its companion publication, *The Architecture Student's Handbook of Professional Practice*, are excellent resources for students undertaking architectural practice courses. This course utilizes the full version of the text for its robust content. From the *Handbook*, each student is required to review the assigned readings (among other sections of the book), write and share a Reflection Paper on their impression of the content, and openly discuss their reflections in class.

While the *Handbook* is periodically updated to reflect current path to licensure, practices, and trends in the profession of architecture, the course content of ARCH 520 is supplemented by a range of material through the use of documentaries, recorded webinars, articles, websites, contemporary examples, and multimedia lectures designed to articulate all herein. The [NCARB Website](#) includes extensive and tremendously helpful information designed to fulfill the specific knowledge needs of interns and emerging professionals. This includes the Architectural Experience Program® (AXP®) aimed at student preparation for the architectural profession as they start to identify their career trajectory.

All M.Arch Track 1 + 2 students take (ARCH 620) **Professional Practice** during the fall semester of the year in Indianapolis, a year which is designed to connect students with diverse professionals that

inspire them to step towards and shape their own professional aspirations. With multiple paths to licensure beginning with their academic degree, students in ARCH 620 begin to explore their future role in the profession by first orienting themselves to where they are today and mapping a path from there. Students begin the semester by introducing themselves Pecha Kucha style, including their academic degrees, work experience, and current academic pursuit.

Through conversations with 10 guest professionals over the course of the semester, ARCH 620 students have the opportunity to explore both alternative paths to the profession and alternative careers, roles, and business models branching out from the profession. Students journal after every class session. Their first assignment includes a roadmap of their path to licensure using current degree pursuit and AXP as a baseline. In subsequent journal entries, students are asked to challenge their path based on that session's conversation with our guest professional. The goal of ARCH 620 related to career paths is to find clarity through critically examining traditional, non-traditional, and alternative career paths and ultimately aligning the student's goals and path.

(ARCH 601) **Community Engaged Applied Learning Studio** specifically, part of the Ball State CAP: Indy Center academic year, provides students with resources to thinking about what career paths might be available to them through the IPAL Program, optional topical elective seminars connecting professionals with interested students, the *Indianapolis Internship Initiative* opportunity, AIA Indianapolis Monthly meetings held at Ball State CAP: Indy Center, Young Architects Forum (YAF) and Women in Architecture (WIA) programs introduced to students, and *Lunch and Learn* Events at the CAP: Indy Center.

#### **And Extra-Curricular:**

All **student-selected graduate certificate options** engage students with professionals in their respective area through coursework and invited presentations. High Performance Building Design frequently has interactions with PHIUS researchers as potential options for career paths, including two past graduates from our program who work with the institute. Social and Environmental Justice (SEJ) exposes students to alternative careers in design by having students interview and share work of architects that step outside the mainstream design to provide design services that serve a larger segment of the population than had been served by traditional design professions.

The M.Arch program has an NCARB approved **Integrated Path to Architectural licensure (IPAL)** opportunity for students. The IPAL initiative, centered in the CAP: Indy Center, provides an excellent option for students as future architects, and greatly enhances the academy/practitioner/licensing board relationship. NCARB provides support to our IPAL program through webinars, training sessions, and online advisors' communities. Additionally, all classes in the IPAL program are open to any graduate student and because of their location at the Ball State CAP: Indy Center, students are invited to attend guest presentations by professionals, industry sponsors, and others involved in a range of careers as a part of our architectural discipline. These experiences promote the "live, work, learn" of the ARCH 601/602 year in Indianapolis, offering an ideal laboratory for students to collectively consider architectural issues related to urban life, health and wellness through their personal experiences within the community.

The **Indianapolis Internship Initiative** option (15 hours/week over the two semesters or 450 hours) provides students with part-time employment with a partner firm in Indianapolis during the year the program is located there. Our extensive network of practicing professionals helps M.Arch students find rewarding work opportunities as they move through the various stages of professional accreditation. Three years since this program was begun, we have connected students to over 25 firms in Indianapolis. Each student has an Internship mentor, and as a design professional, the mentor is included and invited to CAP: Indy to review and share his/her own experiences in their own career paths. Adjunct, practicing faculty are integrated into the (ARCH 601) **Community Engaged Applied Learning Studio** and offer students' exposure to successful professionals from different areas. This Fall 2021 we will be working with the Architect of record on the Englewood Homes project that is creating 20 affordable, duplex homes on 20 scattered sites in the Englewood neighborhood. One of

the duplexes will be designed and built by students as their entry to the Solar Decathlon Local Build Challenge. The opportunity to work with the architect in this project is a great learning opportunity for the students.

Similarly, all students in the department are invited to occasional “**lunch-time discussions**” at the main campus (CAP Muncie) where alumni share their stories of their own paths and current professional position. Last year, in part due to the challenges of the pandemic, we only had one of these alumni lunches, but prior years we try to have several of these opportunities a year, bringing professionals and students together. While the lunch discussions work well for students in Muncie, the students in the Ball State CAP: Indy Center have additional opportunities to network with professionals and through this, develop an awareness of licensure and professional opportunities. A **Lunch and Learn** monthly event was started last year at the Ball State CAP: Indy Center and design professionals and industry sponsors shared their career paths from design into creating a drone imaging business to leading the movement in the Midwest on mass timber design.

**Adjunct, practicing faculty** are integrated into the course and studio offerings – the (ARCH 602) **Integrated Architecture Design Studio** has done this most deliberately to great success in students’ exposure to successful professionals from different areas. The **AIA Indianapolis** group has their monthly meetings in the CAP: Indy Center with different panel discussions and presentations for continuing education credit. This is a tremendous learning opportunity for the students studying in Indianapolis. **Field trips** are integrated into our programs (“CAP Field Trip Week occurs in fall semester) and are further opportunities for students to meet with diverse practitioners and leaders in the design professions to further expand horizons for potential career paths.

**Assessment of overall student experience relative to Program Criteria PC.1 Career Paths (also see PC Assessment note at start of this section):**

- **Review of end-of-semester faculty discussions** relative to the student experience as shaped by Program Criteria. Attention is given to any deficiencies with a re-alignment OR suggested strategies of different approach shared with faculty.
- **Grading assessment of student work**, with focus upon the professional practice coursework. Along with the end of semester faculty presentation, discussion of student work, assessment methods include exams, papers, and projects.
- **Survey results from the Indianapolis Internship Initiative** employers + students.
- **Graduating Student Exit Survey** (annual) – our survey of graduating M.Arch students included (2021), and will annually include, this question:

***Please assess how well your education has prepared you in the following areas:***

*Awareness of the paths to becoming licensed as an architect in the United States and the range of available career opportunities that use our discipline’s skills and knowledge.*

RESPONSE: Graduate M.Arch (satisfactorily, well, very well) = 91% (well or very well = 54.54%)

PROPOSED MODIFICATION: Targeting the well/very-well response that we would like to be over 75%, this indicates we need to do a more consistent job at communicating about paths to licensure and diverse career opportunities. We (Program Director and Chair) are discussing this need with the Professional Practice faculty. Additionally, we have discussed with our ALA and Internship Director, the need for alternative opportunities for M.Arch students to connect meaningfully with professionals (for example the Young Architects Forum) to be exposed to what career opportunities are out there, to which they could contribute to as graduates.

**PC.2 Design**—How the program instills in students the role of the design process in shaping the built environment and conveys the methods by which design processes integrate multiple factors, in different settings and scales of development, from buildings to cities.

**Program Response:**

**Track 1:**

Preparatory Undergraduate: ARCH 201, ARCH 202, ARCH 301, ARCH 302 (Architectural Design 1-4), ARCH 401, ARCH 402 (OR, minimum of 4 semesters of undergraduate design studio from other undergraduate pre-professional degree program in architecture)

**Track 2:**

- ARCH 501: Design Thinking and Foundations Studio
- ARCH 561: Visualization and Communication
- ARCH 502: Environmental Design and Site Context Studio
- ARCH 503: Design Application Workshop

**Both:**

- ARCH 601: Community Engaged Applied Learning Studio
- ARCH 602: Integrated Architecture Design Studio
- ARCH 603: Multi-Disciplinary Design Knowledge Studio
- ARCH 604: Independent Final Project Studio

**And Extra-Curricular:**

- CAP Guest lecture series
- Alumni lectures
- AIA Indianapolis monthly meetings
- Field Trip Week with visits to significant design environments

In the introductory design studio coursework of both M.Arch tracks students learn the iterative process of design inquiry, learn to ask questions, analyze, and propose and develop ideas, learn foundational design and architectural considerations (ordering principles, 2D to 3D composition, parti, line, plane, volume, space), and learn visualization and representation methods (ARCH 561). For both undergraduates and graduates in the Track 2 program (ARCH 501) **Design Thinking Foundations Studio** most importantly, they learn the value of studio as a place to work with their colleagues and faculty and exchange ideas, a supportive culture that affirms both the individual and the collective, and a pedagogy that is a resonant way to learn and grow. These lessons build in (ARCH 502) **Environmental Design and Site Context Studio** (in the graduate Track 2 program) to more architectural explorations of analysis, ideation and iteration, exploration of space, form and order on varied natural and urban sites of differing scales, for defined user-needs, with an environmental responsiveness, and through a growing exposure to the tools of a design process (digital and physical modeling, diagramming, drawing, doodling). Students' growing awareness of the context for their decision making (courses in structures, history, building technology systems, passive and active environmental systems) feeds the goal of design is the integrative heart of an architectural education.

In the final summer semester of the TRACK 2 students' first year, the design workshop inculcates our other value – that of connecting the lessons of architecture to our community. Practicing again the process of design from inquiry through iteration, through experimentation, representation and analysis, (ARCH 503) **Design Application Workshop** connects student thinking with the people and communities that architecture ultimately serves. This final design experience of the 3-year students' first year of study in the M.Arch program applies students' design efforts co-creating knowledge *with* the community to improve quality of life for all. This design workshop focuses on place-making and building healthy community in first, the downtown urban core, and second, the struggling south side or "south of the tracks" area of Muncie, where disinvestment, abandonment of factories, unemployment, wide-spread vacant homes and property, poverty, drug addiction, social isolation, and a lack of identity and pride plagues the once vibrant backbone of our small rust-belt city. Place-making is understood as a collaborative process to shape public and private spaces that reflect shared values in a community. The place-making focus is on projects in different settings and scales of development that ranged from alley activation to corridor reinvestment to porch place-making. Promoting community engagement in architecture, the interpretive historical research, inventory of existing conditions, interviewing of community members, hosting participatory design charrettes, and analysis, synthesis, and developing design recommendations and intervention strategies with the community provide rich evidences and an indispensable approach to design for the future of social change.



Ball State University is acclaimed for its institution-wide commitment to public service, civic involvement, and community partnerships. Our community-engaged department is internationally recognized for mobilizing and leading partnerships that revitalize and sustain our city and our region. The (ARCH 503) **Design Application Workshop** exposes graduate students to this essential role in outreach and engagement through Immersive Learning projects, collaboration with community partners for implementation of plans, initiatives, and design strategies to improve quality of life, health and well-being for all. (ARCH 601) **Community Engaged Applied Learning Studio** reinforces this engagement in a different context, the urban capitol city of Indianapolis. Track 1 and Track 2 Master of Architecture students join together in the fall semester at the Ball State CAP: Indy Center. The (ARCH 601) **Community Engaged Applied Learning Studio** addresses the need to establish a 'community of learners' in the program as students integrate from the Track 2 program as well as students in the Track 1 program from different undergraduate architecture programs. The (ARCH 601) **Community Engaged Applied Learning Studio** focuses on *Building Community*, first on building community of students and faculty, recognizing the uniqueness, diversity of experiences, and life situations gathered at this juncture of the professionally accredited Master of Architecture degree.

**ARCH 601** furthers the pursuit of design as an integrative exploration with, complex urban sites and programs. Students are asked to analyze specific site conditions and opportunities, identify community needs through discussion with community partners, and integrate the consideration of systems into their design process. This fall semester, as part of the Solar Decathlon Local Build Challenge (ARCH 601) **Community Engaged Applied Learning Studio** students will study the design and eventual build of an affordable, energy efficient, high-performance design for a net-zero demonstration duplex home as part of the *Englewood Homes* development. The master planning for *Englewood Homes* includes 40 affordable rental units in 20 duplexes located on 20 scattered sites in this near east side Indianapolis neighborhood. (ARCH 624) **Applied Building Technology** is "blended" with the studio design focus. This fall, for instance, **ARCH 624** will provide lessons in innovative low-carbon building assembly methods, net-zero strategies, building envelope, and fabrication in service to the design exploration for the Solar Decathlon Local Build proposal for the local community. Students connect with community members and organizations in the surrounding area of Indianapolis – the [Englewood CDC](#) has worked with the (ARCH 601) **Community Engaged Applied Learning Studio** and (ARCH 602) **Integrated Architecture Design Studio** connecting students' design thinking with real settings, real people, real needs – while furthering their education in design processes.

#### **Emphasize (demonstrating proficiency)**

(ARCH 602) **Integrated Architecture Design Studio** leverages the framework of the U.S. Dept. of Energy's (DOE) Solar Decathlon Design Challenge (SDDC) to assess the PC.2 Design criteria. The SDDC is an international student design competition operated by its National Renewable Energy Laboratory (NREL). The competition is built on the premise that high-performance buildings demand an integration of building science, energy efficiency, optimized mechanical systems, indoor air quality, resilience, and water conservation. However, the competition's requirements also impart to the student teams that building occupants expect more – including great design that is affordable, comfortable, durable, and safe.

The (ARCH 602) **Integrated Architecture Design Studio** comprises the entire cohort and student teams dedicate themselves to a unique division of the competition. In recent cycles, student teams have submitted entries for Urban Single Family, Mixed-Use Multifamily, Office Building, and Elementary School. The studio work is directly evaluated internally by the ARCH 602 studio director (full-time faculty) as well as each team's dedicated professional design advisor (contracted professional faculty). Moreover, the studio work is evaluated externally by the competition's jury.

(ARCH 602) **Integrated Architecture Design Studio** benchmarks all students' abilities in both Design Synthesis and Building Integration through the lens of the SDDC. The setting of Indianapolis is invaluable as it facilitates connecting professional expertise (architects, engineers, product manufacturers) with student knowledge and design process. Licensed architects serve as adjunct faculty in a studio organized by a full-time faculty. The adjunct faculty speak directly of design as

informed by health, safety and welfare considerations, of design as an integrative process, and of contemporary work-flow strategies for student teams to consider.

At Ball State's main campus in Muncie for the final year, (ARCH 603) **Multi-Disciplinary Design Knowledge** studio develops and demonstrates design synthesis. Last year, students engaged with students in the School of Art as well as the Sociology Department. This year, the studio will share a studio space with Master of Landscape Architecture graduate students and the project prompt will integrate considerations of Urban Design and architecture. This studio is blended with (ARCH 618) **Applied Systems Thinking**, with the learning objective of providing one last overview of technology systems (envelope, assemblies, structural, environmental, life safety) as integral to design process, along with further practice in integrating building performance metrics during the design iteration process. Applied Systems Thinking first refreshes student awareness/knowledge of systems (structural, envelope, life safety, structure, environmental) then guides students in the integration of these systems with design exploration in (ARCH 603) **Multi-Disciplinary Design Knowledge Studio**.

The culminating experience of students' graduate study in the M.Arch program at BSU is the (ARCH 604) **Independent Final Project Studio**. Under the guidance of a team of ARCH 604 studio faculty and a student-selected thesis advisor, M.Arch students define a design research inquiry, articulate an individual position with regard to the discipline of architecture, conduct independent research, and develop and complete a student initiated architectural design project over the course of the (ARCH 637) **Final Project Prep** (fall semester) and (ARCH 604) **Final Project Studio** (spring semester). Individually, students explore relevant precedents, comparative case studies, establish design principles and criteria, prepare a well-researched literature review on their topic, and interpret the findings from both quantitative and qualitative research that they have designed and conducted. This work provides inspiration and evidence for site selection, programmatic, and design decisions.

ARCH 604's self-selected design project gives each student the freedom to apply his or her academic knowledge and experience to a significant inquiry, problem, or design project that reflects a specific interest. Equally important, students self-select into working groups as they find commonalities in their research inquiry and that of their peers. This topical working group is consistent through the entire academic year and class discussion. Interim and final presentations are also aligned with these working groups. Teams synthesize key concepts and perspectives on design from the architectural and studio community. Discourse is consistent with shared beliefs and practices regarding their thesis inquiry in design. It is fundamental in this collaborative environment to draw connections between peer-related thesis inquiries. The primary objective of the final design project is to collectively refine and expand the fields of architectural discourse and practice with the diversity of design propositions and to test a possible trajectory both for architecture and for a generation of architects who, with their intellectually independent thesis projects cross over into their professional careers as architects.

**Assessment of overall student experience relative to Program Criteria PC.2 Design (also see PC Assessment note at start of this section):**

- **End of semester presentations and discussions** of student work by faculty at each year level.
- **Review of end-of-semester faculty discussions** relative to the student experience as shaped by Program Criteria. Attention is given to any deficiencies with a re-alignment OR suggested strategies of different approach shared with faculty.
- **Grading assessment of student work**, with particular focus upon the final two years of the program – 601, 602, 603, 604 where students are developing and demonstrating their awareness of design processes across a variety of scales, and the final independent project reports.
- **Stakeholder feedback:** Community Partner Feedback – at the conclusion of the project and in final reviews, students hear from the community partners in terms of their assessment of the work of the students; Advisory Board feedback twice a year.
- **Graduating Student Exit Survey** (annual) – our survey of graduating M.Arch students included (2021), and will annually include, this question:

*Please assess how well your education has prepared you in the following areas:*



*Developing an effective design process that is integrative, iterative, and driven by ideas, in different settings and for different scales (building to city).*

RESPONSE: Graduate M.Arch (satisfactorily, well, very well) = 100% (well or very well = 72.73%)

Targeting the well/very well response - we are aiming to be over a 75% a benchmark. The annual review of PC's by committee will consider the programs' address of PC2 Design and look for areas of curricular adjustment/improvement to attain a 75% minimum

**PC.3 Ecological Knowledge and Responsibility**—How the program instills in students a holistic understanding of the dynamic between built and natural environments, enabling future architects to mitigate climate change responsibly by leveraging ecological, advanced building performance, adaptation, and resilience principles in their work and advocacy activities.

#### **Program Response:**

##### **Track 1:**

- Undergraduate: (ARCH 273) Environmental Systems 1 and (ARCH 373) Environmental Systems 2 OR equivalent coursework in PASSIVE environmental systems, and ACTIVE environmental systems. Remedy if any missing: (ARCH 570) Passive Systems; (ARCH 571) Active Systems; 3-6 credits of High-Performance Building Certificate coursework; 3-6 credits of Sustainability Certificate coursework.

##### **Track 2:**

- ARCH 570: Passive Environmental Systems
- ARCH 571: Active Environmental Systems
- ARCH 551: Contemporary Issues in Architecture

##### **Both:**

- ARCH 601: Community Engaged Applied Learning
- ARCH 602: Integrated Architecture Design Studio
- ARCH 618: Applied Systems Thinking

##### **And Extra-Curricular:**

- Certificate programs – Historic Preservation (HP), High Performance Building Design (HPBD), Digital Design and Fabrication (DDF), Social and Environmental Justice (SEJ), Sustainability.

The Master of Architecture program understands ecological knowledge and responsibility as an essential component to our mission of educating future professional leaders. We are fortunate to have exemplary full and part-time faculty who teach coursework and provide extracurricular opportunities for all students in this area. In the required coursework, foundational introductory course(s) in passive and active systems introduce students to both passive environmental response strategies, and active environmental systems – the ability of active environmental control systems to deliver health, safety, and productivity services to building occupants. High-performance outcomes are emphasized as is climate change mitigation. Foundational coursework in social and environmental justice in architecture, also instills in students the importance of natural and built environments that are in sustainable balance with our world.

(ARCH 570) **Passive Environmental Systems** is, at its heart, an exploration of how buildings and their constituent elements can negotiate between naturally occurring environmental forces and desirable interior outcomes. The course emphasizes that context (including climate and project requirements) determines whether a force should be rejected or accepted. High-performing passive buildings can greatly reduce carbon emissions relative to efficient active systems. As previously structured, ARCH 570 did not adequately explore adaptation or resilience. Greater emphasis has been placed on adaptation and resilience in current and future offerings.

(ARCH 571) **Active Environmental Systems** looks at the ability of active environmental control systems to deliver health, safety, and productivity services to building occupants. High-performance outcomes are emphasized as is climate change mitigation. As previously structured, (ARCH 571) did

not deal with adaptation or resilience in any meaningful way. These will be added for Spring 2022—but not in a substantive way (there is inadequate time to permit a lecture for each topic).

(ARCH 551) **Contemporary Issues in Architecture** is devoted to exploring the essential role that architecture plays in promoting socially and environmentally just communities through the study of a series of contemporary architectural issues. The students explore a series of topics through assigned readings – each reading assignment offering a range of sustainability perspectives giving the students a well-rounded understanding of the relationship between the design of the built landscape and ecological principles (ARCH 551 Reading List). Topic discussions each week stress the responsibility that an architect has to mitigate the ecological consequences of climate change by leveraging sustainable design practices and exploring best practices in location-specific adaptation and resiliency. The students' final assignments, an annotated bibliography and precedents study, and their final topic paper, require that they each research their assigned topic in relation to sustainability and resiliency principles (ARCH 551 Topic Bibliography and Precedents and ARCH 551 Topic Paper). This knowledge is then activated into students' holistic thinking in (ARCH 601) **Community Engaged Applied Learning**, (ARCH 602) **Integrated Architecture Design Studio**, (ARCH 618) **Applied Systems Thinking**.

Three aspects of (ARCH 601) **Community Engaged Applied Learning** educational mission reinforce the successful addressing of Ecological Knowledge and Responsibility in the design studio. We are committed to experiential, ecological, applied learning in service to others; BSU's enduring values of beneficence, civic engagement, and a "real-world" education that produces civic-minded, community-engaged, professional leaders; and preparing our students to become stewards of the environment, working collaboratively with each other through the lens of disciplinary expertise to solve the complex challenges faced by our planet. The studio encourages innovative solutions through research and design; productive and useful work to benefit community and environment; and connecting design thinking with doing to contribute to the healthy, resilient, and sustainable environments of people, place and planet. These pillars of applied learning, community engagement, and environmental stewardship will propel our students in (ARCH 601) to participate in Ball State's Solar Decathlon Build Challenge (SDBC) situated in Indianapolis, Indiana in Fall of 2021.

Environmental impact includes the informed selection of materials and products to reduce product life-cycle embodied carbon and other environmental impacts while enhancing building performance and prioritizing occupant health and comfort. In SDBC, students must describe the project's construction, material selection criteria, considerations and constraints, specific materials used, and discuss the efforts made to reduce the amount of material used and the environmental impact of materials over their lifetime. **Durability and Resilience** comprises one of the 10 contests used for evaluation of the SDBC Local Build Competition. This contest has students evaluate the building's long-term ability to endure local environmental conditions and withstand, respond to, and recover from disruptions. The emphasis on passive systems such as daylighting and natural ventilation enables the design to further increase resiliency. High performance building design is a primary focus of the (ARCH 601 and ARCH 602) studios in the Solar Decathlon Design and Build Challenges. The contest "*Integrated Performance*" has students evaluate the interdependencies of building design elements to achieve optimized whole building performance. Students learn that an integrated design utilizes architectural and engineering elements that complement each other to help the building achieve optimal performance.

(ARCH 601) **Community Engaged Applied Learning Studio** addresses Ecological Knowledge and Responsibility program criteria in the following ways:

1. **Required Building Science Training for the Solar Decathlon Local Build Competition**

Every student in the studio is required to complete the Solar Decathlon Building Science Education Series. This is a multi-module online course consisting of separate series of online lectures, supplemental materials, and online evaluations. Once completed, a student will receive a certificate. This is collected by the (ARCH 601) studio director as evidence of each student's accomplishment. The Building Science Training modules are aligned with Workshops (Net Zero

Design, Energy Simulation, Tally, ASHRAE, etc.) and PowerPoint Presentations (Case Studies, Codes, Sustainable Sites, Building Envelope, etc.) as well as curricular content in design (ARCH 601 Schedule)

**2. In-Studio Design PPT Presentations, Guest Lectures, and Workshops**

Students in the studio Fall 2020 participated in six lecture presentations as a part of their design work in understanding ecological responsibility. In the Fall 2021, we have 8 PPT presentations and seven unique in-studio workshops focused on energy modeling, simulations, environmental controls systems, and design performance analysis / optimization (ARCH 601 Syllabus/Schedule).

**3. Studio and Competition Evaluation Requirements**

In accordance with both the Committee on the Environment (COTE) student competition (Fall 2020) and SD Build Challenge rules (Fall 2021), the student work is evaluated internally (i.e., studio director, design advisors and SD team faculty) and externally (i.e., design professionals, consultants, industry sponsors, and academics) to select a singular Build Challenge scheme to be submitted. The DOE SDBC has a Competition jury in April, 2022 to help secure funding to prepare for the construction of the local build.

(ARCH 602) **Integrated Architecture Design Studio** addresses the PC.3 Ecological Knowledge and Responsibility program criteria in three ways:

**1. Required Building Science Training.**

Every student in the studio is required to complete the Solar Decathlon Building Science Education Series. This is a multi-module online course consisting of four separate series of online lectures, supplemental materials, and online evaluations. Once completed, a student will receive a certificate. This is collected by faculty as evidence of each student's accomplishment.

**2. In-Studio Design Performance Analysis Workshops**

Students in the studio were obliged to participate in seven unique in-studio workshops focused on environmental controls systems and design performance analysis / optimization. The tools and resources utilized are secured for access by all students in the studio.

**3. Studio and Competition Evaluation Requirements**

In accordance with the Solar Decathlon Design Challenge (SDDC) rules, the student work was evaluated internally (i.e., studio director and design advisors) and externally (i.e., competition jury) on a wide range of metrics including energy performance, embodied environmental impacts, engineering optimization, indoor environmental quality, durability and resilience, local marketability / affordability, and integrated design.

**ARCH 602** specific assessment includes building science training – certificates submitted, attendance in design performance analysis workshops, three (3) studio-based juried design reviews (ARCH 602 schedule), Solar Decathlon Design Challenge (SDDC) deliverables (see competition rules), and a materials handbook.

(ARCH 618) **Applied Systems Thinking** requires the selection of building systems for a design studio project in the context of measurable performance criteria. These criteria include environmental performance (energy and carbon), adaptation and resilience. In **ARCH 618** each assignment includes a statement that describes the expectations for a successful response to the assignment prompt. These expectations provide the basis for a grading rubric used to evaluate assignment submissions. Any assignment with collective evaluations below expectations is further discussed in class.

**Assessment of overall student experience relative to Program Criteria PC.3 Ecological Knowledge and Responsibility (also see PC Assessment note at start of this section):**

- Review of end-of-semester faculty presentations and discussions relative to the student experience as shaped by Program Criteria 3. Attention is given to any deficiencies with a re-alignment OR suggested strategies of different approach shared with faculty.
- **Review of grading assessment of student work**, with particular focus upon the final two years of the program – 601, 602, 603, 604 where students are demonstrating their awareness of Ecological Knowledge and Responsibility in architecture across a variety of scales. Deficiencies noted and brought to attention of faculty + curriculum committee.

- **End of semester presentations and discussions** of course structure + student work by faculty at each year level.
- **Graduating Student Exit Survey** (annual)
- May 2021 – our survey of graduating M.Arch students included (and will annually include) this question:  
*Please assess how well your education has prepared you in the following areas:  
 Integrating environmental stewardship as an essential consideration of architecture, while developing an understanding of the dynamic between built and natural environments to allow for future address of climate change through the practice of architecture and through advocacy activities.*

RESPONSE: Graduate M.Arch (satisfactorily, well, very well) = 100% (well or very well = 90.91%)

Targeting the well/very well response - we are over our 75% benchmark. Environmental Stewardship is a pillar of our programs, department, college, and university. 100% is ideal.

**PC.4 History and Theory**—How the program ensures that students understand the histories and theories of architecture and urbanism, framed by diverse social, cultural, economic, and political forces, nationally and globally.

**Program Response:**

**Track 1:**

- Undergraduate: ARCH 229 History of Architecture 1, ARCH 329 History of Architecture 2 OR two (6 credits) architectural history survey courses. Remedy if any missing: ARCH 639 and/or ARCH 551 and/or 3-6 credits of HP or SEJ certificate coursework.

**Track 2:**

- ARCH 639: Contemporary History and Theory of Architecture
- ARCH 551: Contemporary Issues in Architecture

**Both:**

- ARCH 637- Final Project Prep
- ARCH 646: Urban Design: History, Theory, and Practice
- ARCH 647: Theory and Representation

**And Extra-Curricular:**

- CAP Guest Lecture Series
- Certificate program options particularly HP and SEJ
- 4<sup>th</sup> World Theory elective (SEJ)
- Elective coursework in areas of student choice
- Field Studies, Field Trips

Historical and theoretical understandings are introduced and reinforced in seminar courses and design studios. Students in Track 1 take required history and theory offerings as a part of their pre-professional undergraduate curriculum in Architecture and we assess their transcripts to assure a minimum of two architectural history survey courses. In Track 2 there are two courses in history and theory, ARCH 551 and ARCH 639. Students in both tracks conclude their education with courses that cover History and Theory in ARCH 637, the development of their thesis inquiry, ARCH 646, a seminar course on Urban Design History, Theory, and Practice while studying in the city of Indianapolis, and ARCH 647, Theory and Representation that re-presents student's thesis inquiries in individually specific ways.

Through the exploration of a series of contemporary architectural topics, (ARCH 551) **Contemporary Issues in Architecture** connects Track 2 students to a range of contemporary architectural design theories relating to diverse ecological, social, cultural, and economic issues (ARCH 551 Syllabus). Assigned readings start the students on explorations of current topics at various scales, focusing especially on architectural theories framing sustainability and social justice (ARCH 551 Reading List). The students as a group then research each topic further and find additional sources and current precedent projects that help enrich their understanding of the theories and issues framing each topic

(ARCH 551 Topic Schedule). For the final course assignments, each student chooses a topic and builds an annotated bibliography and precedents assessment which becomes the theoretical foundation for their final paper (ARCH 551 Bibliography and Precedents). The final paper is an assessment of current design theory framed and contextualized by topic-specific and place-based social equity and ecological issues (ARCH 551 Topic Paper).

(ARCH 639) **Contemporary History and Theory of Architecture** is a survey course taken in the first year of the Track 2 M.Arch program. This course explores architectural history and theoretical developments from the mid-1700s until the recent past (early twenty-first century). The course moves quickly in the beginning of the semester to cover the Industrial Revolution and its long-term effects in society, and architectural history in Western Europe in the 1800s. We then proceed weekly through a traditional list of topics ranging from the early modern architecture pioneers (e.g., Frank Lloyd Wright, the Bauhaus, Le Corbusier), other international contributors to modern architecture, select late modernists, and several post-WW II and contemporary theories (i.e., structuralism and post-structuralism/de-constructivism, phenomenology, and regionalism/critical regionalism/vernacular architecture). The course tracks the traditional western canon until the latter part of the semester, in which we delve more deeply into non-western, contemporary influences and diverse contributors (i.e., global architects and underrepresented minorities in the field).

The methods of assessment for this course include summaries of weekly reading assignments, weekly class discussions on the readings, two essays (one midway through the semester and another near the end), and a student presentation. The course delivery and assignments place an emphasis on becoming conversant on the class topics, hence “teaching as a conversation” through the weekly readings, summaries, and in-class discussion, the essays, and the final oral presentation.

In (ARCH 637) **Final Project Prep** students define and develop a topic for their (ARCH 604) **Independent Final Project Studio**, final architecture project. Through guided independent work in design, history, and theory, students prepare a proposal that documents the content of topical research, design methodologies, conceptual, historical, and theoretical frameworks, and a scheduling of tasks for the proposed execution of a final design project.

An assessment of the architectural research undertaken in this course is the search for new knowledge and new ideas about the built environment. Research can be conducted in a variety of sub disciplines, including building technology, environment behavior studies, social and environmental justice, history of architecture, theoretical foundations of design, and computing technology. In each area of architectural research, certain presuppositions and fundamental beliefs guide and determine the appropriate focus and method of inquiry, as well as the significance and merit of each research project. While the parameters of these research approaches vary, there are three common characteristics

1. Architectural research efforts are those that have clearly identifiable goals at the outset of the research, where the project is directed to respond to a question. This is assessed through students’ presentation and written abstract of their research inquiry/question and design goals.
2. In pursuing that question, one follows a credible, systematic method or mode of inquiry, relevant and acceptable to the research paradigm under which one is operating. This qualitative and quantitative research methodology is refined through the process and shared with students in working groups of topical interest with students throughout the process of the course.
3. This process results in significant results and in a thorough, documented draft manuscript which reflects a proposed project and enhances understanding/knowledge within a research domain. The final thesis preparation results in a rubric-assessed book (ARCH 637/604 Thesis Book).

(ARCH 646) **Urban Design: History, Theory, and Practice** introduces the principles, practices, and theory of urban design and considers the history of urban form, exploring the design of major cities and urban centers. Students develop an understanding of significant case studies while systematically studying physical form, regional influences, and how the public realm is shaped by social, economic, political, and cultural forces. Many of the cities studied allow a stronger focus on

issues of equity, identity, sense of place, smart growth, and sustainable place making.

In this class the modern city is analyzed as it has adapted over time. Through the reading of certain texts and excerpts, students examine how designers and others have written about different cities and how these urban centers have been shaped by many elements, both geographically and culturally. Specifically, this class looks at London, Paris, Lagos, Los Angeles, Las Vegas, Washington, DC and Chicago in depth. Through research projects and field trips, the city of Indianapolis is also used as an urban workshop. This class also supports some of the design work completed in ARCH 602, such as the histories of urban codes and regulations. In addition, student presentations and research projects that analyze and discuss the evolution of other cities around the world will help to apply these concepts learned.

(ARCH 647) **Theory and Representation** reviews and assesses canonical topics of history and theory, design methodologies, and visualization techniques in architecture covering the periods from the 15<sup>th</sup> century to today. Examples of the content covered includes the origins of architectural drawing and its evolution through contemporary technologies, a series of comparisons and applications between varying architectural design theories, and the advancement of architectural design methodologies since the 15<sup>th</sup> century. Students demonstrate their understanding of the course topics through small design projects. Each project requires students to communicate their design proposals through the appropriate means of representation and to take a position within the historical/theoretical context of each prompt.

Assessment Activities for this seminar course include four (4) design problem assignments (ARCH 647 syllabus/schedule) and individual student in-class presentations that carefully consider individual understanding of positions of theory and representation in their work. See supporting materials including ARCH 647 - Syllabus - Spring 2021 (PDF) and ARCH 647 - Schedule - Spring 2021 (PDF).

**And Extra-Curricular:**

- CAP Guest Lecture Series
- Certificate program options HP and SEJ (more specifically 4<sup>th</sup> World Theory)
- Elective coursework in areas of student choice

**Assessment of overall student experience relative to Program Criteria PC.4 History + Theory (also see PC Assessment note at start of this section):**

- **Review of end of semester presentations and discussions** of course structure + student work by faculty at each year level.
- **Review of end-of-semester faculty discussions** relative to the student experience as shaped by Program Criteria PC 4. Attention is given to any deficiencies with a re-alignment OR suggested strategies of different approach shared with faculty.
- **Grading assessment of student work**, with particular focus upon the last years of the program – 603, 604 where students are demonstrating their awareness of history/theory in architecture. Deficiencies noted and brought to attention of faculty + curriculum committee.
- **Graduating Student Exit Survey** (annual)  
May 2021 – our survey of graduating M.Arch students included (and will annually include) this question:

***Please assess how well your education has prepared you in the following areas:***

*Establishing an understanding of the histories and theories of architecture and urbanism (framed by diverse social, cultural, economic, and political forces) both nationally and globally.*

RESPONSE: Graduate M.Arch (satisfactorily, well, very well) = 81.82% (well or very well = 63.64%)

Targeting the well/very well response, our benchmark IS 75%. This aspect of the curriculum will be discussed by review team (Chair, Program Director, Assessment + Accreditation coordinator) to articulate potential modifications to address this PC.4 more effectively.

**PC.5 Research and Innovation**—How the program prepares students to engage and participate in architectural research to test and evaluate innovations in the field.

Program Response:

**Track 1:**

- Undergraduate baccalaureate degree, major in architecture

**Track 2:**

- ARCH 551: Contemporary Issues in Architecture

**Both:**

- ARCH 636: Research Methods
- ARCH 637- Final Project Prep
- ARCH 647: Theory and Representation
- ARCH 602: Integrated Architecture Design Studio
- ARCH 604: Independent Final Project Studio

**And Extra-Curricular:**

- Certificate programs – Historic Preservation (HP), High Performance Building Design (HPBD), Digital Design and Fabrication (DDF), Social and Environmental Justice (SEJ), Sustainability.
- Design Innovation Fellow faculty – available for advising, provides hands-on collaborative learning (Exhibit Columbus), lectures + exhibitions
- College labs and tools

Research is a core part of the Track 2 students' topic explorations in (ARCH 551) **Contemporary Issues in Architecture**. For each week's topic, the students have a set of assigned readings that are discussed in class. The students are then responsible for defining potential design applications and finding sources that further address the ecological, social, cultural, political, and/or economic discourses that can help to establish design criteria and frameworks for design interventions. As a part of this topic research, the students are also responsible for finding and assessing a series of precedent projects that help to frame how various contemporary designs have successfully (or unsuccessfully) addressed issues surrounding each topic.

The students' final assignments are an annotated bibliography and precedent assessment (Arch 551 Bibliography and Precedents) and a topic paper (Arch 551 Topic Paper). Both assignments ask the students to demonstrate that they have thoroughly explored the topic through a series of different lenses that specifically assess current ecological and equity issues as they relate to architectural design.

In (ARCH 636) **Research Methods**, all M.Arch students engage and participate in architectural research in several ways. There is much testing and evaluating of the methods presented. First and foremost, students learn the relevance and value of architectural research in the profession. Students are exposed to several types of research methods, with an emphasis on qualitative research methods so that students learn about how people use space, what their needs and preferences are as well as learn varied perspectives on a particular issue related to design. Not only are students provided with explanatory readings, videos and PowerPoints, they "test" out the method for themselves. Most of the methods studied through the course will relate to their thesis interest and will contribute insight into their thesis inquiry and project. However, some of the methods do not relate to their thesis interest and are tested purely to provide the students with experience with the particular method.

Specifically, students start by identifying "problems" in the field at any scale as well as their thesis interest. Soon after the course starts, each student formulates a research question which is revised numerous times throughout the semester. Students learn how to find resources with the help of the CAP library staff and how to write a very basic literature review. They also learn about cognitive maps, behavioral mapping, observations of trace measures, and archival research with Sanborn maps. Towards the end of the semester students formulate demographic and interview questions and learn how to do thematic coding of interview answers, how to design a questionnaire with several types of questions, how to interpret research findings, and how to use visual means to display their research findings. A primary goal is for each student to gain an understanding of what they are interested in



(preferably what they are passionate about). Students are encouraged to think in terms of a thesis that will contribute to and help solve aspects of a particular problem.

This (**ARCH 636**) course is an opportunity for students to gain clarity and focus on their ideas for thesis. They test their research methods, and thesis ideas. A course goal is that students gain practice designing the method and its components, analyzing the data, and interpreting the data. Additionally, the intention is that they engage in an iterative experience in conducting research, revising, reviewing and redoing. An important aspect of many of the assignments and the **assessment** of the building of research skills is the requirement to self-critique, elicit critique from classmates and to evaluate what they have learned in terms of how it contributes to their thesis inquiry. This first stage of a trial and error method exploration is best done in this first research methods course that is followed by the (**ARCH 637**) course specifically tied to each student's thesis inquiry. Students gain insights on methods that are appropriate for their (**ARCH 604**) thesis research and design project. The message is reinforced that it is just as useful for students to discover what doesn't work as it is to discover what does work.

In (**ARCH 637**) **Final Project Prep** students continue exploring the research and thesis inquiry that they began in (**ARCH 636**) **Research Methods** in the spring semester before. At the end of the Research Methods course, students reflected on their final research question (after several iterations), literature review, as well as their qualitative and quantitative methods and research findings. Their reflection and conclusion serve as a point of departure at the beginning of the (**ARCH 637**) **Final Project Prep** course. That said, exposure to new ideas while taking courses during the summer months may have inspired students to consider a new route of thesis inquiry, even a completely new topic. Students are encouraged to feel free to abandon their original thesis inquiry and follow this new route if they wish.

At the beginning of the (**ARCH 637**) **Final Project Prep** course, students define and develop the topic for their (**ARCH 604**) **Independent Final Project Studio**, final architecture project. Through guided independent work in this course, students prepare a proposal that documents the content of topical research, design methodologies, conceptual, historical, and theoretical frameworks, and a scheduling of tasks for the proposed execution of a final design project.

Specific assessment activities in **ARCH 637** regarding research and innovation center around the continually refined and rewritten abstract and the revising and reflecting on student's thesis inquiry. There is ongoing selection and exploration of relevant case studies, precedents, and resources for their literature review. Additionally, students revisit and refine one quantitative and one qualitative research method of their choice to ensure that the most appropriate ones will provide data that will benefit their individual thesis design inquiry. The Final Project Thesis Book Draft includes a detailed Final Draft Assessment rubric considering all requirements for Final Project Thesis Book which include Inquiry, Abstract, Literature Review, Comparative Case Studies, Precedents, Qualitative and Quantitative Design Research Methods, Site and Program Analysis, and Final Project Proposal (see **ARCH 637** Draft Thesis Book Rubric).

Each (**ARCH 647**) **Theory and Representation** assignment requires students to research and assess the historical/theoretical context. All design problems are accompanied with a suggested design methodology and set of techniques to iterate, test, and evaluate an appropriate response or solution. In-class demonstrations and tutorials provide a general approach to the research aligned with each design problem. Students are introduced to a number of contemporary, digital tools and mediums in order to conduct and author appropriate workflows for the assignments. Design problems are formulated to prohibit the mimicking of in-class demonstrations and techniques in seeking a solution, hence arriving at their own "innovations". Rather, students must independently develop and review approaches that reflect their understanding of the assignment prompt.

Research and innovation in design is at the heart of the Solar Decathlon Design Challenge (SDDC) and thus the (**ARCH 602**) **Integrated Architecture Design Studio**. In order to contend in any design

competition, forward-thinking solutions must be evident. Each student team dedicates their work to one project type division of the design competition. To keep the work equitable, the entire studio is assigned to either residential or non-residential division options. Once a division is identified for a student team, the students research typological precedents, local ecological factors, siting and the surrounding community, locally available trades, regional market trends, and more. The students also engage a local community development corporation, who functions as an “Owner” for the purposes of the competition.

Moreover, the SDDC holds student teams accountable to myriad design performance metrics, which students must demonstrate through building performance simulations. This fosters design performance analysis and optimization, which the students are required to demonstrate as part of the competition.

In (ARCH 604) **Independent Final Project**, students actively innovate through design research. We promote not only the creativity that results in innovation, but also establish an enabling environment for students to bring innovative ideas to fruition through two aspects: 1. nurtured risk and 2. design as research inquiry. Nurtured risk is encouraged through a team of supportive faculty that challenge and support diversity in design inquiry. Students work under the guidance of a faculty of three professors collectively teaching **ARCH 604**, and one student-selected major advisor to create a written and illustrated document that encapsulates their unique contribution to the existing architectural discourse applied to a student defined design project. Understanding design as research inquiry and research as design inquiry is fundamental to the individual search for new knowledge and new ideas about the built environment. The reciprocal relationship between design and research can be conducted in a variety of areas, including building performance and advanced technologies, material science, innovative construction processes, environment behavior studies, social and environmental studies, interpretive historical research, and information technology and computation. In each area of architectural research, certain presuppositions and fundamental beliefs guide and determine the appropriate focus and method of inquiry, as well as the significance and merit of each design as research project.

Today’s design students on the path to becoming design professionals are attuned to rapid technological changes and the current revolution in design and construction processes, putting them in positions to lead the industry. They understand that there is no innovation without research. The process of assessing design as research inquiry in **ARCH 604** helps identify innovative processes and products and improve both. Looking at the degree of inventiveness, the difference between a known prototype and the new solution, required domains of technology and knowledge, and the trials and errors and the type of contradictions that are solved are all discussed and assessed as students work through their thesis inquiry with ARCH 604 faculty and advisors.

#### **ARCH 604 specific assessment:**

- **Student Selected Book Required for Purchase** (book related to final project is required by each student to be purchased because of its contextual research in self-selected thesis inquiry)
- **Group Wikifesto:** Working Group Title, Image, and Collectively Written Abstract identifying a Shared Perspective on two or more diverse thesis inquiries, also creating an image that unites the different inquiries, all to be posted on CANVAS. A wikifesto is a wiki devoted to the idea of an open manifesto, an open declaration of aims and ends, proposals and demands, and statements of purpose, all subject to change by those who read and use them!
- **Three Minute Thesis (3MT) Video Presentation Competition** (See Registration in university-wide 3MT Presentation and Preliminary Judging Criteria Rubric specifically, Comprehension and Content: How well was the research motivated (background and significance)? How well was the research design explained (methods, approach)? How well were results, conclusions, or outcomes described?)
- **Display of Interim Review Work** (*ARCH 604 faculty have noticed that the inquiry of students and the methods to explore are innovative, however the way students represent the work graphically is less innovative or related to their design as research inquiry – they fall back on conventional*

*representations and familiar means of graphic presentation. We are working to better define and assess student's presentation of design as research inquiry)*

- **Final Project Presentation, Display and Thesis Book** (juried by outside academics and professionals, alumni, and community members as appropriate to the topical thesis explorations).
- **Graduate Thesis Award for Outstanding Thesis Book: Faculty Advisor's Nomination:** *The graduate student exhibits **innovation**, originality, and **depth in research** and scholarship as evidenced in their thesis book. Nomination of Outstanding Thesis Book Award to consider importance and impact of the thesis inquiry; originality of the work; quality of the scholarship; organization of the thesis book; and quality of the writing.*

**And Extra-Curricular:**

- Certificate programs – Historic Preservation (HP), High Performance Building Design (HPBD), Digital Design and Fabrication (DDF), Social and Environmental Justice (SEJ), Sustainability (SUST)
- Design Innovation Fellow (DIF) faculty – available for advising, provides hands-on collaborative learning (Exhibit Columbus), lectures + exhibitions
- College labs and tools

**Assessment of overall student experience relative to Program Criteria PC.5 Research + Innovation (also see PC Assessment note at start of this section):**

- **Review of end of semester presentations and discussions** of course structure + student work by faculty at each year level.
- **Review of end-of-semester faculty** discussions relative to the student experience as shaped by Program Criteria Research + Innovation. Attention is given to any deficiencies with a re-alignment OR suggested strategies of different approach shared with faculty. Recent faculty discussions regarding PC5 have included:
  - *Developing a research program for students aligned with professional firm sponsors (in their defined area of need) – current potential to have graduate students support AIA + ASLA interest in “Women who Built Indiana”*
  - *Integrating high performance research with design studio more consistently*
- **Grading assessment of student work**, with particular focus upon the final two years of the program – 601, 602, 603, 604 where students are demonstrating their awareness of Research and Innovation processes as integral aspects of architecture. Deficiencies noted and brought to attention of faculty + curriculum committee
- **Graduating Student Exit Survey** (annual)
- May 2021 – our survey of graduating M.Arch students included (and will annually include) this question:

***Please assess how well your education has prepared you in the following areas:***

*Preparation to engage and participate in design research as part of the architectural discipline, to test and evaluate innovations in the field of architecture.*

RESPONSE: Graduate M.Arch (satisfactorily, well, very well) = 100% (well or very well = 81.82%)

Targeting the well/very well response - we are over our 75% benchmark per this assessment metric.

**PC.6 Leadership and Collaboration**—How the program ensures that students understand approaches to leadership in multidisciplinary teams, diverse stakeholder constituents, and dynamic physical and social contexts, and learn how to apply effective collaboration skills to solve complex problems.

**Program Response:**

**Track 1:**

- Undergraduate baccalaureate degree, major in architecture

**Track 2:**

- ARCH 520: Introduction to Professional Practice

**Both:**

- ARCH 601: Community Engaged Applied Learning Studio

- ARCH 602: Integrated Architecture Design Studio
- **And Extra-Curricular:**
- Student organization opportunities – Freedom by Design, AIA Indianapolis, YAF

(ARCH 520) **Introduction to Professional Practice** generally follows the latest edition of *The Architect's Handbook of Professional Practice*, published by the American Institute of Architects to assure that our MARCH Track 2 students understand approaches to leadership in multidisciplinary teams, diverse stakeholder constituents, and dynamic physical and social contexts, and learn how to apply effective collaboration skills to solve complex problems. *The Architect's Handbook*, and its companion publication, *The Architecture Student's Handbook of Professional Practice*, is an excellent tool for students undertaking architectural practice courses. This course utilizes the full version of the text for its robust content. From the *Handbook*, each student is required to review the assigned readings (among other sections of the book), apply the principles learned to an actual project, and develop an Organizational Chart for the given project. Particular emphasis is placed on understanding approaches to leadership in multidisciplinary teams, diverse stakeholder-constituents, and dynamic physical and social contexts, and learn how to apply effective collaboration skills to solve complex problems.

(ARCH 601) **Community Engaged Applied Learning Studio** offers students a student-driven, highly collaborative, immersive learning opportunity from Ball State's Indianapolis-based satellite facility. In immersive learning, students, community partners, stakeholders, and faculty mentors work together to identify challenges and define mutually beneficial projects to address these challenges. In our three years at the CAP: Indy Center located in the Holy Cross Neighborhood in Indianapolis' Near Eastside we have collaborated with diverse stakeholders on critical societal issues including homelessness, mental health, food inequity, and gentrification. Students provide leadership in addressing these challenges as they are embedded in the neighborhood, can walk to the urban sites, attend monthly neighborhood meetings, shop locally, etc. Our diverse stakeholders reside within the Near Eastside of Indianapolis and it is here that we have chosen to use design and advocacy in collaboration with the community to provide design leadership to impact the area. Transforming a struggling urban environment that has experienced significant disinvestment into a vibrant, thriving neighborhood requires the collaboration of many willing to contribute time, resources, and expertise. We are focused on creating vitality and improved quality of life for residents, maintaining a diverse population by resisting gentrification, and providing educational, economic, and leisure opportunities for its community of residents. Interdisciplinary teamwork is central to the opportunity to instill leadership and collaboration in effective ways to solve complex problems.

In Fall 2021, (ARCH 601) **Community Engaged Applied Learning Studio** our graduate design students and other students from all four (4) departments of our college, community partners, and interdisciplinary faculty mentors will participate in the Solar Decathlon Local Build Challenge (SDBC) to design a dwelling that will showcase the sustainable future of the built environment and its positive effects on quality of life. Students will use the design and performance metrics required by the SDBC competition and the dwelling's performance data to influence others to pursue energy efficiency and renewable energy technologies. This high-performance dwelling entirely powered by clean, renewable energy on a site that promotes the most sustainable use of water, vegetation, soil, and material resources illustrates the interdisciplinary collaboration of architecture and landscape architecture students. It is here that students' leadership and collaboration skills are showcased as they directly engage the Near Eastside in a neighborhood context and are presented with a range of technical resources regarding the community's history, regulatory context, and planning. Students integrate this information into their studio project, including considerations of affordability, universal design, and inclusiveness. During the three (3) internal studio design reviews and one external juried review, representatives from [Englewood CDC](#) and the City of Indianapolis, the architect and developer on the overall Englewood Homes project, and other local and regional allied design professionals, will be part of the discussion and critique of the local build, net zero project.

(ARCH 602) **Integrated Architecture Design Studio** offers students a continued learning opportunity from Ball State's Indianapolis-based satellite facility, Ball State CAP: Indy Center, located in Indianapolis' Near Eastside. It is here that students have direct proximity and access to their studio project's sites, the community, and the primary community partner for the Solar Decathlon Design Challenge. Students directly interact with Englewood Community Development Corporation and are presented with a range of technical resources regarding the community's history, regulatory context, and planning. Students are required to aggregate this information into their studio project – including considerations of affordability. During the three (3) internal studio design reviews, representatives from [Englewood CDC](#) and the City of Indianapolis, among other local/regional professionals, are present to offer unique insights and feedback.

Each member of the student teams is required to submit weekly updates on their own personal activity as well as that of their team and its overall progress. The studio director and design advisors use these weekly reports to gauge each team's progress and current needs.

#### **And Extra-Curricular:**

- Student organization opportunities – Freedom by Design, AIA Indianapolis, YAF, WIA
- Peer mentorship program established between final thesis year graduate students and first year of T2 3-year graduate students.
- Graduate students participate in lunch discussions with faculty candidates applying for positions.
- When guest lecturers are on CAP campus, graduate students are included in the small group critiques and gallery talks of lecturers.
- Graduate students at CAP: Indy Center are active in the events at the Center including AIA Monthly meetings, Historic Landmarks Commission, CSI, and many other organizations that use the Center as a gathering event.

#### **Assessment of overall student experience relative to Program Criteria PC.6 Leadership + Collaboration (also see PC Assessment note at start of this section):**

- **Review of end of semester presentations and discussions** of course structure + student work by faculty at each year level.
- **Review of end-of-semester faculty discussions** relative to the student experience as shaped by Program Criteria 6 Leadership and Collaboration. Attention is given to any deficiencies with a re-alignment OR suggested strategies of different approach shared with faculty.
- **Grading assessment of student work**, with particular focus upon the final two years of the program – 601, 602, 603, 604 where students are demonstrating their awareness of design processes across a variety of scales. Deficiencies noted and brought to attention of faculty + curriculum committee.
- **Graduating Student Exit Survey** (annual)
- May 2021 – our survey of graduating M.Arch students included (and will annually include) this question:

***Please assess how well your education has prepared you in the following areas:***

*Understanding how to work in teams and apply effective collaboration skills to solve complex problems.*

RESPONSE: Graduate M.Arch (satisfactorily, well, very well) = 90.91% (well or very well = 72.73%)

Targeting the well/very well responses with a 75% benchmark goal, this holistic aspect of our program will be brought to the review committee for discussion as it is slightly below that benchmark.

**PC.7 Learning and Teaching Culture**—How the program fosters and ensures a positive and respectful environment that encourages optimism, respect, sharing, engagement, and innovation among its faculty, students, administration, and staff.

#### **Program Response:**

##### **Track 1:**

- BSU undergraduate same cultural emphasis of a positive teaching/learning culture. Other undergraduate programs – welcome to our culture in fall first year *ARCH 601 Community Engaged Applied Learning Studio*.

**Track 2:**

- ARCH 501: Design Thinking and Foundations Studio
- ARCH 561: Visualization and Communication
- ARCH 503: Design Application Workshop

**Both:**

- ARCH 601: Community Engaged Applied Learning Studio
- ARCH 637: Final Project Prep
- ARCH 604: Independent Final Project studio

**And Extra-Curricular:**

- Discussion of studio culture policy at start of every semester with students, annual review discussion of policy by faculty, admin, staff
- Inclusive Excellence work + planning discussions (faculty, students)
- Open house, Friday visits to CAP, and Admitted Students' Day
- Orientation sessions

The climate of a positive teaching/learning culture is evident throughout our programs, most directly in the studio environment which is the heart of our programs. At the start of each semester in studio, faculty and students are asked to discuss the department's studio culture policy (a document reviewed, updated, and approved every year by department faculty with student input). This establishes the basis for a positive culture. Ball State's Beneficence Pledge is also a part of the student's culture as they pledge to: maintain high standards of scholarship and excellence; practice academic honesty; act in a socially responsible way; and value the intrinsic worth of every member of the community

Track 1 students are introduced to our programs' pursuit of a positive and respectful teaching and learning environment as undergraduates – a culture uniquely fostered at Ball State as a whole as our institution started as a teaching college. Ball State in general focuses on student learning. The studio culture (pre-COVID-19) at Ball State was/will be vibrant, active, professional, and supportive for each person's unique capabilities. Track 2 students are introduced to this culture from the first open house discussion they might attend through the introductory coursework in the first year. Faculty, staff, and students all work together to advance each individual's success and satisfaction.

Track 2 affirms this culture with the Track 2 students that come in to architecture from different backgrounds. For students from different undergraduate programs in Track 1 or Track 2, 'open house' graduate school interest gatherings, and orientation sessions set the expectations for an affirmational, positive and respectful culture. (ARCH 501) **Design Thinking and Foundations Studio** and (ARCH 561) **Visualization and Communication**, introduce students to the importance of learning with each other, from each other, in a supportive learning environment. Relatively small cohorts of students (typically 6-8 students per year) connect well with faculty in 501 and 561 which are taught by two faculty who model the importance of good dialogue, good collaboration, respect, and understanding. Reviews are conversational and constructive.

In (ARCH 503) **Design Application Workshop** students understand approaches to leadership in multidisciplinary teams with diverse stakeholder constituents, and dynamic physical and social contexts, and learn how to apply effective collaboration skills to solve community-centered problems. Ball State offers a unique form of service learning called immersive learning, in which students, community partners and faculty mentors work together to identify challenges and define mutually beneficial projects to address identified challenges. In ARCH 503, three community-centered initiatives rooted in the Muncie downtown and local neighborhood (with challenging socio-economic conditions but tremendous community involvement) are funded through an immersive learning grant. In this learning and teaching environment, community partners are co-educators. Learning is reciprocal. Faculty provide guidance for students throughout the project. Students apply knowledge and decision-

making with the community to define priorities, problems, initiatives, research options, and propose solutions, working toward a mutually beneficial deliverable. This context encourages sharing, engagement, respect and innovation among students, faculty and community.

The culture of the studio is student-driven and highly collaborative with distinct phases for frequent and constructive feedback from the community partner/s. Students reflect on the community participatory sessions and build on design iterations to produce innovative design strategies while deepening understanding and knowledge. Structured opportunities for reflection are designed to achieve the desired learning outcomes including before/after reflections on community engagement and learning activities. Working in a team-driven approach all semester, each student demonstrates learner-leader attitudes and skills as they take on a selected responsibility required for the successful completion of the project in a shared setting. Each student gains expertise in his or her selected role and learns that it takes everyone working together equitably to accomplish the project effectively. This helps to build a respectful and productive teaching and learning culture.

In (ARCH 601) **Community Engaged Applied Learning Studio**, students and faculty mentors create a respectful and supportive environment that encourages sharing, engagement, respect and innovation. Much of this is fostered by the belief in education rooted in creativity, social responsibility, and intellectual curiosity. **ARCH 601** students at CAP: Indy additionally have agency in the physical environment as they create their own places of work, display, and socialization. During COVID-19, for instance, students designed and built divider displays as “sneeze guards” between desks and were asked to connect us to each other and build community, while physically distancing one’s space from the *personal space* of one’s peers. Students were both an Architect and a Client in this exchange of ideas seeking to create an understanding of self and others and a personal sense of social engagement. At Ball State CAP: Indy Center, Graduate assistants take on roles such as laboratory technicians (for the woodshop, laser lab, and printers), facility hosts (supporting the range of diverse professional groups that utilize the Ball State CAP: Indy Center including AIA Indianapolis monthly meetings), and design leads in support of the Center for Civic Design.

The physical and social environment at the Ball State CAP: Indy Center additionally contributes to this positive teaching and learning culture. As a remote instructional site in a historic 1800s heavy timber, load bearing masonry structure, we work closely with each other embedded in a close-knit community in transition that allows us a close-up view of the community priorities and voices that drive our community engaged learning, research, and service. The physical environment of the CAP: Indy Center within the Elevator Hill Campus located along the historic National Road, works to ensure cohesion, collaboration, and coordination of physical and human resources. The buildings include the studio environment in the old Mirror Glass Factory building, and a woodshop that resides in an adjacent 1950’s structure. This campus promotes a warm, inviting, intimate, and enriching experience to live, work, and learn within the Near Eastside community.

The **ARCH 601** studio work done in partnership with the community, furthers accentuates this physical environment in developing a flow of knowledge that is mutually-beneficial and reciprocal in collaborative efforts between design team, client, and community. Lessons learned during the design of the range of community-centered real-life projects are constantly discussed and shared. Everyone working equitably helps build a respectful teaching and learning culture.

In (ARCH 637) **Final Project Prep**, the students self-select the members of their working groups. The criteria for selection is based on commonalities and mutual respect for each other’s work ethic, ability to collaborate and share perspectives, as well as a keen interest in their group members’ thesis inquiry. The working groups are established in the first class of the (ARCH 637) **Final Project Prep** course in the fall semester and the groups continue to work together throughout the semester and during the spring semester as well. All presentation schedules (PowerPoint, pin-ups and reviews) are structured according to working groups. Benefits for the students include having a consistent level of support and engagement from their peers. Students critique each other’s work in the studio and attend all pin-ups and reviews in their groups. Furthermore, the continuity of starting their final year in the



graduate program with a working group and finishing their thesis inquiry at the end of the spring semester with the same working group allows for every group member to witness the growth and development of each member of the group, as a designer and as an upcoming professional.

This final year allows for self-directed student work with the guidance of a primary advisor and the (ARCH 604) **Independent Final Project Studio** professors who act as secondary advisors. Students have a collaborative and mentor-mentee relationship with their primary advisor which begins in (ARCH 637) **Final Project Prep**. At the beginning of the semester, students are provided with faculty research biographies and encouraged to set up meetings with an array of faculty, to discuss their final project ideas and intentions. Several weeks into the semester, students select a primary advisor who will remain as their advisor until their final project is complete at the end of the spring semester. The student and primary advisor both sign an agreement known as the "Advisor Declaration Form," and make a commitment about the day and time for weekly meetings. The advisor commits to reviewing student work and the student commits to producing work between meetings. Additional advisor responsibilities are attending all departmental required pin-ups and reviews of student work, assisting the student with scheduling appropriate benchmarks, and contributing to the student's grade in both (ARCH 637) **Final Project Prep** and (ARCH 604) **Independent Final Project Studio**.

Assessment Activities associated with this program criteria teaching and learning culture include individual grading assessment of student work (see syllabus) and working group presentations. Supportive Materials include the Advisor Declaration Form (PDF), the Abstract Proposal Form (PDF), and the ARCH 637 - Calendar / Schedule - Fall 2021 (PDF).

In (ARCH 604) **Independent Final Project Studio**, the Independent final project is the penultimate achievement of the M.Arch program, connecting the content of each student's design project to the unique, student-selected certificate programs within our department, college, and university at large. An essential part of the M.Arch curriculum is the opportunity for each student to pursue a certificate or dual degree program, utilizing the curriculum required 12 credit hours of electives. The graduate certificate supplements and adds value to the M.Arch graduate education in a specific, focused area of study outside of or related to the Graduate Architecture degree program. This fosters a rich, collaborative, and innovative teaching and learning culture in the design studio where students gain the knowledge and skills needed in the ever-changing educational landscape and apply them to their crowning design project. With the student's agency in identifying and selecting a value-added certificate program and linking it to their final project inquiry, we ensure a positive, resourceful, and engaging teaching and learning environment.

Students (ARCH 604) also self-select peers to be part of small three-person working groups, choose a thesis advisor, and provide names of professionals, community members, and faculty to invite to interim and final reviews, thereby giving students voice and choice in how they learn. Students write up a brief contract outlining what they will have for discussion and presentation at each interim review. This contract is both aspirational and motivational and keeps everyone on a schedule while giving self-direction to each student as to what to share and why! The Independent Final Project's personalized learning empowers students to influence their own path to mastery. Because students know what their goal is and trust their (ARCH 604) **Independent Final Project Studio** faculty and thesis advisor are going to allow them to move through their chosen path to the goal while providing expert feedback, students are more invested in their own growth. By encouraging students to take initiative, we enhance their ability to take control, increase motivation, and ensure a meaningful and respectful teaching and learning environment that fosters positive optimism. As much flexibility as possible is provided for desk crit meetings with students, which may be at Ball State CAP: Indy, CAP in Muncie, virtually on Zoom, or in-person, allowing each student to choose when and where they want their weekly review time to occur. Encouraging sharing, engagement and respect among students, faculty, and their peers, each year we give a student nominated thesis award entitled the *Graduate Thesis Award for Inclusive Excellence*.

**Assessment of overall student experience relative to Program Criteria PC.7 Teaching + Learning Culture (also see PC Assessment note at start of this section):**

- **Midterm and Final Semester** discussions with faculty, students, administration.
- **Community Partner and stakeholder feedback and assessments.**
- **Review of end of semester presentations and discussions** of course structure + student work by faculty at each year level.
- **Review of end-of-semester faculty discussions** relative to the student experience as shaped by Program Criteria Teaching + Learning Culture. Attention is given to any deficiencies with a re-alignment OR suggested strategies of different approach shared with department graduate faculty.
- **Community Partner and client feedback and assessments**
- **Reflection Exercises:** Reflection activities help students gain further understanding of curricular content, broader appreciation of the public interest design, and enhanced sense of personal value and civic responsibility. Reflection occurs before, during and after completion of the project.
- **Graduating Student Exit Survey**  
May 2021 – our survey of graduating M.Arch students included (and will annually include) this question:

***Please indicate your degree of agreement with the following statements:***

*Overall, my experience in the Department of Architecture has been positive, with a learning culture that encourages optimism, respect, sharing, engagement, and innovation amongst students, faculty, staff, and administration.*

RESPONSE: Graduate M.Arch (agree, strongly agree) = 100%

Targeting the agree/strongly agree response - we are over our 75% benchmark; this criterion is highly valued by our program so we will continue to strive for 100%.

**PC.8 Social Equity and Inclusion**—How the program furthers and deepens students' understanding of diverse cultural and social contexts and helps them translate that understanding into built environments that equitably support and include people of different backgrounds, resources, and abilities.

**Program Response:**

**Track 1:**

- Undergraduate preparatory ARCH 251 – Social + Environmental Justice in Design and minimum one ARCH history class OR equivalent 6 credits of coursework. Remedy if missing: 3 to 6 hours from ARCH 551 and/or SEJ elective courses at graduate level and/or SEJ certificate.

**Track 2:**

- ARCH 551: Contemporary Issues in Architecture
- ARCH 639: Contemporary History and Theory of Architecture
- ARCH 503: Design Application Workshop
- ARCH 520: Introduction to Professional Practice

**Both:**

- ARCH 601: Community Engaged Applied Learning Studio
- ARCH 646: Urban Design: History, Theory, and Practice

**And Extra-Curricular:**

- CAP Guest Lecture series
- Inclusive excellence policy work
- SEJ certificate program and elective offerings
- Travel learning – field trips and CAP tours

Our department's mission affirms our commitment “to social equity and environmental stewardship, our graduates will be ready to serve the needs of diverse global communities as engaged leaders advancing their discipline.” This is demonstrated by both culture and coursework. Issues of social equity and inclusivity, viewed as integral to design, are introduced in Track 1 through required class (ARCH 251) **Social and Environmental Justice in Design** as well as history survey courses that expose students to diverse cultures world-wide. Track 2 has a similar course, (ARCH 551) **Contemporary Issues in Architecture**, during the summer of the first year of the Track 2 program.

(ARCH 551) **Contemporary Issues in Architecture** explores the essential role that architecture plays in promoting socially and environmentally just communities through the study of a series of contemporary architectural issues. ARCH 551 requires that students read, research, and discuss issues of social equity as they relate to each week's topic addressed in this course.

Assigned readings for each topic include articles and chapters that introduce various narratives of social justice and place-based inequities, highlighting how these issues relate to architectural design and giving the students a well-rounded understanding of diverse cultural and social contexts. The students are then required to find and assess additional sources and precedents that address issues of social equity related to each week's topic. In-class discussions of each topic stress the responsibility that an architect has to help mitigate issues of inequity through both their design process and product. The student's final paper requires that they review issues of social equity related to their chosen topic, as well as review a series of precedent designs that have attempted to mitigate existing social equity.

Over the course of the semester, (ARCH 639) **Contemporary History and Theory of Architecture** transitions from a traditional western canon to a more diverse and inclusive set of topics and historical/contemporary figures. Topics that support this Program Criteria include Japanese contributors to late modernism and contemporary architecture, regionalism and vernacular architecture, and a deep look at non-western, contemporary influences and diverse contributors.

In the (ARCH 503) **Design Application Workshop**, principles of democratic design, collaborative decision-making, social learning, co-creating, and place-making are paramount to providing an all-inclusive engagement in design. A particular strength of ARCH 503's community engagement and neighborhood revitalization projects in Muncie's south side, low-income communities is the understanding students have of the challenges of education, health, and economy, the opportunity to work with diverse communities of people, and forge a special connection with individual local residents. Exploring modes of interaction with how design students and faculty interact with the community in support of educational goals, students transitioned from work done for the community to joining the community as an active, embedded participant. In the final "Rock the Block" project with community partner Habitat for Humanity, students developed a scope of work contract with individual homeowners and followed through on the design-build (plant) activities to be accomplished relative to improving their living condition and beautification and unification in the neighborhood. Over-two thirds of neighborhood home-owners of the Rock the Block project development area earn under \$20,000. When this workshop was complete, students felt a sense of pride and empowerment that hopefully feeds their future interests, passions, and purpose, especially in addressing and understanding community engagement in architecture, designing for impact, and working to create positive change in our communities.

Readings and discussions about how architecture's interest in public interest design, particularly socially responsible architecture, began to grow during the 1990s and continued into the first decade of the new millennium deepened students understanding of the diverse social contexts and democratic ways in which we can work. Parallel with the (ARCH 520) **Introduction to Professional Practice** course the students were taking, we talked about how firms such as MASS Design Group and Design Corps showcase the design work being done for "the other 98%", serving a larger segment of the population than is served by traditional design professions. Architecture is expanded toward service for all in this (ARCH 503) **Design Application Workshop**. The public is engaged in the design process to ensure that their interests are represented, recognized, and realized.

Through a series of short design projects, using community-led design to promote social change by collaboration with non-profit organizations, we asked a series of questions: How are community members who will be affected by our design projects involved in the decision-making in these projects? To what extent does the community-engaged approach actually empower the participants to act? Our end goal is to help students to equitably support and include people of different backgrounds through co-design social practices and mutual learning.

(ARCH 520) **Introduction to Professional Practice** includes topical discussions to assure that our M.Arch Track 2 students have a deeper understanding of diverse cultural and social contexts. Coursework engages them in the translation of that understanding into shaping environments that equitably support and include people of diverse backgrounds, resources, and abilities. The *Handbook* introduces these topics in the context of practice including Public Interest Design; ARCH 520 expands on the importance of these topics by integrating principles of social and environmental justice into the course. Students are encouraged to openly and candidly reflect and discuss this topic in class.

(ARCH 601) **Community Engaged Applied Learning Studio** places focus on design for equitable communities. Through participatory interaction with the end-users and community partners, qualitative research in observational studies, interviewing and surveying citizens, and urban design inventory and context analysis, students begin to understand diverse cultural and social contexts. In Building Community Brief Two: "Community - Canvas – Collage" Fall 2020, students created collages of eleven diverse neighborhoods in the Near Eastside. Collage was used as the technique of representation because the media enables a non-linear narrative through the juxtaposition of fragmented images and artifacts. After an understanding of the image-ability, urban pattern, network, and connectivity, students considered how the design of different building typologies respond to the local context and equitably support the community for which one is designing. Students considered how their design provides for human connectivity, promotes a sense of place, public space, and community interaction as they worked with people of different backgrounds in a re-imagining housing project in (ARCH 601) **Community Engaged Applied Learning Studio** Fall 2020. End users ranged from individuals experiencing chronic homelessness as part of permanent supportive housing, to residents with intellectual or developmental disabilities (IDD), to youth aged 18-24 where the program was to provide an integrated setting with housing and supportive services to young individuals (often aging out of foster care) that were experiencing homelessness.

(ARCH 601) **Community Engaged Applied Learning Studio** Fall 2021 embraces social equity and inclusion as it develops a unique collaborative opportunity to provide affordable housing for the Englewood neighborhood. Working with [Englewood CDC](#), the SD Build Challenge effort advances the *Near Eastside Quality of Life Plan (NESQLP)*, which documents strategies and priority actions identified by residents. This SDBC project's design for net-zero housing and the construction of a sustainable, affordable family home fulfills objectives in NESQLP's Equity and Engagement, Housing, Place making and Infrastructure, and Sustainability focus areas. Students read through the NESQLP and discuss with the community partner as well as residents/end-users of the Englewood Homes to assure that the design provides for fair, equitable, and affordable housing for all. The context and demographics of the Englewood area are identified and considered in the Market Analysis of the Solar Decathlon Design Challenge 10 contests. The median income of residents in the area as well as life-cycle costing in the sustainable design will drive the budget of the SDBC dwelling. Finally, although [Englewood CDC](#) would own, manage and collect rent on all the 40 units of Englewood Homes with an option for the leaser to purchase the building after 15 years, they are also exploring the idea of maintaining the long-term affordability of the development through a land trust. Urban Planning faculty are working through this idea with the community partner and faculty mentors of the SDBC project.

Travel learning, especially fall field trips, focus on offering travel opportunities often to locations of diverse communities where the lens of social equity and architecture are experienced for opportunities to learn. As an example, prior to COVID-19, the (ARCH 601) **Community Engaged Applied Learning Studio** Fall 2019 studio went on a field trip related to their studio project that provided understanding of the Civil Rights Movement today and in the past. We traveled to Nashville, Memphis, Birmingham, and Montgomery. The *Civil Rights Trail Field Trip* was in preparation for the studio project exploring the Kennedy King Memorial Initiative (KKMI). We traveled by van to important sites on the Civil Rights Trail from the *Edmund Pettus Bridge* to the *Woolworth's Store* to the recently completed *Memorial to Peace and Justice* that aims to remember the thousands of African American men, women, and children who were lynched in America. The field trip provided context for the KKMI project to create a visitor's center and interpretive exhibit in an adaptive reuse park and recreation building and enhance the entrances and arrival experience to the Dr.

Martin Luther King Jr. park letting visitors and residents know they had arrived at a special place. The KKMI project allowed students to create exhibit opportunities that speak to the theme *Still we Reach* and to create a center to orient visitors to the dramatic history of the site. Dr. Martin Luther King Jr. Park and the *Landmark for Peace* sculpture honoring Robert Kennedy and King on the day of King's assassination play host year-round to inspiring events, bridging social, economic, racial and religious barriers.

Additional curricular and non-curricular activities supporting social equity and inclusion include the CAP Guest Lecture series where invited speakers engage social and environmental justice issues in design, the inclusive excellence policy work we have been working to implement across the CAP curriculum, our Social and Environmental Justice (SEJ) certificate and elective offerings particularly the Dwelling Course offering during Fall 2021 and its connection to (ARCH 601) **Community Engaged Applied Learning Studio** is participating in the Solar Decathlon Build Challenge to design a net zero, affordable house. The Social Economic Environmental Design (SEED) evaluator will be used as a baseline toward achieving our stated goals in equity and inclusivity.

(ARCH 646) **Urban Design: History, Theory, and Practice** provides students further exposure to diverse cultural and social contexts through examination of the history of cities. By examining how cities like London, which dependent upon the working class and how their early living conditions helped to shape regulations, codes, future planning and architecture. Paris is approached through a lens that shows how many working class and poor families were displaced in order to create Hausmann's vision of a more iconic city. Lagos is explored through Rem Koolhaas's writings about how the huge population and lack of city utilities (reliable electricity and waste removal, for instance) affect the city's design. We also discuss how the colonization of African cities (and others) by Europeans and Americans has affected cities and their development over time. We look at Washington, DC and its early construction dependency on slave labor and what that means to our democracy now. By learning about these often-overshadowed pieces of urban history, this helps students to be more aware of their future actions as designers.

Through independent research and presentations, students are invited to look at cities through a lens that reflects what they learned in class in their own projects. They look at the history, the planning, the cultural differences, underlying issues of racism or slavery and/or disasters and how that all affected the growth and development of the city over time. It is asked that they use some of the theory or perspectives that other authors or designers used and apply to their own research.

And finally, diverse lecturers and field trips are used to further this understanding. By inviting other lecturers to come in and talk about the history and erasure of African American culture on Indiana Avenue in Indianapolis students gain insight about the city around them. We discuss other neighborhoods of Indianapolis and how they were cleared for development of interstates or were redlined. We visit the Athenaeum, a German multi-cultural center in Indianapolis, and learn about the history of German-American culture and the underlying difficulties of that in the early to mid-1900s.

Social and Environmental justice scholarship is an area of faculty expertise in the program. Our **graduate certificate in Social and Environmental Justice** aligns with that expertise and is an option for students with coursework that can drop into the programs' 12 credit hours of electives.

**Assessment of overall student experience relative to Program Criteria PC.8 Social Equity + Inclusion (also see PC Assessment note at start of this section):**

- **Review end of semester presentations and discussions** of course structure + student work by faculty at each year level.
- **Review of end-of-semester faculty discussions** relative to the student experience as shaped by Program Criteria 8. Attention is given to any deficiencies with a re-alignment OR suggested strategies of different approach shared with faculty.
- **Review of graded assessment of student work**, with particular focus upon courses/studios that address methods for increasing students' critical engagements with the built environment: How

students can “read” social inequities in the built environment and see architecture and professional leadership as a method for positive change?

- **Community stakeholder surveys** on student interactions with the community and clients.
- **Reflection Exercises:** Reflection activities help students gain further understanding of curricular content, broader appreciation of the public interest design discipline, and enhanced sense of personal value and civic responsibility. Reflection occurs before, during and after completion of the project.
- **Graduating Student Exit Survey**  
May 2021 – our survey of graduating M.Arch students included (and will annually include) this question:

***Please assess how well your education has prepared you in the following areas:***

*Integrating social equity values as an essential consideration of architecture while informing your understanding of diverse cultural and social contexts and how to translate this understanding into built environments that equitably support and include people of different backgrounds, resources, and abilities.*

RESPONSE: Graduate M.Arch (satisfactorily, well, very well) = 100% (well or very well = 100%)

Targeting the well/very-well response - we are at 100% - which is our benchmark as this criteria is highly valued by our program and broader learning community.

### **3.2 Student Criteria (SC): Student Learning Objectives and Outcomes**

A program must demonstrate how it addresses the following criteria through program curricula and other experiences, with an emphasis on the articulation of learning objectives and assessment.

**These criteria are addressed primarily through Curriculum (other than noted Extra-Curricular above).** These are also viewed through the lens of gradually developing student abilities.

Curricular structure – teaching + learning goals are framed as a progression:

- **faculty teaching scale:** introduce, reinforce, emphasize
- **Student learning scale:** emerging, developing, proficient

**NOTE:** Assessment methods are described directly within each aligned course or extra-curricular experience.

**SC.1 Health, Safety and Welfare in the Built Environment**—How the program ensures that students understand the impact of the built environment on human health, safety, and welfare at multiple scales, from buildings to cities.

**Program Response :** Health, Safety and Welfare in the Built Environment – UNDERSTANDING

#### **Track 1: (undergraduate preparation)**

- ARCH 373 (indoor environmental quality, WELL, Living Building, life safety systems) OR equivalent environmental systems related coursework. Remedy if missing – 3 credits of ARCH 571 or ARCH 672 HPBD certificate course on WELL Building Rating System

#### **Track 2: (foundation year preparation)**

- ARCH 570: Passive Environmental Systems
- ARCH 571: Active Environmental Systems
- ARCH 503: Design Application Workshop

#### **Both:**

- ARCH 620: Professional Practice
- ARCH 636: Research Methods?
- ARCH 603: Multi-Disciplinary Design Knowledge Studio
- ARCH 618: Applied Systems Thinking

#### **And Extra-Curricular:**

- AIA Indianapolis Monthly professional continuing education presentations

**Track 1 preparation:**



(ARCH 373) **Environmental Systems 2** is a required undergraduate course in the 4+ program. This course (or equivalent) introduces students to consideration of health, safety, and welfare at the building scale and through the lens of various building systems. Some of these systems, such as vertical transportation systems, fire suppression systems, and ventilation systems, address HSW directly. Other topics such as moisture in building envelopes, address HSW more indirectly.

**Assessment Activities and Evidences:**

- Student projects and student exams assess student learning outcomes relative to health, safety, and welfare in the built environment.

**Track 2 preparation:**

(ARCH 570) **Passive Environmental Systems** firmly addresses the impact of the built environment on human health and welfare at the building scale. It U.S. Department of Energy (DOE) Solar Decathlon Design Challenge (SDDC) so through an emphasis on design criteria that engage indoor environmental quality (IEQ) issues. Two overarching concerns of the course are: (1) IEQ-related OPR (owner's project requirements) expressed via clear design intent and measurable design criteria and (2) the environmental impacts of design decisions (which have implications for global health and wellbeing). Key IEQ topic areas addressed include thermal comfort, visual comfort, and acoustical comfort. Course objectives (ARCH 570 Syllabus) that relate to health and welfare in buildings include:

- understand basic terminology and measurement units,
- understand key system functions (what passive systems can and cannot do),
- understand the place of the various systems in typical building applications and contexts (including green, net-zero energy, and carbon-neutral building design efforts),

**Assessment of student understanding of indoor environmental quality criteria includes:**

- three multiple-choice exams that address all course topics and provide insight into understanding of terminology, units, and basic concepts (issues that all below course norms on the first two exams are revisited in a comprehensive final exam)
- several assignments that probe student ability to deal with IEQ variables in design settings—these assignments also serve as essay questions to ensure that basics are truly understood
- bi-weekly reading assessments intended to provide early warning of misunderstandings related to basic health and wellness concepts covered in the required topical readings

(ARCH 571) **Active Environmental Systems** continues the emphasis (begun in ARCH 570) on design decisions that support building indoor environmental quality—recognized by several beyond-code certification systems as determinants of human health and welfare. In addition, ARCH 571 addresses life safety as defined by building codes in its examination of indoor air quality, sanitation systems, and fire protection systems. Course objectives (ARCH 571 syllabus) that relate to health, safety, and welfare in buildings include:

- understand basic terminology and performance metrics,
- understand key system functions—what various systems can and cannot do,
- understand the place of such systems in typical building contexts—including high-performance building design efforts,

**Assessment of student understanding of indoor environmental quality criteria and life safety considerations is conducted using:**

- three multiple-choice exams that address all course topics and provide insight into understanding of terminology, units, and basic concepts (any issues that fall below course norms on the first two exams are revisited in a comprehensive final exam)
- several assignments that probe student ability to deal with IEQ variables in design settings—these assignments also serve as essay questions to ensure that basics are truly understood
- bi-weekly reading assessments intended to provide early warning of misunderstandings related to basic health and wellness concepts covered in the required topical readings.



(ARCH 503) **Design Application Workshop** elevates consideration of architecture's impact upon community health initiatives across multiple scales from the small city of Muncie to the Thomas Park Avondale (TPA) neighborhood. Student's design interventions include such issues as food access innovations, improved nutrition options, increased physical activity, decreased obesity, enhanced social well-being, and wellness programming. Important in our community-engaged focus is understanding the challenges facing the neighborhood where the majority of physical improvements (recreational fields, neighborhood revitalization with upgraded sidewalks, pedestrian oriented streetscapes, biking and walking trails) are concentrated in a 5-block area immediately adjacent to the Ross Community Center in TPA. Programmatic aspects of the Indiana University Health / Habitat for Humanity grant funding provided design student opportunities to explore hoop houses for year-round food production, community gardens, hydroponic gardening, a local food coop, a farmer's market, and other food access innovations and wellness programming to benefit residents in the area.

In two other projects, **ARCH 503** students worked to help define and share information about the design elements, programming strategies, materials, and other approaches that improve human health and welfare for all people. In the Hoyt Corridor revitalization project students' design recommendations were organized according to three categories: physical activity with multi-modal transportation; healthy food with access to nature and recreation; and healthy environment and social well-being with amenities and activities that build upon the history of Hoyt Avenue as a gateway to downtown. Student teams incorporated a mix of activities along Hoyt, designed well-connected street networks at human scale, upgraded sidewalks and created enticing pedestrian oriented streetscapes with infrastructure to support biking. Specific play spaces were provided for children and youth as well as quality spaces for multigenerational recreation. A Common Market grocery store was designed as one of three centers along Hoyt Avenue and a farmer's market at a critical intersection adjacent to a coffee shop was another center. On site gardening in a series of hoop houses and increased easy access to recreation and nature further promoted a healthy environment. Social well-being was encouraged through walkability and densified areas with a mix of business opportunities such as restaurants, local shops, grocery stores, and learning centers. Taking advantage of the shifting grid caused by Hoyt's diagonal orientation provides triangular areas that can become green spaces with public art, nature-based play activities for children and youth, or other social engagement opportunities.

In another **ARCH 503** project, working with the Downtown Development Partnership on the Alley Activation, students collectively identified 5 design goals: safety and security; connectivity and networks; place-making; infrastructure; and wayfinding. Students addressed safety and security by creating accessible, walkable, well-lighted alleyways to minimize dark and unsafe areas that changed the culture of "backstreet alleys" in Muncie. They designed the street and alley network with good connectivity as well as a choice of alley routes (NS or EW) for walking and established pedestrian paths through longer blocks and parking lots that included well-marked crosswalks and specialty pavers to visually highlight pedestrians and slow traffic. ARCH 503 projects like these make the link between human health and urban development a core component of thriving communities.

#### **Assessment Activities:**

- **Community Participation Event Summaries:** How well did students listen and hear what issues the citizens had in their community? *"I want more bus stops with routes that go right to Walmart."* *"This area needs grocery stores."* *"I would love more restaurants."* *"We need a sit-down restaurant"* *"Cars need to slow down"* *"It's hard for [elderly people] to get to the grocery store."* An assessment of student understanding of these health, safety, and welfare considerations is conducted through a correlation between community needs and desires and student team design implementation strategies and visualization examples.
- **Precedents/Case Studies:** Best practice examples are used to provide student understanding of health, safety and welfare considerations and an assessment is made as to how these ideas are shared with the community to see if there is some resonance with this and then how well these ideas are implemented in the final design project.
- **Design Goals supported with Evidence-Based Strategies:** Assessment of student understanding of health, safety and welfare considerations is conducted using collective

discussions of priority design goals overall and then small team assessment of the way these design goals work into implementation strategies that are supported by evidence from readings, case studies, and data based research.

- **Final Peer Reflections (PDF)**

*"All of our projects were designed to improve the lives of those living in the Muncie community; from downtown alleys that could have improved lighting and other safety features, to helping beautify houses in the TPA neighborhood, to creating unifying elements that can help create a better sense of community."*

(ARCH 620) **Professional Practice** combines an understanding of licensing and building code requirements with an understanding of ethics and contractual agreements to convey to students the essential role of a licensed architect in assuring the health, safety, and welfare of the public. Students are required to think critically about the intersection between their work on thesis projects and lessons learned in ARCH 620 to complete weekly journal entries. All student business model projects are challenged to demonstrate clear support of health, safety, and welfare if not foundationally based on providing a solution to a public health, safety, or welfare problem.

**Assessment Activities and Evidences:**

- Weekly journal entries focused on drawing correlations between design problems affecting individual users, larger project context, and societal or cultural groups, and practice-related lessons.
- Completion of the "Business Model Canvas" to include addressing health, safety, and welfare focus

In working towards the students achieving an understanding of certain aspects of SC.1 Health Safety and Welfare in the Built Environment, the intention of two of the fifteen weekly response papers in (ARCH 636) **Research Methods** is to address aspects of health, safety and welfare. Questions are posed that will provide opportunities for the students to explore these issues. Also, since some of the students have thesis interests that are inclusive of health, safety and welfare, we have opportunities to discuss these topics in the class. Examples of related student thesis interests are autism, telemedicine, mental and physical health in isolation, health and well-being in the community, and the re-entry of former prisoners back into the community. Ideally, when this course is taught again in the Spring of 2022, I will have a guest lecturer who can speak to the building codes that relate to health, safety and welfare issues.

(ARCH 603) **Multi-Disciplinary Design Knowledge Studio** has students demonstrate their understanding of the impact the built environment has on human health, safety, and welfare. Student exploration of an urban design and architectural design of a component of that both affirm student understanding of HSW as an integral, essential aspect of design. This studio is also paralleling work in (ARCH 618) **Applied Systems Thinking** where environmental and life-safety systems are integrated into the student design work.

**Assessment Activities and Evidences:**

- Weekly desk crits and/or pin-ups with expectation of HSW address
- Mid-review and final project deliverables and review
- Semester "portfolio" of the design project demonstrating address of SC1.

(ARCH 618) **Applied Systems Thinking** requires the consideration of indoor air quality and life safety as project outcomes required by building codes. ARCH 618 continues the emphasis (begun in ARCH 570 and ARCH 571) on design decisions to support indoor environmental quality elements that affect human health and welfare. Course objectives (ARCH 618 Syllabus) that relate to health, safety, and welfare in buildings include:

- understand the effects of system selection on collective building performance across numerous metrics, and
- ability to select systems to advance the cause of measurable building performance outcomes

**Assessment Activities and Evidences:**

Assessment of student understanding of life safety and indoor environmental quality design criteria is conducted using:

- weekly assignments that are either position “papers” or design vignettes involving the selection and justification of various building systems; these assignments function as essays to gauge student understanding of issues and their ability to apply those issues to architectural design decision making

**Benchmarks that the Program uses to assess Student Criteria SC.1 Health, Safety, and Welfare:**

- The Program benchmarks students earn a grade of B or higher for the final grade in each Course. Graduate students must maintain a minimum cumulative graduate GPA of 3.0 (B). Any semester that a graduate students' GPA falls below 3.0 they are placed on academic probation.
- The Program requires students to repeat courses when a grade lower than a C (C- or lower) is received for their final grade.
- Students' GPA is assessed every semester. If a student is placed on academic probation, they are advised to enroll in no more than 9 credit hours in the following semester. To remove probationary status, graduate students must have at least a 3.0 graduate cumulative GPA by the time the next 9 graduate credits are completed.

The department is initiating organizational methods to more tightly assess the OVERALL student performance results in each of Student Criteria. The graduate curriculum committee will be tasked this semester with reviewing how effectively SC-1: Health Safety and Welfare in the Built Environment has been addressed in the aligned courses. Student work results in each SC-1 aligned course offered spring and summer, will be reviewed in fall semester; each SC-1 aligned course offered fall will be reviewed in spring semester. Each course's effectiveness in addressing SC-1 will be assessed by the committee, and potential matrix re-alignment will be considered as necessary (adding or subtracting aligned courses). Faculty course narratives (per SC) that are provided by all faculty will be a part of this assessment of the course's address of student learning criteria, as will course materials, student work, and faculty assessment of that work relative to SC-1.

The assessment methods described by faculty will be assessed for their effectiveness in establishing the level of student understanding of SC1. Providing those assessment methods are precise enough to measure aggregated student understanding, our initial benchmark will be “above average” acquisition of the understanding or ability as defined by the SC (this aligns with a “B-” grade, or above). That means benchmarks of minimum 80% individual student accomplishment in each assessment method and then the *overall* aggregated percentage of student accomplishment. The benchmark for overall aggregated percentage of student accomplishment is 85%. The Graduate Curriculum committee will also be asked to suggest benchmarks that more effectively address our programs' unique strengths.

**SC.2 Professional Practice**—How the program ensures that students understand professional ethics, the regulatory requirements, the fundamental business processes relevant to architecture practice in the United States, and the forces influencing change in these subjects.

**Program Response: Professional Practice – UNDERSTANDING****Track 1:**

- Undergraduate: ARCH 320 Introduction to Professional Practice (OR approved alternative – minimum 450-hour internship with licensed architect, IPAL seminar, or ARCH 520 summer)

**Track 2:**

- ARCH 520: Introduction to Professional Practice

**Both:**

- ARCH 620: Professional Practice
- ARCH 602: Integrated Architecture Design Studio

**And Extra-Curricular:**

- IPAL option

- *Indianapolis Internship Initiative* Opportunity
- AIA Indianapolis Monthly meetings in Ball State CAP: Indy
- Materials Lab in CAP Library sponsored *Lunch and Learn* Events with material representatives, industry sponsors, and design professionals on their expertise
- Professionals, community partners, and industry sponsors as reviewers in all graduate studios

#### **Track 1 preparation:**

(ARCH 320) **Introduction to Professional Practice** exposes students to the fundamentals of professional practice, including traditional practice models, marketing basics, fee structures, stakeholder roles, and considerations of ethics and professional conduct. Additionally, the course introduces a variety of alternative practice models and career pathways. **ARCH 320** confronts the emerging priorities in the architectural profession and gives students access to architectural professionals who are leading the profession in specific topical realms.

Students will be challenged to develop their own personal philosophy about the role architectural design has to play in society today and critically assess their own body of work as it relates to their individuality. Application of course content will be explored through a variety of practice scenarios including an assignment focused on developing practice plan / marketing proposal and a team-based competition to win a commission by properly responding to a Request for Proposal and effectively executing a short-list interview scenario.

#### **Assessment Activities and Evidences:**

- **Project 2: Practice Plan Development / Marketing Proposal**  
Students are assigned to research three practice models of firms whose mission and approach to practice aligns with the student's personal values and interests. Having sufficiently researched the three case studies, each student is responsible for developing a practice plan / marketing proposal for a model practice suited to their own interests.
- **Project 3: Proposal / Interview for RFP (Role Play)**  
The third project in the course puts students in small teams to represent assigned firms in a mock "request for proposal" (RFP) response and interview. Students will not embody any specific personalities, but rather present the structure and body of work of their assigned firms in response to RFP criteria. The teams will submit a proposal and represent their assigned firms in a mock shortlist interview scenario.
- **Quizzes (10 quizzes)**  
There are ten (10) in-class quizzes. The quizzes consist of five multiple choice questions. The quizzes are open-book/resource with notes. These quizzes help gauge comprehension of critical concepts related to professional practice.
- **Comprehensive Final Exam**  
Students have a comprehensive final examination covering the core concepts of the course. The exam is open-book/resource with notes.

#### **Track 2 preparation:**

(ARCH 520) **Introduction to Professional Practice** generally follows the latest edition of *The Architect's Handbook of Professional Practice*, published by the American Institute of Architects to assure that our M.Arch Track 2 students understand professional ethics, the regulatory requirements, the fundamental business processes relevant to architecture practice in the United States, and the forces influencing change in these subjects. The *Handbook* emphasizes Professional Ethics and each student is required to review the following sections: Ethics and Professional Practice, the AIA Code of Ethics, Ethics and Architectural Practice, and Design Beyond Ethics. Students are encouraged to openly and candidly reflect and discuss these topics in class.

In addition to the use of the *Handbook*, **ARCH 520** students are exposed to a series of documentaries including the PBS *Frontline* film *Sacred Ground* where questionable ethical behavior by prominent Architects is on full display. These materials are deliberately included to deepen students' understanding of professional ethics. With respect to regulatory requirements and

fundamental business processes relevant to architecture practice in the United States, the course utilizes the following readings from the *Handbook: Firm Management Organizational Development* including entrepreneurial practices and leader effectiveness, and Marketing and Business Development. Materials are also provided to support the comprehensive case study of the design and delivery of the Memorial to Peace and Justice Center for Bryan Stevenson and the Equal Justice Initiative in Montgomery, Alabama by Dorsey & Associates, Inc., Architects. The resources provided in order for the students to understand and prepare the case study are provided by the instructor of the course who was intimately involved in all aspects of the proposal, design, and delivery, including cost implications (budget, design fees, and construction), of the project.

#### **Assessment Activities and Evidences:**

- Students are required to review readings from the primary text, articles, lectures, and view and examine assigned documentaries exploring topics where architects are confronted with ethical dilemmas. Upon review, each student is required to write a Reflection Paper on their impression of ethics relevant to architectural practice. The Reflection Paper must contain a minimum of three citations and is shared with the class. Each student is required to comment on the reflections of one (1) of their colleagues in a critical, yet respectful manner. Finally, these reflections and responses are discussed openly in class.
- Students are required to conduct a case study of the delivery of a given project from initial Owner interest; through the Request for Qualifications/Request for Proposal process; through fee negotiation and Contract award; through Schematic Design (SD), Design Development (DD), Construction Documents (CD) , Bidding and Negotiation (Bid), Construction Administration (CA), and Post-Occupancy phases; and many of the layered processes occurring during the above including, but not limited to working with clients, consultants, contractors, construction managers (if applicable); understanding the applicability of state and local regulatory requirements, changes in scope, and fundamental business practices including staffing, time management, legal implications, and fee structures.
- Students are required to team, prepare, and deliver a comprehensive case study of the assigned project. Extensive project files are made available and explained to the students as necessary to complete this task. This includes, but not limited to, the initial RFP from the Owner (RFQ if applicable), the response to the RFP from the design team, the Contract agreement between the Owner and Architect, Meeting Minutes, SD, DD, CD deliverables and invoices, Pre-Bid Meetings and Bid Openings, executed Contract between Owner and Contractor, Notice-to-Proceed, submittal reviews and approvals, Applications for Payment from Contractors, Requests for Information (RFIs), Change Orders, Field Reports, Punch Lists, Certificates of Substantial Completion, and Certificate of Occupancy, and warranty phase responsibilities.
- Upon completion of this class, ARCH 520 students have, at a minimum, a rudimentary understanding of all of the nomenclature and processes outlined herein.

Students in (ARCH 620) **Professional Practice** learn professional practice by doing. **ARCH 620** is a laboratory for exploring business ideas and business models. Students work individually, in teams, or as a class to generate a business idea, develop a business model, and pitch their business to a panel of guest professionals.

Using the "Business Model Canvas" as a framework, students spend the semester developing a viable business to pitch as their final exam. Intermediate sprints and presentations, allow students to test efficacy, iterate and navigate ethical and legal challenges. The purpose of the laboratory model is to develop viable business models that serve a rapidly evolving economy and marketplace.

#### **Assessment Activities and Evidences:**

- Completion of the "Business Model Canvas" (strategic template for developing new business models)
- Weekly advisory meetings
- Bi-weekly sprint presentations and challenges
- Final business proposal pitch

(ARCH 602) **Integrated Architecture Design Studio** is operated much like a small firm. A practicing, full-time faculty member served as the studio director. Under the director, two to three adjunct professional hires are brought on to help each team as a “design advisor.”

Students collaborated with building information modeling (BIM) and cloud-based platforms. They were prompted to designate certain responsibilities and execute an integrative design process. Also, the Solar Decathlon Design Challenge requires teams to demonstrate a comprehension of what would constitute “market feasibility.” The teams engaged their clients – two local CDCs – for budgetary information. Then, both teams consulted a large Indianapolis-based general contractor for local budgetary information.

The **ARCH 602** studio incorporated a 5-week (1/3 semester) Community Engagement seminar series, which covered:

- Precedent and community needs
- Site analysis, program, and codes
- COVID-19 and community concerns
- Citizen Architect and construction costs
- Social justice and the community

Each weekly module involved student responses, which were required to be integrated into the “Design Portfolio” deliverables. The slides decks for the five seminars are part of the evidence of this SC.2 Professional Practice

#### **Assessment Activities and Evidences:**

- **Assessment SC.2-A: Professional Ethics**  
Students were required to research local demographics, history, community concerns, local affordability, and local trades. This information was required to be integrated into the Solar Decathlon Design Challenge (SDDC) student deliverables – primarily the Design Portfolio.
- **Assessment SC.2-B: Regulatory Requirements**  
Students were required to research the local regulatory context and respond with appropriate site selections and design solutions. Local zoning, set-backs, high requirements, and other regulatory requirements were incorporated into the design and Design Portfolio deliverable. Students were assessed on their recognition and adherence to life-safety design requirements, local regulations, as well as the state building and energy codes. Each project was required to include a life-safety assessment / code analysis as part of their Technical Design Documents.
- **Assessment SC.2-C: Fundamental Business Processes**  
The Solar Decathlon Design Challenge (SDDC) required evidence of “Market Analysis.” A Cost models were required for all student teams. A local general contractor was brought into the studio to offer information resources and provide a peer review and advice. [Englewood CDC](#) shared their cost models, which served as a basis for establishing a project budget. The teams were assessed on their ability to design a project that was met the affordability goals established.
- **Assessment SC.2-D: Forces Influencing Change in Professional Practice**  
The student teams were assessed on their approach and design / performance effect with regard to a number of emerging priorities in practice including design for wellness, resilience, and embodied environmental impacts. These topics are explicitly identified as part of the SDDC and students were assessed on their ability to articulate the design and performance effect regarding these three contests of the competition as part of an integrated design solution.

#### **Benchmarks that the Program uses to assess Student Criteria SC.2 Professional Practice:**

- The Program benchmarks students earn a grade of B or higher for the final grade in each Course. Graduate students must maintain a minimum cumulative graduate GPA of 3.0 (B). Any semester that a graduate students' GPA falls below 3.0 they are placed on academic probation.
- The Program requires students to repeat courses when a grade lower than a C (C- or lower) is received for their final grade.

- Students' GPA is assessed every semester. If a student is placed on academic probation, they are advised to enroll in no more than 9 credit hours in the following semester. To remove probationary status, graduate students must have at least a 3.0 graduate cumulative GPA by the time the next 9 graduate credits are completed.

The department is initiating organizational methods to more tightly assess the OVERALL student performance results in each of Student Criteria. The graduate curriculum committee will be tasked this semester with reviewing how effectively SC-2: Professional Practice has been addressed in the aligned courses. Student work results in each SC-2 aligned course offered spring and summer, will be reviewed in fall semester; each SC-2 aligned course offered fall will be reviewed in spring semester. Each course's effectiveness in addressing SC-2 will be assessed by the committee, and potential matrix re-alignment will be considered as necessary (adding or subtracting aligned courses). Faculty course narratives (per SC) that are provided by all faculty will be a part of this assessment of the course's address of student learning criteria, as will course materials, student work, and faculty assessment of that work relative to SC-2.

The assessment methods described by faculty will be assessed for their effectiveness in establishing the level of student understanding of SC2. Providing those assessment methods are precise enough to measure aggregated student understanding, our initial benchmark will be "above average" acquisition of the understanding or ability as defined by the SC (this aligns with a "B-" grade, or above). That means benchmarks of minimum 80% individual student accomplishment in each assessment method and then the *overall* aggregated percentage of student accomplishment. The benchmark for overall aggregated percentage of student accomplishment is 85%. The Graduate Curriculum committee will also be asked to suggest benchmarks that more effectively address our programs' unique strengths.

**SC.3 Regulatory Context**—How the program ensures that students understand the fundamental principles of life safety, land use, and current laws and regulations that apply to buildings and sites in the United States, and the evaluative process architects use to comply with those laws and regulations as part of a project.

#### **Program Response: Regulatory Context - UNDERSTANDING**

##### **Both:**

- ARCH 646: Urban Design: History, Theory, and Practice
- ARCH 601: Community Engaged Applied Studio
- ARCH 603: Multi-Disciplinary Design Knowledge Studio
- ARCH 618: Applied Systems Thinking
- ARCH 637: Final Project Prep

##### **And Extra Curricular:**

- IPAL electives
- AIA Monthly meeting presentations at Ball State CAP: Indy Center

(ARCH 646) **Urban Design: History, Theory, and Practice** develops student understanding of the regulatory context of architecture by: 1. Analyzing Street Scale, Zoning and Demographics. In the Indianapolis Research Project, students in teams were asked to research a cultural district or neighborhood of Indianapolis. They were tasked with looking at the history of the area and architecture, including planning. Projects include diagrams of zoning areas, demographics of the area and a video presentation of one major street to show the scale and design of the streetscape and architecture adjacent. Similarly, in their street presentations per city studied, students explored the scale of the street, sidewalk and scale of buildings to determine how this affected pedestrian experiences. **ARCH 646** 2. History of Codes and Regulations is a lecture presented concurrently while the class was studying the city of Chicago. Students were introduced to a history of codes and regulations that affected urban design, including how fires and other disasters have led to a reworking of life safety codes that architects still use today. This information, along with more contemporary code research, was used in their design work in **ARCH 602**. 3. Lecturers and



Experiences was the third component of the course that addresses regulatory context. In addition, the various professional lecturers, including the City Architect of Indianapolis and other urban planners and designers, guest lecturers also discussed how their jobs utilize laws and regulations in city design and architecture.

**Assessment Activities and Evidences:**

- Indianapolis Neighborhood Research Project, Paper and Presentation (groups of 3-4)
- Famous Street Research Project and Presentation based on City Lectures (groups of 2)
- Fletcher Place, Fountain Square and Mass Ave. Projects by Students (PDF)
- Champs Elysees and Broad Street Presentations by students (PDF)
- History of Urban Codes Lecture (PDF)

(ARCH 601) **Community Engaged Applied Learning Studio** places focus on regulatory site zoning and building code requirements impacting building design choices in the development of the Solar Decathlon Local Build affordable housing project for single family and two family dwellings. Our community partner, Englewood CDC, has 20 scattered site parcels in the Englewood Village area on which they plan to develop affordable housing projects. Each of these parcels have specific site attributes and challenges that are further impacted by the requirement of the project to be designed as net zero energy. Site parameters of each of the 20 sites, including zoning (D-5, D-8, MU-1) , setbacks required for sides, front, and rear yard, coverage minimum open space, parking minimum requirements, size of the property, and buildable area all impact student's design. Students become familiar with the City of Indianapolis Zoning Ordinance and local code regulations to understand how the attributes of each site parcel align with various sets of design goals that will influence their project including ECDC's development goals, SDBC's project requirements, climate conditions, and sustainable sites best practices. In **ARCH 601** integrated design process asks us to consider these regulatory, technical, and functional considerations early in the design process to ensure that decisions like the site selection and building form and massing will not inadvertently undermine our ability to accomplish human and building performance goals later in the design process.

**Assessment Activities and Evidences:**

- **Assignment Brief 2: Net Zero Design and Site Zoning**  
Students are tasked with creating an inventory and analysis of a minimum of three scattered sites. This site potential diagram layers the existing conditions with the goals and requirements for each team to select the best site for the development of their design proposal. Students have to make clear the reasoning behind this site selection process and share the evaluative measures they considered in a diagram. (See Schedule, Syllabus, Assignment Brief 2, Zoning Development Standards, Site Parameters, and PPT 4 Zoning, Codes and Regulations)
- **Assignment Brief 4: Regulatory Codes and Development Standards**  
Students read through the relevant sections of the Indiana Housing & Community Development Authority (IHCDA) Standards and the Indiana Building Code (IBC) to understand equipment and accessibility requirements, design requirements, energy efficiency, unit size based on development type, universal design features, and visitability mandate for their housing type. (See Schedule, Syllabus, Assignment Brief 4, Development Standards for IHCDA Projects, IBC, and PPT 4 Zoning, Codes and Regulations)

(ARCH 646) **Urban Design: History, Theory, and Practice** develops student understanding of the regulatory context of architecture by:

1. Analyzing Street Scale, Zoning and Demographics

In the Indianapolis Research Project, students in teams, were asked to research a cultural district or neighborhood of Indianapolis. They were tasked with looking at the history of the area and architecture, including planning. Their projects included diagrams of zoning areas, demographics of the area and a video presentation of one major street to show the scale and design of the streetscape and architecture adjacent. Similarly, in their street presentations per city studied, students explored the scale of the street, sidewalk and scale of buildings to determine how this affected pedestrian experiences.

## 2. History of Codes and Regulations

In a lecture presented concurrently with Chicago, students were introduced to a history of codes and regulations that affected urban design, including how fires and other disasters have led to a rework of life safety codes that architects still use today. This information, along with more contemporary code research, was used in their design work in ARCH 602.

## 3. Lecturers and Experiences

In addition, the various professional lecturers, including the City Architect of Indianapolis and other urban planners and designers also discussed how their jobs utilize laws and regulations in city design and architecture.

### **Assessment Activities + Evidences:**

- Indianapolis Neighborhood Research Project, Paper and Presentation (groups of 3-4)
- Famous Street Research Project and Presentation based on City Lectures (groups of 2)
- Fletcher Place, Fountain Square and Mass Ave. Projects by Students (PDF)
- Champs Elysees and Broad Street Presentations by students (PDF)
- History of Urban Codes Lecture (PDF)

(ARCH 603) **Multi-Disciplinary Design Knowledge Studio** and (ARCH 618) **Applied Systems Thinking** are aligned and blended course content addresses SC-3 Regulatory Context. In ARCH 603 at the beginning of the semester project (urban design with architecture component) students initiate research of user needs, regulatory requirements (zoning ordinances, building codes), site conditions, accessibility, and environment as well as how the project integrates considerations of building envelope systems, building assembly systems, structural systems, environmental control systems, life safety systems, and building performance metrics.

Students then initiate a design process with expectation of a preliminary schematic design proposal (urban design + schematic building massing) to be reviewed at the end of week 5 in the semester. This schematic design is informed by research and analysis of regulatory requirements specific to the project, site, context (historical, social, physical), urban design considerations, environmental influences, user needs and programming, and regulatory requirements. The expectations for the 5-week schematic design proposal include student identification of values and ideas their design will pursue, as well as drawings (site plan, plan, section) and massing (in context) that convey initial approach to site design, program organization, environmental response (daylight, climate, water, energy), accessibility analysis, and regulatory compliance.

Paralleling **ARCH 603**, the first four to five weeks of the semester in **ARCH 618** are used to introduce regulatory requirements of buildings and sites in addition to topical overviews of building envelope systems and assemblies, structural systems, environmental control systems, life safety systems, methods for assessing and integrating building performance metrics into the design process. Focus is placed on measurable performance outcomes as drivers of systems selection and integration. These outcomes include regulatory requirements of buildings and sites in addition to extra-regulatory expectations for high performance outcomes. As the project is developed over the course of the semester, these issues will be discussed through systems-focused crits and reviews of design vignettes. Both courses with aligned faculty will work with students to generate written, drawn, and modeled artifacts of their design work. These drawings/diagrams/model directly parallel the case study exercise at the beginning of the semester and communicate how their design process (and final proposal) synthesized user requirements, regulatory requirements, site conditions, accessible design, and consideration of the measurable environmental impacts of design decisions.

### **Assessment Activities and Evidences:**

- research showing student analysis of life safety, land use, and regulations that apply to buildings and sites
- Final project presentation
- Final semester portfolio demonstrating understanding of regulatory context

In (ARCH 637) **Final Project Prep**, a guest lecturer is brought in to present the fundamental principles of life safety, land use, as well as the current laws and regulations that apply to buildings and sites in the United States (to be initiated Fall 2021 semester). Students are encouraged to consider the appropriate regulations in the pre-design phase of their final project proposal. They are asked to consider what type of building use will be explored, what type of assembly, what types of codes relate to their project, and what ADA considerations relate to their building/s? Additionally, students are asked to seek answers to questions about the site such as what zoning ordinances apply.

**Assessment Activities and Evidences:**

- Each student will include the regulatory context in Pin-Up 2 at the end of the semester, as well as in their Final Thesis Book draft that is submitted after the end of the semester.
- Reference - ARCH 637 - Calendar / Schedule and Syllabus - Fall 2021
- Final Project Thesis Book Requirements and assessment rubric - Fall 2021 (PDF)

**Benchmarks that the Program uses to assess Student Criteria SC.3 Regulatory Context:**

- The Program benchmarks students earn a grade of B or higher for the final grade in each Course. Graduate students must maintain a minimum cumulative graduate GPA of 3.0 (B). Any semester that a graduate students' GPA falls below 3.0 they are placed on academic probation.
- The Program requires students to repeat courses when a grade lower than a C (C- or lower) is received for their final grade.
- Students' GPA is assessed every semester. If a student is placed on academic probation, they are advised to enroll in no more than 9 credit hours in the following semester. To remove probationary status, graduate students must have at least a 3.0 graduate cumulative GPA by the time the next 9 graduate credits are completed.

The department is initiating organizational methods to more tightly assess the OVERALL student performance results in each of Student Criteria. The graduate curriculum committee will be tasked this semester with reviewing how effectively SC-3: Regulatory Context has been addressed in the aligned courses. Student work results in each SC-3 aligned course offered spring and summer, will be reviewed in fall semester; each SC-3 aligned course offered fall will be reviewed in spring semester. Each course's effectiveness in addressing SC-3 will be assessed by the committee, and potential matrix re-alignment will be considered as necessary (adding or subtracting aligned courses). Faculty course narratives (per SC) that are provided by all faculty will be a part of this assessment of the course's address of student learning criteria, as will course materials, student work, and faculty assessment of that work relative to SC-3.

The assessment methods described by faculty will be assessed for their effectiveness in establishing the level of student understanding of SC-3. Providing those assessment methods are precise enough to measure aggregated student understanding, our initial benchmark will be "above average" acquisition of the understanding or ability as defined by the SC (this aligns with a "B" grade, or above). That means benchmarks of minimum 80% individual student accomplishment in each assessment method and then the *overall* aggregated percentage of student accomplishment. The benchmark for overall aggregated percentage of student accomplishment is 85%. The Graduate Curriculum committee will also be asked to suggest benchmarks that more effectively address our programs' unique strengths.

**SC.4 Technical Knowledge**—How the program ensures that students understand the established and emerging systems, technologies, and assemblies of building construction, and the methods and criteria architects use to assess those technologies against the design, economics, and performance objectives of projects.

**Program Response: Technical Knowledge - UNDERSTANDING**

**Track 1:**

- Undergraduate preparatory education in ARCH 218/318 structural systems or equivalent course content, ARCH 273/373 Environmental Systems or equivalent course content; ARCH 214/314 Building Technology Systems or equivalent course content. Remedy of as-needed in Track 2 foundation courses or in HPBD Certificate courses.

**Track 2:**

- ARCH 570: Passive Environmental Systems
- ARCH 571: Active Environmental Systems
- ARCH 518: Introduction to Structural Systems
- ARCH 514: Introduction to Architectural Building Technology
- ARCH 538: Structural + Material Systems

**Both:**

- ARCH 624: Applied Building Technology
- ARCH 602: Integrated Architecture Studio
- ARCH 618: Applied Systems Thinking

**Track 1 - Preparation:**

**Undergraduate Structural Systems** (218/318 or equivalent) introduces students to the foundations of statics, equilibrium, balance, centroids, and neutral axis with a primary focus on developing a basic understanding of concepts and conditions of equilibrium and force systems. Strength of materials, stress, strain and modulus of elasticity are concepts explored further as well as an introduction to lateral force systems and the design of horizontal and vertical building systems.

**Undergraduate Environmental Systems** (273/373 or equivalent) Introduction to environmental systems in architecture with emphasis on passive interventions is followed by the application of the principles of physics to the design and engineering of environmental systems in buildings and technologies of active intervention.

**Undergraduate Building Technology Systems** (214/314 or equivalent) emphasizes methods and materials of architectural construction, material selections and construction technology in the design, production, and construction process. Students engage a semester-long comprehensive building systems project where they receive iterative feedback via redlining and commenting on student drawings. The project requires students to design and integrate portions of various building systems. The project is scheduled with interim milestones throughout the semester that are based around functional building systems (such as HVAC, water, electric lighting, etc.).

**Track 2 - Preparation:**

(ARCH 570) **Passive Environmental Systems** is structured to provide architecture students in the 3-year Master of Architecture program with a working understanding of passive environmental control systems that can deliver conditions conducive to exemplary indoor environmental quality (IEQ) via environmental-preferable design decisions. The course explores the ability of building form, orientation, and materiality to enhance or mitigate environmental forces to the betterment of building occupants and our global environment. Two overarching concerns of the course are: (1) OPR (owner's project requirements) as expressed via clear design intent and measurable design criteria that will provide IEQ and (2) reducing the environmental impacts of design decisions.

Major IEQ topic areas addressed include thermal comfort, visual comfort, and acoustical comfort. Building responses to environmental forces that are addressed include heat flow and insulation, solar radiation and shading; daylighting approaches, and the behavior of sound in the presence of materials and assemblies. Environmental considerations addressed include energy, carbon, and climate change. Ball State is fortunate to have several analog lab installations that allow students in this course to literally put their hands-on daylight (via a mirror sky), solar radiation (heliadons), and air flow (fluid mapping table) as well as an architecture building with interesting systems examples.

**The course objectives relate directly to the incorporation of passive environmental control systems into buildings using performance outcomes as measures of success:**

- understand basic terminology and measurement units,
- understand key system functions (what passive systems can and cannot do),
- understand the place of the various systems in typical building applications and contexts (including green, net-zero energy, and carbon-neutral building design efforts),
- understand the fundamentals of passive system selection, placement, components, sizing, and integration,
- be able to make go/no-go decisions regarding the appropriateness of various passive systems and design concepts during the architectural design process.

**Course-wide assessment of student understanding of building science principles and building systems is evaluated through:**

- three multiple-choice exams that address all course topics and provide insight into understanding of terminology, units, and basic concepts (issues that fall below course norms on the first two exams are revisited in a comprehensive final exam)
- eight assignments that probe student ability to deal with course information in design settings—the assignments also serve as essay questions to ensure that basics are truly understood; each assignment includes a statement that describes the expectations for a successful response to the assignment prompt; these expectations provide the basis for a grading rubric used to evaluate assignment submissions; any assignment with collective evaluations below expectations is further discussed in class
- reading assessments intended to provide early warning of misunderstandings related to concepts covered in the required topical readings

(ARCH 571) **Active Environmental Systems** is structured to provide architecture students in the 3-year Master of Architecture program a working understanding of mechanical-electrical (active) environmental control systems. These systems are addressed in the context of exemplary indoor environmental quality (IEQ), life safety, and environmentally responsible decision making. The course explores the objectives of active systems, their components, basic typologies, and architectural integration considerations. Two overarching concerns of the course are: (1) OPR (owner's project requirements) as expressed via clear design intent and measurable design criteria and (2) the environmental impacts of design decisions. Major IEQ topic areas addressed include indoor air quality, thermal comfort, visual comfort, and acoustical comfort as affected by HVAC, electric lighting, and noise control systems. Additional discussion of electrical and communications, active solar energy, fire protection, and mechanized circulation provide context for these commonly encountered building systems and introduce code required life safety considerations. Evaluation approaches for building performance are explored.

**The course objectives relate directly to the incorporation of passive environmental control systems into buildings using performance outcomes as measures of success**

- understand basic terminology and performance metrics,
- understand key system functions—what various systems can and cannot do,
- understand the place of such systems in typical building contexts—including high-performance building design efforts,
- understand the fundamentals of system components, selection, sizing, placement, and integration,
- be prepared to engage active systems relative to emerging practice trends such as commissioning, integrated design, and building information modeling,
- be able to make preliminary decisions regarding the appropriateness of various systems and design concepts during the conceptual and schematic design phases of a project.

**Assessment of student understanding of principles and building system technologies is evaluated through:**

- three multiple-choice exams that address all course topics and provide insight into understanding of systems terminology, components, and arrangements

- eight assignments that probe student ability to deal with course information in design settings—but also serve as essay questions to ensure that basics are truly understood
- reading assessments intended to provide early warning of misunderstandings related to basic concepts covered in the required topical readings
- a case study and associated report probes student ability to synthesize technical information and communicate results using appropriate terminology and evaluation methods

(ARCH 518) **Introduction to Structural Systems** is organized around three main topics: (1) general structural principles and rule of thumb calculations, (2) beams, and (3) trusses. Several other subtopics serve to reinforce the main topics, among them being (1) force vectors and force systems, (2) load paths, (3) the conditions of static equilibrium and stress, and (4) free-body diagrams.

**In terms of technical subjects and calculations, the following are used to reinforce basic structural principles:**

- rule-of-thumb sizing for wood structural elements (planks, joists, beams, laminated beams, trusses, columns, and arches)
- calculating force reactions using the standard equilibrium equations  $\Sigma F_x = 0$ ,  $\Sigma F_y = 0$ , and  $\Sigma M = 0$
- working with beams with point loads (P) and uniformly distributed loads (w)
- beam bending, vertical shear V, neutral axis, shear force and bending moment diagrams, maximum bending moments Mmax, and the Elastic Section Modulus Sx
- force vectors using graphical and algebraic techniques, right angle trigonometry, and concurrent force systems
- trusses and coplanar force systems, and sizing through the basic stress equation  $f = P/A$

The many case studies covered in class go a long way to advance just such an understanding in simple, historical examples, and more complex, nuanced, and contemporary examples. Some of these case studies include several works by the German architect Mies van der Rohe – the various systems (frame, space frame, roof structural planes) of the Lakeshore Drive Apartments, the New National Gallery in Berlin, and the 50 x 50 Foot House. Other examples include the diagrid of Norman Foster's Swiss Re Headquarters; the complex frame and lateral stability systems in Rogers and Piano's Pompidou Center; Seattle's Tom Kundig's frames, roof planes, and walls in his houses; Switzerland's Mario Botta's innovative frames, trusses, and wall systems; Frank Gehry's and Zaha Hadid's evocative forms; among many others.

Another important strategy in these areas comes from our classroom in one particular semester – an indoor soccer field turned into a COVID-19-compliant, socially-distanced lecture hall (this class is taught with the much larger undergraduate Arch 218). Many times this semester I pointed out important concepts in action all around us – steel decks, open web steel joists, columns, trusses, lateral stability, shear walls, etc. Other semesters, when I am teaching in a more conventional classroom, I will schedule campus walks so I can point out principles at work at the university's basketball arena, and different parts of the student recreation center.

One other important element under this regard are examples from student work that clearly demonstrate key principles such as structure sizing, orientation, and spacing in past semester projects and studio designs. These examples show clear and successful mastery of the course material in highly complex and innovative forms, geometries, and use of building materials.

The methods and criteria architects use to assess *structural technology* against the design and performance objectives of architecture projects, center around a structure's appropriate ability to handle gravity loads (lateral stability is covered in more detail in the subsequent Arch 538). These criteria are generally quantitative in nature – calculating shear forces, bending moments, support reactions, compression and tension force vectors in trusses, and highly specific applications such as the Elastic Plastic Modulus Sx in beams. As previously mentioned, another key method that forms a crucial part of the course rule-of-thumb member sizing for a variety of structures. Lastly, each element

described above under SC.4 Technical Knowledge is woven into and reinforced in every class lecture, homework, quiz, project, discussion, and final exam.

(ARCH 514) **Introduction to Architectural Building Technology** is designed to provide architecture students in the 3-year Master of Architecture program with an introduction to methods and materials of architectural construction. An emphasis is placed on the relationship between the craft of construction and the art of design. The course emphasizes the study of building construction, materials and methods, building assemblies, and the integration of building technology principles into the design process. History, theory, technology, and practice are integrated into architectural building technology for the students to gain an understanding of how the process of building assembly affects people and the environment. The course also begins to develop the craft of technical document conventions as a continuation of the design process and a primary means of communicating design intent in architecture.

**The course aims to:**

- Expand understanding of the established and emerging systems, technologies, and assemblies of building construction.
- Expand understanding of the methods and criteria architects use to assess those technologies against design, economics, and performance objectives.
- Create an awareness of the potential for design in material and building assemblies.
- Reinforce and apply principles of sustainability in design and construction.
- Introduce information resources, and examples pertaining to the technical aspects of architecture and construction.
- Investigate the organizational skills necessary to plan, execute and administer technical documentation.
- Develop and demonstrate basic graphic skills required to execute a competent set of working drawings.

**Student understanding is assessed through:**

- A mid-term and final exam. Both exams address the course lecture and reading topics and include a hand drawing component for the student to demonstrate graphic competence.
- Three different assignments requiring the students to explicitly digitally model different building systems (wood, masonry, and cast concrete).

(ARCH 538) **Structural and Material Systems** (summer) is intended as the second of two structures courses for our career change graduate students. Unlike the prerequisite (ARCH 518) **Introduction to Structural Systems** which is “taught with” the undergraduate (ARCH 218) **Structural Systems 1**, (ARCH 538) **Structural and Material Systems** is a standalone course comprising only of Track 2 3-year M.Arch. students. (ARCH 538) **Structural and Material Systems** is offered annually every summer semester. Enrollment is typically small, less than ten students. The low student-to-instructor ratio allows for more focused class discussions, personal attention on each student’s progress and questions, a different mix of assignments (including two semester projects), and three highly productive working sessions on the two semester projects.

The course is conceived with objectives in mind that follow from the prerequisite (ARCH 538) **Structural and Material Systems**. As such, the (ARCH 538) **Structural and Material Systems** class continues discussing and expounding upon many of the topics covered in Arch 518 (see Course Organization below). Second, the course aims to strike a balance between the qualitative and quantitative understanding of building structures, that is, between learning fundamental structural concepts and reinforcing those concepts through traditional structural calculations. The objective in this regard is to steer the course and course materials from “an engineering course for architects” and more towards practical, more easily digestible information that the students could use in their design studios and in the field as intern architects and lifelong professionals.



(ARCH 538) **Structural and Material Systems** is organized around four main topics: (1) foundational structural principles, (2) steel columns and beams, (3) rule-of-thumb calculations for steel and concrete structures, and (4) strength and stability in response to lateral loads (particularly wind loads). Interspersed among these subjects in the class schedule are two semester projects, an architectural analysis and a structural design project. The objective these projects was to apply all of the course material in real-world and proposed architectures.

**In terms of technical subjects and calculations, students are expected to gain an understanding/working knowledge in the following subject areas:**

- framing plans, column/structural bays, tributary areas and widths, and load paths
- Load Resistance Factor Design methods, including load sources (Dead, Live, Wind, Roof, Rain, Snow, and Earthquake loads), factoring loads and load combinations
- column characteristics and behavior, to include tributary areas, short and tall columns, column slenderness and slenderness ratios  $KL/r$ , pinned and rigid column end conditions, critical stress  $F_{cr}$ , required point loads from tributary areas and total loads, and allowable point loads for a given column size (i.e., structural element's cross section and other quantitative properties)
- the roles that horizontal spans, tributary areas, and standardized sizes of steel structures play in rule-of-thumb sizing for steel structural components (e.g., steel decks, beams, trusses, space frames, rigid plates, columns, arches, and cables)
- beam action continued from Arch 518 (Introduction to Structural Systems, Spring 2021), to include the different roles of beams and girders, beam spacing and tributary widths, standardized steel beam loadings (one, two, and three point loads, and uniformly distributed loads) and their associated formulas (e.g., Maximum Bending Moment  $M_{max}$  and Actual Deflection  $\Delta_{actual}$ ), sizing for bending by calculating a beam's required Plastic Section Modulus  $Z_x$ , sizing for deflection by calculating a beam's required Moment of Inertia  $I_x$ , and allowable deflection limits vs. actual deflection for different beam conditions (simply supported beams and cantilevers)
- the applicability of various steel cross-sections (Wide-Flange, and Round, Square, and Rectangular Hollow Structural Sections) apply equally to any structural frame system, subsystem, and relevant calculation (e.g.,  $Z_x$ ,  $I_x$ , or rules of thumb)
- the principles and calculations revolving around lateral building stability, including bilateral stability, uplift, windward and leeward forces, wind speeds and wind loads, wind flutter, building exposure, regional variability of maximum design speeds, and sheer wall, diagonal bracing, and rigid connection systems

The primary means of course delivery were through fifteen (15) lectures, five (5) homework assignments, three (3) in-class working sessions (for the two semester projects), and semester project presentations at the midterm and final class sessions. All classes were conducted virtually and synchronously via Zoom. Each class session was longer due to the compressed summer semester schedule in comparison to the fall/spring school year. Homework assignments and the projects were assigned, turned in, and graded (with instructor's comments for any points take off) via the university's Canvas online portal.

The objective of the homework assignments was to reinforce class objectives through practice. For the projects, it was twofold. For the first project it was to apply foundational structural principles and the ability to size discrete structural elements (e.g., beams, trusses, or columns) from existing, innovative structures found in global architecture. For the second project it was to design a full, appropriately sized structural system for a student-conceived and complex building form.

There are several ways that (ARCH 538) **Structural and Material Systems** directly supports SC.4 Technical Knowledge in making sure "*students understand the established and emerging systems, technologies, and assemblies of building construction.*" The semester begins with a review of structural systems in the overall context of the larger building scale – the wall, column and beam, frame, truss, space frame, arch and vault, shell, suspension structures, and tensile membranes and inflatable structures – derived from Leland Roth's seminal work on architectural history, *Understanding*

*Architecture.* Many case studies covered in class further each student's understanding "systems, technologies, and assemblies". The case studies cover simple, historical examples, and more complex, nuanced, and contemporary examples. Also, the course's focus on steel framing plans, structural/column bays, tributary areas (for columns) and widths (for beams) – in lectures, homework assignments, and the two semester projects – ground the many course's calculations in concrete, contextual terms.

The culmination of the students' works that focus on this aspect of SC.4, however, are the two semester projects. In the first project, which is tantamount to a midterm final exam, each student must select and analyze a contemporary building with an innovative and expressive form, spatial characteristics, and/or form. The analysis must include full graphical displays of framing plans, load paths, load sources, and sample member sizing using rules of thumb or other quantitative methods. In the second semester project, akin to a final exam, students apply similarly all of the above topics to a structural system to a building they have conceived, and that successfully shows appropriate structure sizing, orientation, and spacing over complex and innovative forms, and geometries.

To assure student understanding of *the methods and criteria architects use to assess those technologies against the design, economics, and performance objectives of projects,*" the methods and criteria relevant to (ARCH 538) **Structural and Material Systems** center around the ability of a structure to handle gravity loads and possess lateral stability. These criteria are generally quantitative in nature, that is, factoring and combining different load sources, and calculating tributary areas and widths, required point and uniformly distributed loads, slenderness ratios and safe point loads for columns, and in beams Maximum Bending Moments  $M_{max}$ , Plastic Section Modulus  $Z_x$ , deflection, and Moment of Inertia  $I_x$ . All of these calculations are in pursuit of determining appropriate sizes for discrete structural components. Another key method that forms a crucial part of the course is rule-of-thumb member sizing for a variety of structures. Lastly, each element described above is woven into and reinforced in every class lecture, homework, quiz, project, discussion, and final exam.

**Both:**

In (ARCH 624) **Applied Building Technology** class lectures, shop and site visits as well as student research will introduce students to both established, emerging and alternative methods of construction. Students will selectively apply this knowledge in a class project which will parallel and extend Design Studio proposals they will be generating for the Solar Decathlon Build Challenge (SDBC). Working in groups of three to five, students will provide detailed drawings of their design studio proposals, documenting assemblies, sustainable systems and material and product selection. Student performance will be evaluated based on their class project, quizzes over lecture content, a sketchbook they will maintain over the course of the semester and a series of readings.

(ARCH 602) **Integrated Architecture Studio** is taken by all M.Arch students in the spring of the year of coursework at the Ball State CAP: Indy Center. This integrated design studio uses the U.S. Department of Energy (DOE) Solar Decathlon Design Challenge (SDDC). One of the advantages of utilizing the SDDC as a vehicle for the (ARCH 602) **Integrated Architecture Design Studio** is the range of tools and informational resources made available by the U.S. Department of Energy (DOE) Solar Decathlon Design Challenge (SDDC). The following resources are provided at no cost to students:

- Building Science Training
- REM/Rate
- Ekotrope
- RSMeans
- One Click LCA
- OpenStudio®

SDDC requires that every student complete the Building Science Training modules, which ensures that all participants in the competition demonstrate basic competencies with regard to energy, building science, mechanical systems, and environmental control systems. For more information, see the

BUILDING SCIENCE TRAINING folder for an outline of information and student certificates of completion from Spring 2021.

As the design competition requires a substantial degree of design integration and technical rigor, the (ARCH 602) **Integrated Architecture Design Studio** director conducted seven weekly workshops to train the students in commonly-utilized modeling tools that will prepare them for technical leadership in practice:

1. Sefaira (energy analysis)
2. Cove.Tool (energy analysis)
3. HVAC discussion w/ local ASHRAE chapter (HVAC)
4. RSMears / Pricing w/ FA Wilhelm (Indianapolis-based general contractor)
5. Photovoltaic analysis w/ Jefferson Electric (Indianapolis-based photovoltaic installer)
6. Tally (embodied carbon)
7. PVWatts (PV solar)

#### **Assessment Activities and Evidences:**

- **Assessment SC.4-A: Emerging System, Technologies, and Assemblies**  
The student teams were required to offer clearly articulated high-performance HVAC / electrical / plumbing solutions. This information was integrated into the SDDC required Design Portfolios and the (ARCH 602) **Integrated Architecture Design Studio** required Technical Design Documents.
- **Assessment SC.4-B: Methods and Criteria Used to Assess Technologies**  
The resources and platforms made available by the U.S. Department of Energy (DOE) Solar Decathlon Design Challenge (SDDC) and demonstrated by Ball State faculty were made available to every student at no cost. Students were required to establish methodical baseline models, identify their own design goals, and the utilize the resources and platforms to assess and optimize their solutions. The basis of student assessment was the information presented in the student deliverables – primarily the SDDC required Design Portfolios. Some additional information was offered in the Design Portfolio Supplements.
- **Assessment items were directly assessed internally by studio director and design advisors.**  
Additionally, the student work was also directly assessed externally by the SDDC competition jury. Please note that both teams placed as finalists during the 2021 cycle of this internally-contended student design competition and the elementary school team received third place in the international competition.

(ARCH 618) **Applied Systems Thinking** prepares students to consider a range of performance objectives in their selection and application of technical systems. Following this preparation, students are asked to select technical systems for a studio design project using performance objectives as a decision-making tool. The course objectives (stated in the syllabus) that relate directly to the incorporation of technical knowledge into the building design process include:

- understand the effects of system selection on collective building performance across numerous metrics,
- be able to select, and explain the rationale for selecting, systems that contribute to a holistically integrated building, and
- be able to select systems to advance the cause of measurable building performance outcomes

#### **Assessment of student understanding of knowledge of building system technologies is evaluated through:**

- a series of design vignette assignments involving the selection and justification of various building systems; these assignments function as essays to gauge student understanding of technical systems and their ability to apply those systems as part of the architectural design process

#### **Benchmarks that the Program uses to assess Student Criteria SC.4 Technical Knowledge:**

- The Program benchmarks students earn a grade of B or higher for the final grade in each Course. Graduate students must maintain a minimum cumulative graduate GPA of 3.0 (B). Any semester that a graduate students' GPA falls below 3.0 they are placed on academic probation.

- The Program requires students to repeat courses when a grade lower than a C (C- or lower) is received for their final grade.
- Students' GPA is assessed every semester. If a student is placed on academic probation, they are advised to enroll in no more than 9 credit hours in the following semester. To remove probationary status, graduate students must have at least a 3.0 graduate cumulative GPA by the time the next 9 graduate credits are completed.

The department is initiating organizational methods to more tightly assess the OVERALL student performance results in each of Student Criteria. The graduate curriculum committee will be tasked this semester with reviewing how effectively SC-4: Technical Knowledge has been addressed in the aligned courses. Student work results in each SC-4 aligned course offered spring and summer, will be reviewed in fall semester; each SC-4 aligned course offered fall will be reviewed in spring semester. Each course's effectiveness in addressing SC-4 will be assessed by the committee, and potential matrix re-alignment will be considered as necessary (adding or subtracting aligned courses). Faculty course narratives (per SC) that are provided by all faculty will be a part of this assessment of the course's address of student learning criteria, as will course materials, student work, and faculty assessment of that work relative to SC-4.

The assessment methods described by faculty will be assessed for their effectiveness in establishing the level of student understanding of SC-4. Providing those assessment methods are precise enough to measure aggregated student understanding, our initial benchmark will be "above average" acquisition of the understanding or ability as defined by the SC (this aligns with a "B-" grade, or above). That means benchmarks of minimum 80% individual student accomplishment in each assessment method and then the *overall* aggregated percentage of student accomplishment. The benchmark for overall aggregated percentage of student accomplishment is 85%. The Graduate Curriculum committee will also be asked to suggest benchmarks that more effectively address our programs' unique strengths.

**SC.5 Design Synthesis**—How the program ensures that students develop the ability to make design decisions within architectural projects while demonstrating synthesis of user requirements, regulatory requirements, site conditions, and accessible design, and consideration of the measurable environmental impacts of their design decisions.

#### **Program Response: Design Synthesis - ABILITY**

##### **Both:**

- ARCH 601: Community Engaged Applied Learning Studio
- ARCH 602: Integrated Architecture Design Studio
- ARCH 603: Multi-Disciplinary Design Knowledge Studio
- ARCH 604: Independent Final Project Studio

(ARCH 601) **Community Engaged Applied Learning Studio** focuses on *Building Community*, first on building community of students and faculty, recognizing the uniqueness, diversity of experiences, and life situations that bring us together to embark on the professionally accredited Master of Architecture degree. Secondly, on building community with the people and place in which we are a part of, the CAP: Indy Center Community and the residents of Elevator Hill Campus, Holy Cross Neighborhood Association, and the Near Eastside. Community-oriented design explorations allow students to embrace a collaborative spirit, strong work ethic, applied research design, careful attention to details, service to the community, and best practices toward achieving quality design, economic viability, equitable procedures, and community livability. The ARCH 601 Community Engaged Applied Learning Design Studio 2021 will participate in a multi-disciplinary project to design and build a net-zero energy home in Indianapolis as part of the 2023 U.S. Department of Energy's (DOE) Solar Decathlon Build Challenge (SDBC) student competition. The project is to design and construct a net-zero energy home in Indianapolis with the help of local community partners and sponsors. A particular strength of utilizing the U.S. Department of Energy's Solar Decathlon Build Competition as a vehicle for the ARCH 601 studio is the breadth, scope, and rigor required to effectively compete in this internationally-contended

student design competition. The contest requires students to compete on qualities related to: Energy performance, Engineering feasibility / integration, Financial feasibility / cost estimating / affordability, Resilience, Architectural design, Operational practicalities, Market potential, Comfort / human health / environmental quality, Innovation in design and/or construction and Project communication qualities.

#### **Assessment Activities:**

- **Assessment SC.5-A: User Requirements**

Students are assessed on their ability to develop a project that meets the project requirements set forth by the local Englewood CDC, the architect of record (Demerly Architects) for the overall Englewood Homes project, the developer (Grattus), the requirements set forward by the Department of Energy for Net Zero Design, and the end-user in small focus group discussions. Client and user requirements included site selection and final location, construction budget, program, and energy performance.

- **Assessment SC.5-B: Regulatory Requirements**

Students are assessed on their ability to develop a project that complied with local regulatory requirements, complied with Indiana Building Code, Indianapolis Zoning Requirements, Indiana Housing & Community Development Authority (IHCDA) Standards, state-level building and energy code requirements, met ADA accessibility requirements, and adhered to codified life-safety design requirements.

- **Assessment SC.5-C: Site Conditions**

Students are assessed on their ability to develop a site selection through site inventory, analysis, and then overlay this with the program goals and requirements to develop a site selection criteria matrix. Students also developed site strategies utilizing Sustainable Sites Certification criteria and worked with Landscape Architecture faculty and students. Students must clearly communicate how the site information influenced the project's design decisions.

- **Assessment SC.5-D: Accessible Design**

Students are assessed on their ability to develop a project that meets Indiana Building Code, Indiana Housing & Community Development Authority (IHCDA) Standards, and federal civil rights regulation for accessibility. Students worked with Universal Design standards in their projects and met with an ADA consultant for the city of Indianapolis to have their plans and sections reviewed.

- **Assessment SC.5-E: Consideration of Measurable Environmental Impacts**

Students are assessed on their ability to develop a project that clearly establishes a baseline and proposed design solution and compares the two on the basis of measurable environmental impacts. Measured contests related to integrated building performances, occupant experience, comfort and environmental quality, and energy performance are set forth by the SD Local Build Challenge rules. Early on in the process, students develop a strong approach based on consideration of environmental impacts. They clearly diagram this approach and it is the frontispiece of their design proposal.

#### **Supporting Materials and Evidence:**

- ARCH 601 – Syllabus + Schedule – Fall 2021
  - Design Briefs and Required Readings 1-15
    - Student responses individual and team to each Design Brief
  - PowerPoints 1-7
  - Workshops 1-6
  - ARCH 601 Field Trip Charette
  - ARCH 601 Three (3) Internal and External Interim Design Reviews – Fall 2021
- All teams are required to submit the following deliverables
- Project Proposal
  - Design Portfolio
  - Physical Model and Context Model
  - Presentation Slides
  - Posters
  - Technical Design Documents

(ARCH 602) **Integrated Architecture Design Studio** leverages the framework of the U.S. Department of Energy (DOE) Solar Decathlon Design Challenge (SDDC) for SC.6 Building Integration. The SDDC is an internationally-contended student design competition operated by its National Renewable Energy Laboratory (NREL). The competition is built on the premise that high-performance buildings include an integration of building science, energy efficiency, optimized mechanical systems, indoor air quality, resilience, and water conservation. However, the competition's requirements also impart to the student teams that building occupants expect more – including great design that is affordable, comfortable, durable, and safe.

A particular strength of utilizing the U.S. Department of Energy (DOE) Solar Decathlon Design Competition (SDDC) as a vehicle for the (ARCH 602) **Integrated Architecture Design Studio** is the breadth, scope, and rigor required to effectively compete in this internationally-contended student design competition.

**The contest requires students to compete on qualities related to:**

- Energy performance
- Engineering feasibility / integration
- Financial feasibility / cost estimating / affordability
- Resilience
- Architectural design
- Operational practicalities
- Market potential
- Comfort / human health / environmental quality
- Innovation in design and/or construction
- Project communication qualities

**Assessment Activities:**

- **Assessment SC.5-A: User Requirements**  
Students are assessed on their ability to develop a project that met the project requirements set forth by the local CDC that they were assigned to. This included site location, construction budget, program, and energy performance.
- **Assessment SC.5-B: Regulatory Requirements**  
Students are assessed on their ability to develop a project that complied with local regulatory requirements, complied with state-level building and energy code requirements, met ADA accessibility requirements, and adhered to codified life-safety design requirements.
- **Assessment SC.5-C: Site Conditions**  
Students are assessed on their ability to develop a site analysis and communicate how the information influenced the project's design decisions.
- **Assessment SC.5-D: Accessible Design**  
Students are assessed on their ability to develop a project that met local code, state code, and federal civil rights regulation for accessibility.
- **Assessment SC.5-E: Consideration of Measurable Environmental Impacts**  
Students are assessed on their ability to develop a project that clearly establishes a baseline and proposed design solution and compares the two on the basis of measurable environmental impacts related to energy, carbon, and more as set forth by the Solar Decathlon Design Challenge (SDDC) rules.

**Supporting Materials and Evidence:**

Both teams were required to submit the following deliverables (note that for the Spring 2021 semester ES = Elementary School; OB = Office Building):

- Project Proposal
- Design Portfolio
- Design Portfolio Supplement
- Presentation Slides
- Posters

- Technical Design Documents

(ARCH 603) **Multi-Disciplinary Design Knowledge Studio** furthers student consideration of urban design in the students' design processes while practicing their ability in design synthesis (SC5) and systems integration (SC6). The ARCH 603 studio's focus is SC5 Design Synthesis; the project students develop in studio is also the focus for the layered consideration of systems integration guided by ARCH 618. Faculty and students in ARCH 603 and ARCH 618 are aware of, and contributing to, this coursework alliance.

In **ARCH 603**, following preliminary research and analyses of aligned considerations, students generate a preliminary design proposal to be reviewed at the end of week 5 in the semester. This schematic design is informed by research and analysis of regulatory requirements specific to the project, site, context (historical, social, physical), urban design considerations, environmental influences, user needs and programming, and regulatory requirements. The expectations for the 5-week schematic design proposal include student identification of values and ideas their design will pursue, as well as drawings (site plan, plan, section) and massing (in context) that convey initial approach to site design, program organization, environmental response (daylight, climate, water, energy), accessibility analysis, and regulatory compliance.

This schematic will continue to be developed for the next six weeks (5<sup>th</sup> -11<sup>th</sup>) in the studio and parallel in ARCH 618 through week-long assignments layering in focused design considerations (one at a time) of envelope systems, building assembly systems, structural systems, environmental control systems, life safety systems, and the use of performance modeling metrics (ex. Sefaira, cove.tool, Ladybug, and/or Honeybee) as part of the design process. Through this coordinated approach between ARCH 618 with 603, the student design process and proposals get layered with more integrated systems content; prior design decisions impacted by the focused consideration of new considerations need to be adjusted during this iterative process. Through the frame of 618's content schedule and studio focus, student's systematic integration of each system as well as the use of feedback metrics from environmental performance modeling, prods the design development process.

#### **Assessment Activities and Evidences:**

- Compiled research and analyses of life safety, land use, and regulations that apply to buildings and sites
- Compiled design process considerations
- Final project presentation and semester portfolios demonstrating design synthesis ability

A particular strength of using standardized requirements for the Final Project Thesis as a vehicle for the (ARCH 604) **Independent Final Project Studio** is the breadth, scope, and rigor required to effectively complete the student-selected thesis inquiries. The design research and synthesis of the (ARCH 604) final project provides a way to integrate aspects of both the *profession* and the *discipline* of architecture. If the problem-solving implications of "design" are typically associated with the profession of architecture, "research" as a mode of knowledge production, whether in the form of intellectual critique or creative innovation, is generally characteristic of the discipline of architecture. Thus, *design as research* in the **ARCH 604** final project thesis is conceived as an integration of the two, thereby providing a space for students and faculty to engage in open-ended inquiry and experimentation particular to the advancement of disciplinary knowledge, while simultaneously addressing the real issues, needs, and challenges facing the profession. Each student with faculty advisor support uniquely crafts their thesis inquiry, project proposal as a test of their inquiry, and project representation as an intentional connection to the thesis inquiry, while adhering to the (ARCH 604) final project requirements.

#### **The (ARCH 604) Final Project requires students to complete the following:**

- **Thesis Inquiry** forming relevant question/s to explore through design research
- **Abstract Narrative** with 1. introduction, background, and motivation to project inquiry, 2. Problem statement and scope of work, and 3. Conclusions identifying project's contributions to the field.



- **Comparative Case Studies and Precedent Research** describing why each case study and precedent is relevant to their self-selected thesis topic and how they serve as a collective record of the advancement and development of knowledge in their inquiry, project proposal, building typology, or experimentation. Students include conceptual ideas of program, material, tectonics, and process and indicate why and how these are important.
- **Qualitative and Quantitative Research Methodologies** applying both qualitative and quantitative design research methods that are relevant and meaningful to their thesis inquiry and final project proposal. Investigative data analysis includes interview coding, survey quantification and open-ended question analysis, observational studies, simulation research. Students seek appropriate graphic ways to represent data, summarize findings, and make meaningful connections to design and development of their thesis project.
- **Site Context Research and Documentation** considering multiple site options, site selection criteria, site inventory, analysis, and strategies in the development of thesis project. Complete historical research and analysis of site conditions including zoning restrictions, variances, and sites that promote the most sustainable use of water, vegetation, soil, and material resources. Provide site selection and design assessment criteria with site strategies for design implementation.
- **Performance Programming Methodology** providing clear and specific definition of project goals, a comprehensive program that includes an assessment of client and user needs, an inventory of spaces and their requirements, a review of the relevant building codes and standards, sustainability requirements, and assessment of design implications in identifying required space needs, quality of space, and user activities.
- **Regulatory Requirements** (added July 2021 for Fall 2021 and Spring 2022 courses) code and zoning review initially based on building typology and site location as project proposal is refined. Understand the fundamental principles of life safety, land use, and current zoning laws and regulations that apply to buildings and sites. Understand building codes and energy codes relevant to building typology and project location and the evaluative process used to comply with these laws and regulations.
- **Final Project Proposal** defining independent thesis project as a test of self-selected thesis inquiry. Includes problem identification, setting evaluative criteria, analyzing solutions, and predicting the effectiveness of implementation.
- **Final Project Representation and Presentation** demonstrates the skills associated with making integrated decisions across multiple systems and variables in the completion of student-selected design project. Schematic, Development, and Final Production and Representation material including of all process sketches, diagrams, site and program strategies, architectural drawings, large high-res renderings, and well-crafted physical models and / or prototypes shall be incorporated into presentation and final thesis book.

#### **Assessment Activities:**

- **Assessment SC.5-A: User Requirements**  
Students are assessed on their ability to develop a project that meets the user requirements through **Performance Programming Methodology**. Students turn in assignments in ARCH 637 Final Project Prep and share Interim Review PowerPoint presentations in ARCH 604 that show how they have gathered useful and important information about the scope of the work, the required space needs (hard facts and human factors-soft facts) and performance characteristics of users, collected through empirical social research methods using qualitative and quantitative techniques. Students provide clear and specific definition of project goals and performance metrics and prepare a comprehensive program that includes an assessment of client and user needs, an inventory of spaces and their requirements, a review of the relevant building codes and standards, sustainability requirements, and an assessment of their implications for the project.
- **Assessment SC.5-B: Regulatory Requirements**  
Students are assessed on their ability to develop a project proposal that complies with local regulatory requirements including a review of the relevant zoning and building codes initially based on building typology and site location as their project proposal is refined. Students present in Interim Reviews an understanding of the fundamental principles of life safety, land use, and current zoning laws and regulations that apply to their building typology and building sites.

Because of the individual nature of the thesis student's topical inquiry, the project may emphasize certain regulatory requirements (like the energy code or universal design) more than others, but all discuss assessment of their implications for the project and each student ensures an understanding of the fundamental principles of life safety, health and welfare that apply to their unique and/or hypothetical building and site in the context of their thesis project. The Regulatory Requirement criterion was assessed less formally in ARCH 604 Spring 2021 but has been incorporated as a specific criterion of the Final Project Thesis Book Requirements in (ARCH 637) Final Project Prep Fall 2021 and (ARCH 604) Final Project Studio Spring 2022.

- **Assessment SC.5-C: Site Conditions**

Students are assessed on their ability to provide **Site Context Research and Documentation** providing a rationale for site selection, developing a site inventory and site analysis, communicating site strategies, and demonstrating how the information influenced the project's design decisions. Embedded in our curriculum holistically is sustainable design which encourages students to embrace and pilot sustainability initiatives in order to mitigate the impacts of climate change and prepares businesses, residents, and spaces to become carbon-neutral. This assessment of site conditions is often integrated into sustainable sites certification as well as living building challenge, and well building criteria.

- **Assessment SC.5-D: Accessible Design**

Students are assessed on their ability to develop a final project that meets local code, state code, and federal civil rights regulation for accessibility. A particular emphasis, however, may be applied in the thesis project to universal design, where the ADA requirements form a more integral design proposition. Or a student pursuing the Social and Environmental Justice certificate may address accessible design through a more inclusive, and equitable approach requiring that the project that promotes fair, equitable, and affordable engagement for all, without regard to income, race, ethnicity, status, or class and that improves the community as a whole while not forcing others out (gentrification).

- **Assessment SC.5-E: Consideration of Measurable Environmental Impacts**

Students are assessed on their ability to develop a project that considers measurable environmental impacts related to energy, carbon, material use, and site selection, as set forth by their independent research. One thesis inquiry may propose to explore net-zero energy, or computer performance modeling activities, or the environmental impacts of the burial and cremation process, but all students address environmental impacts related to passive and active environmental systems and building construction materials and methods.

**Supporting Materials and Evidence:**

- ARCH 604 - Syllabus - Spring 2021 (PDF)
- ARCH 604 - Calendar / Schedule - Spring 2021 (PDF)
- 3MT Competition and Judging Criteria Rubric (PDF)
- Three (3) Interim Review Schedule, Deliverables, and Rubrics (PDF)
- Final Project Thesis Book Requirements 2021 (PDF)
- Draft and Final Project Thesis Book Rubric (PDF)

**All students are required to submit the following:**

- Project Proposal
- Final Abstract
- Final Project Presentation Slides
- Final Project Graphic Representation
- Final Project Thesis Book

**Student Work Evidence**

- Signed Project Proposals
- Abstract Book
- Interim Review ZOOM Recordings (in BOX)
- Final Project Thesis Book
- Final Project Graphic Representation
- Final Project Presentation Slides

**Benchmarks that the Program uses to assess Student Criteria SC.5 Design Synthesis:**

- The Program benchmarks students earn a grade of B or higher for the final grade in each Course. Graduate students must maintain a minimum cumulative graduate GPA of 3.0 (B). Any semester that a graduate students' GPA falls below 3.0 they are placed on academic probation.
- The Program requires students to repeat courses when a grade lower than a C (C- or lower) is received for their final grade.
- Students' GPA is assessed every semester. If a student is placed on academic probation, they are advised to enroll in no more than 9 credit hours in the following semester. To remove probationary status, graduate students must have at least a 3.0 graduate cumulative GPA by the time the next 9 graduate credits are completed.

The department is initiating organizational methods to more tightly assess the OVERALL student performance results in each of Student Criteria. The graduate curriculum committee will be tasked this semester with reviewing how effectively SC-5: Design Synthesis has been addressed in the aligned courses. Student work results in each SC-5 aligned course offered spring and summer, will be reviewed in fall semester; each SC-5 aligned course offered fall will be reviewed in spring semester. Each course's effectiveness in addressing SC-5 will be assessed by the committee, and potential matrix re-alignment will be considered as necessary (adding or subtracting aligned courses). Faculty course narratives (per SC) that are provided by all faculty will be a part of this assessment of the course's address of student learning criteria, as will course materials, student work, and faculty assessment of that work relative to SC-5.

The assessment methods described by faculty will be assessed for their effectiveness in establishing the level of student understanding of SC-5. Providing those assessment methods are precise enough to measure aggregated student understanding, our initial benchmark will be "above average" acquisition of the understanding or ability as defined by the SC (this aligns with a "B-" grade, or above). That means benchmarks of minimum 80% individual student accomplishment in each assessment method and then the *overall* aggregated percentage of student accomplishment. The benchmark for overall aggregated percentage of student accomplishment is 85%. The Graduate Curriculum committee will also be asked to suggest benchmarks that more effectively address our programs' unique strengths.

**SC.6 Building Integration**—How the program ensures that students develop the ability to make design decisions within architectural projects while demonstrating integration of building envelope systems and assemblies, structural systems, environmental control systems, life safety systems, and the measurable outcomes of building performance.

**Program Response: Design Synthesis - ABILITY****Both:**

- ARCH 602: Integrated Architecture Design Studio
- ARCH 618: Applied Systems Thinking
- ARCH 624: Applied Building Technology

(ARCH 602) **Integrated Architecture Design Studio** leverages the framework of the U.S. Department of Energy (DOE) Solar Decathlon Design Challenge (SDDC) for SC.6 Building Integration. The SDDC is an internationally-contended student design competition developed by U.S. Department of Energy (DOE) Solar Decathlon Design Challenge (SDDC) and operated by its National Renewable Energy Laboratory (NREL). The competition is built on the premise that high-performance buildings include an integration of building science, energy efficiency, optimized mechanical systems, indoor air quality, resilience, and water conservation. However, the competition's requirements also impart to the student teams that building occupants expect more – including great design that is affordable, comfortable, durable, and safe.

The (ARCH 602) **Integrated Architecture Design Studio** comprises the entire cohort and student teams dedicate themselves to a unique division of the competition. In recent cycles, student teams

have submitted entries for Urban Single Family, Mixed-Use Multifamily, Office Building, and Elementary School. The studio work is directly evaluated internally by the ARCH 602 studio director (full-time faculty) as well as each team's dedicated professional design advisor (contracted professional faculty). Moreover, the studio work is directly evaluated externally by the competition's jury.

A unique aspect of the (ARCH 602) **Integrated Architecture Design Studio** is the "firm-like" structure to the project delivery. Every team member required to be knowledgeable and conversant in all aspects of their project and deliverables. However, much like with a multidisciplinary project team, certain individuals necessarily took on primary responsibility for certain technical aspects of the project. This resulted in knowledge-sharing a delegation of duties – much like professional practice.

**Assessment Activities:**

Building integration was ensured through multiple studio-related mechanisms for personal and team accountability. In particular:

- **Weekly Team Reports**

Each team was required to submit weekly team reports by 11:59pm on Sundays. These are reviewed and graded each week. The template for these team reports have been provided. These team reports are transparent deliverables in which each student identifies where their efforts focused during the previous week. This allows the studio director and design advisors (along with teammates) to see where each student is claiming to be investing their time. In terms of assessments, the weekly team reports identify immediate team needs along with a tabulation of where each student's time has been invested, which can be leveraged to better ensure there is a fair balance in the work load and the level of engagement by each student across the totality of the SDDC ten evaluation realms.

- **Self / Peer Assessment**

The students are made aware that part of their evaluation in the studio will be based on the results of a closed (undisclosed) self / peer Assessment by each student. This assessment is submitted by each student only to the studio director during the final week of the studio.

- **Instructor Assessment**

The students are made aware that part of their evaluation in the studio will be based on the results of an instructor assessment of each student's individual engagement and contribution to the team. This assessment is conducted during the final week of the studio.

- **Assessment SC.6-A: Integration of building envelope systems and assemblies**

The students are assessed by their ability to integrate their building enclosure with their design solution. The studio-required Technical Design Documents was a primary deliverable referenced to assess these technical qualities of the design as the primary SDDC deliverables did not afford much space for such documents.

- **Assessment SC.6-B: Integration of structural systems**

The students are required to demonstrate that their design solution was coordinated with an appropriate structural solution. This assessment criteria evidenced by the content contained within the Design Portfolio and Technical Design Documents, which are the primary artifacts used for assessment.

- **Assessment SC.6-C: Integration of environmental control systems**

Students are assessed on their ability to integrate environmental control systems in their projects. Particular attention is paid to evidence that clarifies how design performance modeling platforms are utilized to assess and optimize certain design solutions.

- **Assessment SC.6-D: Integration of life safety systems**

Students are assessed on their ability to develop a project that met the state-level building code and adhered to life safety requirements including egress paths, door swings, corridor lengths, fire ratings, and other such considerations. These assessment criteria evidenced by the content contained within the Design Portfolio and Technical Design Documents, which are the primary artifacts used for assessment.

- **Assessment SC.7-E: Measurable outcomes of building performance**

Students are assessed on their ability to demonstrate and communicate measurable outcomes of building performance. Specifically, the students are required to clarify their initial construction

costs, energy use intensity, embodied carbon intensity, and spatial daylight autonomy. For building performance measures, students are accountable to a baseline condition and design performance modeling tools are utilized to demonstrate relative improvement with proposed design solutions.

**Supporting Material and Evidence:**

Both teams were required to submit the following deliverables (note that for the Spring 2021 semester ES = Elementary School; OB = Office Building):

- Project Proposal
- Design Portfolio
- Design Portfolio Supplement
- Presentation Slides
- Posters
- Technical Design Documents

(ARCH 618) **Applied Systems Thinking** prepares students to consider a range of performance objectives in their consideration, selection, and application of technical systems. The course objectives (presented in the syllabus and topical schedule) relate directly to the integration of building systems in a design project through the lens of building performance outcomes. These objectives are:

- understand the range of systems options and their respective environmental impacts,
- understand the effects of system selection on collective building performance across numerous metrics,
- understand the importance of project context and performance criteria to system selection,
- be able to select, and explain the rationale for selecting, systems that contribute to a holistically integrated building
- be able to select systems to advance the cause of measurable building performance outcomes, and be able to present complex design thinking graphically and verbally.

(ARCH 618) **Applied Systems Thinking** involves lectures, readings, and reading assessments, but at heart ARCH 618 is a hands-on doing course. Assessment of student success in engaging the course objectives is evaluated through:

- weekly assignments involving the selection and justification of various building systems; these assignments require students to demonstrate the integration of building envelope systems and assemblies, structural systems, environmental control systems, and life safety systems through explicitly enunciated and measurable building performance criteria

In (ARCH 624) **Applied Building Technology** student teams develop proposals for the Solar Decathlon in their design studio. The class project for (ARCH 624) will support this activity, working in teams of three to five, students are asked to detail their designs, selecting actual materials and integrating components of their proposed assembly. Students are asked to document and justify material and product selection, envelope design, and design decisions relative to the stated goals of the competition. Students will be evaluated based on the drawing package produced, the clarity of the thinking communicated, the success of choices relative to project goals, and the overall quality of the design and rigor of the project. Course readings, lectures, shop and building visits will all help students the ability to have a critical approach to decision making and systems integration within an architectural project.

**Benchmarks that the Program uses to assess Student Criteria SC.6 Building Integration:**

- The Program benchmarks students earn a grade of B or higher for the final grade in each Course. Graduate students must maintain a minimum cumulative graduate GPA of 3.0 (B). Any semester that a graduate students' GPA falls below 3.0 they are placed on academic probation.
- The Program requires students to repeat courses when a grade lower than a C (C- or lower) is received for their final grade.
- Students' GPA is assessed every semester. If a student is placed on academic probation, they are advised to enroll in no more than 9 credit hours in the following semester. To remove probationary

status, graduate students must have at least a 3.0 graduate cumulative GPA by the time the next 9 graduate credits are completed.

The department is initiating organizational methods to more tightly assess the OVERALL student performance results in each of Student Criteria. The graduate curriculum committee will be tasked this semester with reviewing how effectively SC-6: Building Integration has been addressed in the aligned courses. Student work results in each SC-6 aligned course offered spring and summer, will be reviewed in fall semester; each SC-6 aligned course offered fall will be reviewed in spring semester. Each course's effectiveness in addressing SC-6 will be assessed by the committee, and potential matrix re-alignment will be considered as necessary (adding or subtracting aligned courses). Faculty course narratives (per SC) that are provided by all faculty will be a part of this assessment of the course's address of student learning criteria, as will course materials, student work, and faculty assessment of that work relative to SC-6.

The assessment methods described by faculty will be assessed for their effectiveness in establishing the level of student understanding of SC-6. Providing those assessment methods are precise enough to measure aggregated student understanding, our initial benchmark will be "above average" acquisition of the understanding or ability as defined by the SC (this aligns with a "B-" grade, or above). That means benchmarks of minimum 80% individual student accomplishment in each assessment method and then the *overall* aggregated percentage of student accomplishment. The benchmark for overall aggregated percentage of student accomplishment is 85%. The Graduate Curriculum committee will also be asked to suggest benchmarks that more effectively address our programs' unique strengths.

#### 4—Curricular Framework

This condition addresses the institution's regional accreditation and the program's degree nomenclature, credit-hour and curricular requirements, and the process used to evaluate student preparatory work.

##### 4.1 Institutional Accreditation

The APR must include a copy of the most recent letter from the regional accrediting commission/agency regarding the institution's term of accreditation.

##### Program Response:

<https://www.hlcommission.org/component/directory/?Itemid=&Action=ShowBasic&instid=1176>

As part of Ball State University, the department fully supports all efforts and requests by the university used to achieve institutional accreditation with the [Higher Learning Commission](#).



January 21, 2014

Dr. Jo Ann M. Gora  
President  
Ball State University  
2000 West University Avenue  
Muncie, IN 47306

Dear President Gora:

This letter is formal notification of the action taken concerning Ball State University by the Higher Learning Commission. At its meeting on January 14, 2014, the Institutional Actions Council (IAC) acted on the items below. This letter serves as the official record of this action, and the date of this action constitutes the effective date of your new status with the Commission.

**Action.** IAC continued the accreditation of Ball State University with the next Reaffirmation of Accreditation in 2023-24.

If the current Commission action includes changes to your institution's *Statement of Affiliation Status (SAS)* or *Organizational Profile (OP)*, the changes will appear in these documents on the Commission's Web site within three weeks of the date of action. The *SAS* is a summary of your institution's ongoing relationship with the Commission. The *OP* is generated from data you provided in your most recent Institutional Update.

The Commission posts the SAS and this action letter with the institution's directory listing on its website. Information for the institution on notifying the public of this action is available at <http://ncahlc.org/Information-for-Institutions/institutional-reporting-of-actions.html>.

If you have questions about these documents after viewing them, please contact Robert Appleson. On behalf of the Board of Trustees, I thank you and your associates for your cooperation.

Sincerely,

A handwritten signature in black ink that reads "Sylvia Manning". The signature is written in a cursive, flowing style.

Sylvia Manning  
President



## 4.2 Professional Degrees and Curriculum

The NAAB accredits professional degree programs with the following titles: the Bachelor of Architecture (B. Arch.), the Master of Architecture (M. Arch.), and the Doctor of Architecture (D. Arch.). The curricular requirements for awarding these degrees must include professional studies, general studies, and Extra-Curricular studies.

**4.2.1 Professional Studies.** Courses with architectural content required of all students in the NAAB-accredited program are the core of a professional degree program that leads to licensure. Knowledge from these courses is used to satisfy Condition 3—Program and Student Criteria. The degree program has the flexibility to add additional professional studies courses to address its mission or institutional context. In its documentation, the program must clearly indicate which professional courses are required for all students.

*Programs must include a link to the documentation that contains professional courses are required for all students.*

### Program Response:

Track 1 is for students with an undergraduate major in architecture (a pre-professional degree program). It is a 2 AY, 4-semester program, the first year is in the Ball State CAP Indy Center in Indianapolis, the second year is at the College of Architecture and Planning on the main campus at Ball State University in Muncie Indiana. Track 2 is for students with any undergraduate degree. It is a 3 AY plus one summer semester program (coursework in the summer between the students' first and second year). The entire first year of Track 2 (fall, spring, summer) is in Muncie Indiana. The last two years of Track 2 parallel the Track 1 program in content and location.

Track 1 Catalog listing: <https://catalog.bsu.edu/2021-2022/Graduate-Catalog/Estopinal-College-of-Architecture-and-Planning/Architecture/Master-of-Architecture-4599-credits>

## Degree requirements for the 2-year (Track 1) MArch

### Required courses in the 2-year (Track 1) MArch

<b>ARCH 601</b>	Community Engaged Applied Learning Design Studio	6
<b>ARCH 602</b>	Integrated Architecture Design Studio	6
<b>ARCH 603</b>	Multi-Disciplinary Design Knowledge Studio	6
<b>ARCH 604</b>	Independent Final Project Studio	6
<b>ARCH 618</b>	Applied Systems Thinking	3
<b>ARCH 620</b>	Professional Practice	3
<b>ARCH 624</b>	Applied Architectural Building Technology	3
<b>ARCH 636</b>	Research Methods in Architecture	3
<b>ARCH 637</b>	Final Project Preparation	3
<b>ARCH 646</b>	Urban Design: History, Theory, and Practice	3
<b>ARCH 647</b>	Applied Theory and Representation	3
	Minimum of 12 elective credits	12

*\*based on evaluation of prior academic work, up to 12 credit may be waived at the discretion of the Graduate Program Director for those who hold an advanced design degree in an allied field.*

Track 2 Catalog listing: also <https://catalog.bsu.edu/2021-2022/Graduate-Catalog/Estopinal-College-of-Architecture-and-Planning/Architecture/Master-of-Architecture-4599-credits>

## Degree requirements for 3-year (Track 2) MArch

### Required foundational courses (unless waived) in the 3-year (Track 2) MArch

<b>ARCH 500</b>	Design Thinking and Visualization Workshop	0
<b>ARCH 501</b>	Design Thinking and Foundations Studio	6
<b>ARCH 502</b>	Environmental Design and Site Context Studio	6
<b>ARCH 503</b>	Design Application Workshop	3
<b>ARCH 514</b>	Introduction to Architectural Building Technology	3
<b>ARCH 518</b>	Introduction to Structural Systems	3
<b>ARCH 520</b>	Introduction to Professional Practice	3
<b>ARCH 538</b>	Structural and Material Systems	3
<b>ARCH 551</b>	Contemporary Issues in Architecture	3
<b>ARCH 561</b>	Visualization and Communication	3
<b>ARCH 570</b>	Passive Environmental Systems	3
<b>ARCH 571</b>	Active Environmental Systems	3
<b>ARCH 639</b>	Contemporary History and Theory of Architecture	3

*\*based on evaluation of prior academic work, up to 15 credits may be waived.*

### Required second and third year courses in the 3-year (Track 2) MArch

<b>ARCH 601</b>	Community Engaged Applied Learning Design Studio	6
<b>ARCH 602</b>	Integrated Architecture Design Studio	6
<b>ARCH 603</b>	Multi-Disciplinary Design Knowledge Studio	6
<b>ARCH 604</b>	Independent Final Project Studio	6
<b>ARCH 618</b>	Applied Systems Thinking	3
<b>ARCH 620</b>	Professional Practice	3
<b>ARCH 624</b>	Applied Architectural Building Technology	3
<b>ARCH 636</b>	Research Methods in Architecture	3
<b>ARCH 637</b>	Final Project Preparation	3
<b>ARCH 646</b>	Urban Design: History, Theory, and Practice	3
<b>ARCH 647</b>	Applied Theory and Representation	3
	Minimum of 12 elective credits	12

**Total credits required for 3-year (Track 2) MArch: 99 crs**

**4.2.2 General Studies.** An important component of architecture education, general studies provide basic knowledge and methodologies of the humanities, fine arts, mathematics, natural sciences, and social sciences. Programs must document how students earning an accredited degree achieve a broad, interdisciplinary understanding of human knowledge.

In most cases, the general studies requirement can be satisfied by the general education program of an institution's baccalaureate degree. Graduate programs must describe and document the criteria and process used to evaluate applicants' prior academic experience relative to this requirement. Programs accepting transfers from other institutions must document the criteria and process used to ensure that the general education requirement was covered at another institution.

*Programs must state the minimum number of credits for general education required by their institution and the minimum number of credits for general education required by their institutional regional accreditor.*

**Program Response:**

Undergraduate degrees from accredited Universities satisfy the general education aspects through their core curriculum requirements. By time of enrollment, all students (applicants) have a baccalaureate degree. A survey of their transcripts validates the general studies courses.

**4.2.3 Optional Studies.** All professional degree programs must provide sufficient flexibility in the curriculum to allow students to develop additional expertise, either by taking additional courses offered in other academic units or departments, or by taking courses offered within the department offering the accredited program but outside the required professional studies curriculum. These courses may be configured in a variety of curricular structures, including elective offerings, concentrations, certificate programs, and minors.

*The program must describe what options they provide to students to pursue optional studies both within and outside of the Department of Architecture.*

**Program Response:**

Curriculum and Course Structure

<https://www.bsu.edu/academics/CollegesandDepartments/architecture/academic-programs/masters/architecture>

Certificate programs

<https://catalog.bsu.edu/2020-2021/Graduate-Catalog/Estopinal-College-of-Architecture-and-Planning/Architecture/Certificate-Programs>

- Elective options – students have 12 credit hours (minimum) of space in the program for electives or other programs. Elective offerings are communicated to all students on consistent and timely basis.
- Certificate Programs option: Digital Fabrication, High-Performance Building Design, Historic Preservation, Social and Environmental Justice, as well as any other Graduate Certificate
- Dual Degree option
- IPAL program option

NAAB-accredited professional degree programs have the exclusive right to use the B. Arch., M. Arch., and/or D. Arch. titles, which are recognized by the public as accredited degrees and therefore may not be used by non-accredited programs.

*Programs must list all degree programs, if any, offered in the same administrative unit as the accredited architecture degree program, especially pre-professional degrees in architecture and post-professional degrees.*

**Program Response:**

- B.ARCH (154 credits)
- BA/BS (major in architecture) pre-professional degree in architecture (120 credits)
- BS in Environmental Design (120 credits)

- M.ARCH (Track 1 57 credits and Track 2 99 credits)
- MSHP (MS in Historic Preservation)
- MS in Architecture (currently “on-hold” – not accepting students)

The number of credit hours for each degree is outlined below. All accredited programs must conform to minimum credit-hour requirements established by the institution’s regional accreditor. Programs must provide accredited degree titles, including separate tracks.

**4.2.4 Bachelor of Architecture.** The B. Arch. degree consists of a minimum of 150 semester credit hours, or the quarter-hour equivalent, in academic coursework in general studies, professional studies, and optional studies, all of which are delivered or accounted for (either by transfer or articulation) by the institution that will grant the degree. Programs must document the required professional studies courses (course numbers, titles, and credits), the elective professional studies courses (course numbers, titles, and credits), the required number of credits for general studies and for optional studies, and the total number of credits for the degree.


#### Program Response:

Not applicable in this APR

**4.2.5 Master of Architecture.** The M. Arch. degree consists of a minimum of 168 semester credit hours, or the quarter-hour equivalent, of combined undergraduate coursework and a minimum of 30 semester credits of graduate coursework. Programs must document the required professional studies classes (course numbers, titles, and credits), the elective professional studies classes (course numbers, titles, and credits), the required number of credits for general studies and for optional studies, and the total number of credits for both the undergraduate and graduate degrees.

#### Program Response:

[Curricular map](#)



**Master of Architecture, Curriculum**

3-Year M.Arch				2-Year M.Arch (Students with Pre-Professional degrees in Architecture)			
FALL	SPRING	SUMMER		FALL	SPRING	FALL	SPRING
ARCH 501	ARCH 502	ARCH 503		ARCH 601	ARCH 602	ARCH 603	ARCH 604
ARCH 561	ARCH 571	ARCH 520		ARCH 624	ARCH 646	ARCH 618	ARCH 647
ARCH 570	ARCH 514	ARCH 538		ARCH 620	ARCH 636	ARCH 637	elective
ARCH 639	ARCH 518	ARCH 551		elective	elective	elective	

**FALL: DESIGN THINKING**

501: Design Thinking/Foundations Studio  
561: Visualization and Communication  
570: Intro to Environmental Systems  
639: Contemporary History and Theory of Architecture

**15 credits**

**SPRING: ENVIRONMENTAL DESIGN**

502: Environmental Design and Site Context Studio  
571: Application of Environmental Systems  
514: Intro to Architectural Building Technology  
518: Intro to Structural Systems

**15 credits**

**SUMMER: DESIGN MAKING**

503: Design Application Workshop  
520: Intro to Professional Practice  
538: Structural and Material Systems  
551: Contemporary Issues in Architecture

**12 credits**

**FALL: COMMUNITY ENGAGED**

601: Community Engaged Applied Learning Design Studio  
624: Applied Architectural Building Technology  
620: Professional Practice  
xxx: Elective, Certificate Focus, Dual Degree, or Integrated Path to Architectural Licensure (PNA)

**15 credits**

**SPRING: INTEGRATED BUILDING**

602: Integrated Architecture Design Studio  
646: Urban Design: History, Theory, and Practice  
636: Research Methods in Architecture  
xxx: Elective, Certificate Focus, Dual Degree, or Integrated Path to Architectural Licensure (PNA)

**15 credits**

**INDIANAPOLIS URBAN LABORATORY**

LIVE | WORK | LEARN

**FALL: MULTI-DISCIPLINARY**

603: Multi-Disciplinary Design Knowledge Studio  
618: Applied Systems Thinking  
637: Final Project Preparation  
xxx: Elective, Certificate Focus, Dual Degree, or Integrated Path to Architectural Licensure (PNA)

**15 credits**

**SPRING: INTELLECTUALLY INDEPENDENT**

604: Independent Final Project Studio  
647: Applied Theory and Representation  
xxx: Elective, Certificate Focus, Dual Degree, or Integrated Path to Architectural Licensure (PNA)

**12 credits**

**BALL STATE UNIVERSITY**  
6 Wayne Edgemoor  
College of Architecture and Planning

### M.Arch Track 2: Undergraduate degree with non-architecture major + 99 graduate semester credit hours

#### ARCH 501: Design Thinking Foundations Studio (6)

Introduction to architectural design skills, principles, and processes through a series of projects that address spatial thinking, concept formulation, ordering systems, precedent research, and investigative skills. Projects focus on conditions of scale, material, tectonics, and context in both built and natural environments. Conceptualization, representation, visualization and communication skills are developed.

#### ARCH 561: Visualization and Communication (3)

The exploration and development of methods for architectural visualization, representation, and communication in a variety of design media. Analog and digital methods for the realization and

translation of design thinking, ideas, geometries, systems, and assemblies into a variety of 2D and 3D representations are introduced.

**ARCH 570: Passive Environmental Systems**

Passive building environmental systems (enclosure, heating, cooling, ventilating, daylighting, and acoustics). An overview of environmental forces and human, material, and assembly responses to such forces; within the context of historic and current concerns and with a focus on energy, water, and material resource utilization.

**ARCH 639: Contemporary History and Theory of Architecture**

Introduction to the historical and theoretical movements, technologies, and practices in architecture and urbanism from the advent of the Industrial Revolution up to and including the 21st century. Consideration given to the social and cultural context of design ideas with a focus on global developments in vernacular and high style architecture.

**ARCH 502: Environmental Design and Site Context Studio**

Design projects address surrounding environmental parameters in creating strategies, programs, and buildings, while integrating multiple issues of design thinking and context characteristics in multiple, diverse sites. Sustainability principles in design are introduced and applied with emphasis on merging environmental concerns with human desires and needs.

**ARCH 514: Introduction to Architectural Building Technology**

Introduction to methods and materials of architectural construction. Emphasizes interface of material selections and construction technology in the design, production, and construction process. Includes study of building construction, materials and methods, building assemblies, and the integration of building technology principles into the design process. History, theory, technology, and practice is integrated into architectural building technology.

**ARCH 518: Introduction to Structural Systems**

Introduction to the mathematical foundations of static including equilibrium, balance, centroids, neutral axes, with primary focus on developing a basic understanding of concepts of conditions of equilibrium and force systems. Includes the study, consideration, and integration of code requirements and structural systems in the design process. History, theory, technology, and practice is a critical overlay to structural systems fundamentals.

**ARCH 571: Active Environmental Systems**

Active building environmental systems (heating, cooling, ventilating, electric lighting, fire protection, water systems/plumbing, electrical, signals/communications, and circulation). An overview of mechanical, electrical, and plumbing systems for buildings; within the context of historic and current concerns and with a focus on energy, water, and material resource utilization.

**ARCH 503: Design Application Workshop**

Design workshop focusing on the synthesis of previous course work and the application of architectural design skills in a built investigation. Introduction to collaborative design-build methods while integrating concepts and methods of material assemblies, prototyping, fabrication, stakeholder's roles, community participation, scheduling, and construction cost estimating.

**ARCH 520: Introduction to Professional Practice**

Survey of the role of the architectural profession from its beginning to present. Exploration of how design excellence is fostered and delivered through professional practice. Exposure to diverse business practice models in architecture and allied disciplines. Investigation of the architect's professional, ethical, and legal responsibilities to stakeholders (client, contractor, user groups, community, architect, and allied professionals) in design and practice.

**ARCH 538: Structural and Material Systems**

Strength of materials, stress, strain, and modulus of elasticity. Introduction to structural systems and their application to the design of horizontal and vertical building systems. Introduction to lateral force resisting systems. Survey, analysis and technical documentation of structural systems comprised of steel, timber, concrete, and masonry and their application and integration in the design process.

**ARCH 551: Contemporary Issues in Architecture**

Introduction to the essential role that architecture plays in promoting socially and environmentally just communities by acknowledging the values of human rights, social equity, and the dignity of every human being. Exploration of contemporary, social, cultural, political, and economic discourse in establishing design criteria and creating frameworks for design interventions. Understand the ethical issues involved in the exercise of professional judgment in architectural design.

**M.Arch Track 2 (continued) and M.Arch Track 1: Undergraduate degree with architecture major + 57 graduate semester credit hours:****ARCH 601: Community Engaged Applied Learning Studio**

Community-oriented design explorations allow students to embrace a collaborative spirit, strong work ethic, applied research design, careful attention to details, service to the community, and best practices toward achieving quality design, economic viability, equitable procedures, and community livability. Connecting students with the potential of architectural design to embrace community priorities, initiatives, and key stakeholders while positively shaping the constructed environment.

**ARCH 624: Applied Building Technology**

Exploration of methods and materials of architectural construction with a focus on applied learning, combining theoretical knowledge with practical skills and technical training. Practical applications in construction drawing, building material selection and assembly, building envelope systems, estimating techniques, and computer applications. Production of technical documentation related to design studio project. Exploration of critical topics for the future of the built environment and natural resources to use design and technology to create architecture that contributes to a more humane and environmentally responsible built world.

**ARCH 620: Professional Practice**

Explores the essential elements of architectural practice and related professions. Addresses administrative role of the architect, basic principles of architectural practice, leadership, information management, financial considerations, legal responsibilities, ethics, and professional judgment in architectural practice.

**ARCH 602: Integrated Architecture Design Studio**

Synthesis of a wide range of variables from diverse and complex systems into an integrated architectural solution. Students demonstrate their ability to comprehend site conditions, structural, environmental, and building systems and assemblies, accessibility and life safety, environmental stewardship, and technical documentation. Scope and type of project will require applied research methodologies and an integrated evaluation and decision-making process across multiple systems to inform the design process.

**ARCH 636: Research Methods**

Introduction to research methods applicable to architectural practice. Enables students to study and apply a variety of research methods and tools. Exposure to methods and procedures of architectural research, investigative skills, and integrated design decision-making frameworks provides support for the development of individual final creative project proposal.

**ARCH 646: Urban Design: History, Theory, and Practice**

Introduces the principles, practices, and theory of urban design. Considers the history of urban form, exploring the design of major cities and urban centers. Students develop an understanding of



significant case studies while systematically studying physical form, regional influences, and how the public realm is shaped by social, economic, political, and cultural forces. Focus on issues of equity, identity, sense of place, smart growth, and sustainable placemaking.

#### **ARCH 603: Multi-Disciplinary Design Knowledge Studio**

Studio supports an issues-based, teamwork model where students engage complex questions based on a design-thinking foundation enhanced with methodologies and processes from a multi-disciplinary perspective. Partnering with allied disciplines, students discern how to integrate knowledge from other disciplines into their own knowledge and expertise in meaningful ways. Students increasingly define their own interests and take initiative in defining design concepts and processes in reference to overall multi-dimensional studio project.

#### **ARCH 618: Applied Systems Thinking**

Advanced course in the selection, design, and integrated application of structural systems, environmental systems, building systems, and project assemblies in architecture. Emphasis on whole building thinking from site evaluation to building performance. Exploration and application of advanced technologies and inventive building systems, while committed to research and development of sustainable, affordable and equitable practices.

#### **ARCH 637: Final Project Prep**

Students define, investigate, and articulate a question for their individual final creative project. Through guided independent work, students prepare a proposal that documents their research from project identification, to articulating appropriate design methodologies, to analyzing and synthesizing data, to defining a schedule and framework for their project, to creating final project assessment criteria.

Prerequisite: **ARCH 636**.

#### **ARCH 604: Independent Final Project Studio**

Exploratory depth of student-initiated and defined architectural design project while furthering development and articulation of personal values, goals, and objectives in architectural disciplines.

Prerequisite: **ARCH 637**.

#### **ARCH 647: Theory and Representation:**

Students develop critical acumen for contemporary issues in the architecture discipline and understand the impact of effectively communicating and expressing ideas as a form of knowledge based on observation, analysis, synthesis, and design. Students learn to convey meaningful architectural ideas through the critical use of a diverse range of representational skills.

Elective options – students have 12 credit hours (minimum) of space in the program for electives or other programs such as a graduate Certificate.

**4.2.6 Doctor of Architecture.** The D. Arch. degree consists of a minimum of 210 credits, or the quarter-hour equivalent, of combined undergraduate and graduate coursework. The D. Arch. requires a minimum of 90 graduate-level semester credit hours, or the graduate-level 135 quarter-hour equivalent, in academic coursework in professional studies and optional studies. Programs must document, for both undergraduate and graduate degrees, the required professional studies classes (course numbers, titles, and credits), the elective professional studies classes (course numbers, titles, and credits), the required number of credits for general studies and for optional studies, and the total number of credits for the degree.

#### **Program Response:**

Not applicable in this APR

#### **4.3 Evaluation of Preparatory Education**

The NAAB recognizes that students transferring to an undergraduate accredited program or entering a graduate accredited program come from different types of programs and have different needs, aptitudes, and knowledge bases. In this condition, a program must demonstrate that it utilizes a



thorough and equitable process to evaluate incoming students and that it documents the accreditation criteria it expects students to have met in their education experiences in non-accredited programs.

**4.3.1** A program must document its process for evaluating a student's prior academic coursework related to satisfying NAAB accreditation criteria when it admits a student to the professional degree program.

*See also Condition 6.5*

**Program Response:**

On the departmental [Master of Architecture](#) web page, under Ready to Apply? applicants are instructed to review dates and deadlines, admission requirements, course equivalency process, and transcript preparation instructions. Upon hitting the red GET STARTED button applicants are directed to the [Master of Architecture Program](#) webpage. Here applicants can find more specific information on the priority and final deadline, admission requirements (i.e., degree; course equivalency evaluation process; GPA; GRE; two letters of recommendation; portfolio; resume; statement of purpose/intent; transcripts; fee; and what happens after applying).

Students seeking admission into the professional degree program must undergo a course equivalency evaluation process to ensure that prior course work meets current accreditation and program standards.

**4.3.2** In the event a program relies on the preparatory education experience to ensure that admitted students have met certain accreditation criteria, the program must demonstrate it has established standards for ensuring these accreditation criteria are met and for determining whether any gaps exist.

**Program Response:**

A systematized process, based upon the 2020 conditions and what our program sees as essential for students to succeed in their graduate education, has been implemented for evaluating course equivalency of prior academic work. The process involves using a **course equivalency evaluation check-sheet** in reviewing transcripts, catalog descriptions and course syllabi. We have defined equivalent courses, or learning experiences in one instance – internship versus an undergraduate pro-practice course, or test-out options for students who do not clearly meet expectations for preparatory education.

From this process a plan of study inclusive of any additional courses to address deficiencies (gaps) can be mapped out and a timeline for completion provided to the applicant prior to acceptance. Because Track 2 has 12 hours of elective credit built into the curriculum, students may still complete the degree in the expected two years as any additional coursework can be picked up along the way and counted as an elective.

**4.3.3** A program must demonstrate that it has clearly articulated the evaluation of baccalaureate-degree or associate-degree content in the admissions process, and that a candidate understands the evaluation process and its implications for the length of a professional degree program before accepting an offer of admission.

**Program Response:**

Out of a total of 405 students graduating from Ball State University's, Master of Architecture, since the its first graduating class in 2008, 283 "pre-professional" Ball State University, Bachelor of Science/Arts with a major in architecture, went on to graduate from Ball State University's, Master of Architecture program. Approximately 70%.

In 2020, a B.Arch option was added to our undergraduate programs. Perhaps as a result, we are seeing more students coming into Ball State University's Master of Architecture who have completed their pre-professional Bachelor of Science/Arts with a major in architecture, from a university outside Ball State University as well as Track 2 students (students who have undergraduate degrees outside of architecture). Students preparatory education from schools other than Ball State University is assessed using the course equivalency evaluation check sheet process.

## 5—Resources

### 5.1 Structure and Governance

The program must describe the administrative and governance processes that provide for organizational continuity, clarity, and fairness and allow for improvement and change.

**5.1.1 Administrative Structure:** Describe the administrative structure and identify key personnel in the program and school, college, and institution.

#### Program Response:

Ball State University [President](#), Geoffrey S. Mearns, oversees the administration of the university. President Mearns leads Ball State under the guidance of the Board of Trustees. President Mearns also receives input and advice from the [President's Cabinet](#), a senior leadership team comprised of seven Vice Presidents of the institution's divisions, the university Athletic Director, and the President of the University Foundation. Three additional governing bodies—the [University Senate](#), [Staff Council](#), and [Student Government Association](#) – play key roles in consultation with the President regarding the strategic direction of the university.

The [University Provost](#), Susana Rivera-Mills, also serves as the Executive Vice President for Academic Affairs, overseeing all academic aspects of the seven colleges of the university, including the R. Wayne Estopinal College of Architecture and Planning. The most recently published organizational chart for Academic Affairs follows this section.

The college's four departments (Architecture, Landscape Architecture, Urban Planning, Construction Management Interior Design) are each administered by a faculty-elected Department Chair. The executive officer of the college is the Dean who oversees matters of policy, budget, promotions, and appointments. The Associate Dean assists the Dean. The College Leadership Council consists of the Associate Dean, the four Department Chairs, the Assistant to the Dean, and the Director of Finance and Budgets for the college. The CAP organizational chart (follows) diagrams the administrative structure of the college. College faculty membership in university committees is through annual elections by college faculty. Membership in college committees is determined either through annual elections by the college faculty or specific committee policies on representation (such as the requirement that departmental Promotion and Tenure (P+T) Committee Chair is on the college Promotion and Tenure (P+T) Committee and representation is staggered).

The Department of Architecture leadership is comprised of the elected Chair, appointed Associate Chair (as-needed), and appointed program directors: Graduate Program Director (M.Arch), and Graduate Program Director (MSHP). Graduate students are advised by their program director with assistance from the department's Program's Assistant. Undergraduate students are advised by a university supported Professional Advisor assigned to all architecture and planning undergraduate students. Departmental committee membership is through annual elections by the department faculty. Year level Coordinators are appointed. The Chair also communicates directly with the Student Council, comprised of leadership from student organizations as well as representative members voted in by students in each year level of all programs.

**5.1.2 Governance:** Describe the role of faculty, staff, and students in both program and institutional governance structures and how these structures relate to the governance structures of the academic unit and the institution.

#### Program Response:

Ball State University operates with oversight of the [Indiana Commission for Higher Education](#) (ICHE) a 14-member public body created in 1971 to define the missions of Indiana's colleges and Universities; plan and coordinate the state's postsecondary education system; and ensure that Indiana's higher education system is aligned to meet the needs of students and the state.

Governance and control of Ball State University is vested in a nine-member [Board of Trustees](#), which includes a full-time student and two members nominated by the Ball State University Alumni Association. Appointed to four-year terms by the governor of Indiana, the Board of Trustees is the primary governing entity of Ball State; the student member is appointed to a two-year term. The board sets the strategic direction of the university, ensures fiscal responsibility, and provides oversight to university operations, among its many responsibilities.

In addition to the President, Cabinet, and Provost, these two governing bodies—[University Senate](#), and the [Staff Council](#) play key roles in consultation with the President regarding the strategic direction of the university. As described in the Ball State [Faculty and Professional Personnel Handbook](#), the Senate and Council work in an advisory capacity to the President. The Senate is responsible for the formation of educational policy at the university. Each unit (in our case, the Department of Architecture) elects a representative to the Senate – they serve a two-year term (may be renewed). These representatives also serve on standing university sub-committees (examples: Creative Teaching Committee, Faculty Salary and Benefits Committee, Undergraduate Education Committee (UEC), Graduate Education Committee (GEC), along with other elected members.

### **Departmental and College Committee Membership**

In addition to the Senate and sub-committees (Senate has departmental representative) all colleges contribute to faculty representation on the following university committees. CAP representation is not always a Department of Architecture faculty member.

- Academic Freedom and Ethics Committee
- Academic Technology Committee
- Contract Faculty Committee
- Creative Arts Committee
- Creative Teaching Committee
- Faculty Salary and Benefits Committee
- Graduate Education Committee
- Library Committee
- Special Leave Committee
- Teaching Evaluation Committee
- Undergraduate Education Committee
- University Core Curriculum Subcommittee
- University Council on the Environment
- University Grade Appeals Committee
- University Promotion and Tenure Committee
- Admissions and Credits Committee
- Athletics Committee
- Financial and Budgetary Affairs Committee
- Institutional Effectiveness Committee
- Judicial Committee
- Master Planning and Facilities Committee
- Online Distance Education Committee
- Professional Personnel Salary and Benefits Committee
- Publications and Intellectual Properties Committee
- Research Committee

### **The COLLEGE OF ARCHITECTURE AND PLANNING has the following standing committees and service appointments:**

- **CAP Promotion and Tenure Committee**: the department Promotion and Tenure Committee elects two of its members to serve on the college committee. Chair of department P+T is one of the department's representatives. The other is the "chair-elect" from the department P+T; this assures rolling two year terms by departmental representatives on the college P+T Committee.
- **CAP Curriculum Committee**: the department has two members on the college committee; policy

states that the department Undergraduate Curriculum Committee appoints one member to the college committee and the department Graduate Curriculum Committee appoints the second member to the college committee. Through practice, we have defined these as the chairs of the GCC and UCC.

- **CAP IT Committee:** the department has two members on this committee; they are elected by the department faculty for a one-year term
- **CAP Library Committee:** the department has one member on this committee; elected by the department faculty for a one-year term
- **CAP First-Year Curriculum Committee:** the department has two members on this committee; they are elected by the department faculty for a one-year term; tradition holds that those elected be involved in delivery of the first-year curriculum
- **CAP Facilities Planning Committee:** the department has two members on this committee; they are elected by the department faculty for a one-year term
- **CAP Committee for Off-Campus + Travel Programs:** per college policy, members are appointed to this council by direction of department chairs. Department Chairs, and college Dean also serve on this committee
- **CAP First Year Coordinator:** typically serves a two-year term that then rotates to a different department every two years

**Listing of all DEPARTMENTAL COMMITTEES; elected service/leadership; appointed service positions:**

**Promotion and Tenure Committee:** Five elected members who serve staggered two-year terms; tenured faculty only; disciplinary diversity is inherent in the election process; the committee elects its own chair. The Department Chair is an ex-officio member.

**Contract Faculty Promotion Committee:** Five elected members (two tenured faculty and three full-time contract faculty), staggered terms. The Department Chair is an ex-officio member.

**Undergraduate Curriculum Committee:** Consists of four elected members who serve staggered two-year terms, one of whom is elected committee chair. The Faculty Mentor (a service load position to provide professional perspective to students and university Academic Advisor) is an ex-officio member. All regular members of the faculty are eligible to serve on this committee; disciplinary diversity is inherent in the election process. The Department Chair and the university Academic Advisor are ex-officio members.

**Graduate Curriculum Committee:** Consists of four elected members who serve staggered two-year terms, as well as the current M.Arch. Director, M.Arch. Advisor, and MSHP Director. The committee chair is appointed (the M.Arch. Director); all regular members who have graduate faculty status are eligible; disciplinary diversity is inherent in the election process. The Department Chair is an ex-officio member.

**Salary + Merit Committee - Tenure-Line Faculty:** Consists of three elected members who serve staggered two-year terms; all tenured members of the faculty are eligible; disciplinary diversity is inherent in the election process; the committee elects its own chair.

**Salary + Merit Committee - full-time contract faculty:** the prior committee also serves in this capacity.

**Search committees and ad-hoc committees/task forces:** are formed for short-term purposes, and members are generally appointed by the Department Chair. Membership on these types of committees typically reflects the objective of the particular committee. Four ad-hoc committees that have become semi-established via repeated formation are the departmental Admissions Ad-Hoc Review group (described later in section II.3 Evaluation of Preparatory Education); the Design Innovation Fellow Ad-Hoc search group; the In-Situ Fund Selection Ad-hoc group (foundation funds for design + build projects), and the Student Scholarship Ad-Hoc Review Group, formed to review student awardees for departmental scholarships with specific criteria.

**Department Student Council:** Students are involved in departmental governance via a student council comprised of elected representatives from each year of the curriculum as well as student organization leadership.

**DEPARTMENT Service positions:**

**University Senate (Faculty Council) Representative:** each department elects a regular (tenure-line) faculty to serve on the University Senate and Faculty Council. Election is conducted annually. (Assistant Professor Dr. Matt Wilson)

**ACSA Counselor:** elected by the faculty for a three-year term; all full-time faculty members are eligible. (Professor Tim Gray)

**Department ARCC Representative:** elected by faculty for a one year term. All regular members of the faculty are eligible. (Assistant Professor Dr. Tom Collins)

**United Way Representative:** elected service position

**Tau Sigma Delta Honorary Society Coordinator:** appointed service position (Assistant Professor Sean Burns)

**GLUE Student Journal Advisor:** appointed service position (Associate Professor Kevin Klinger)

**AIAS Advisor:** appointed service position (Assistant Professor Dan Overbey, AIA, LEED Fellow)

**NOMAS Advisor:** appointed service position (Professor Olon Dotson)

**Architectural Licensing Advisor (ALA):** appointed service position (Assistant Professor Dan Overbey, AIA)

**Internship Director:** Loaded service position with stipend support for year-round oversight (Assistant Professor Dan Overbey, AIA, LEED Fellow)

## 5.2 Planning and Assessment

The program must demonstrate that it has a planning process for continuous improvement that identifies:

**5.2.1** The program's multiyear strategic objectives, including the requirement to meet the NAAB Conditions, as part of the larger institutional strategic planning and assessment efforts.

### Program Response:

In Spring 2018, the Ball State initiated the [planning process](#) for our new Strategic Plan. To encourage participation and ownership of the process by all constituents, the following principles guided the process: stakeholder involvement, collaborative effort, communication and transparency, data supported, alignment with state goals, ambitious but realistic, actionable, resource allocation and alignment, accountability, respect for prior work, beneficence, and focused. Initially, university-wide working groups coalesced information on Ball State's external environment (demographics, labor market predictions, fiscal/political environment, technology trends, higher education trends), as well as characteristics and unique attributes of Ball State and the local community. Surveys of values as well as mission and vision potentials were shared with university faculty, staff, administrators, and students gathering feedback on shared perspectives and aspirational pursuits. The university working groups also held open forums for "ideas and inspiration" in this preliminary phase of the planning process. By Fall 2018 the university released a preliminary draft that invited feedback. The final revised version was approved by the BSU Board of Trustees in December 2018.

Ball State's new Strategic Plan – [Destination 2040: Our Flight Path: 2019-2024](#) identifies current university mission, enduring values, and goals. The university's mission statement reads: *"We engage students in educational, research, and creative endeavors that empower our graduates to have fulfilling careers and meaningful lives enriched by lifelong learning and service, while we enhance the economic, environmental, and social vitality of our community, our state, and our world."*

These "enduring values represented by Beneficence" underpin the Strategic Plan: excellence, innovation, courage, integrity, inclusiveness, social responsibility, and gratitude. The Mission Statement and Enduring Values ultimately framed the 5 overarching goals that will guide all planning processes through 2040 (35 specific "strategic imperatives" defining goals through 2024 are distributed within these five goals):

1. **UNDERGRADUATE EXCELLENCE AND INNOVATION** – Our university provides a premier on-campus undergraduate experience.
2. **GRADUATE EDUCATION AND LIFETIME LEARNING** – Our university expands its reach and impact along the continuum of human development and is nationally recognized for serving

graduate students and other adults throughout their lifetime educational journey and for our agility in anticipating and responding to workforce needs.

3. **COMMUNITY ENGAGEMENT AND IMPACT** – As a community-engaged institution, our university is internationally recognized for mobilizing and leading partnerships that revitalize and sustain our city and our region.
4. **SCHOLARSHIP AND SOCIETAL IMPACT** – As a public research institution, our university recruits and retains outstanding faculty and staff who engage in scholarship—of discovery, integration, application, and teaching—that garners national and international recognition, attracts external resources, and improves lives.
5. **INSTITUTIONAL AND INCLUSIVE EXCELLENCE** – Our university is distinguished for institutional effectiveness and inclusive excellence across all dimensions of our work and for having a positive and vibrant culture of wellbeing that helps our faculty and staff lead engaged and meaningful lives.

With this plan's endorsement by the board at the end of Fall semester 2018, all units then began to prepare (Spring 2019) their own action plans within the frame of the university's five goals and specific strategic imperatives that will guide the university until 2024. To accomplish this the department formed a Strategic Planning Task Force of architecture faculty representing varied aspects of our community (undergraduate-focused + graduate-focused faculty, assorted disciplinary expertise, diverse perspectives) that was charged with overseeing the identification of department specific planning goals while guiding the participation of the department in this process. This started with a review of our department's values and mission statement that shape our collective pursuit to provide an exemplary professional education to our students:

**Core Values:** established culture of excellent, innovative, and effective teaching; student exposure to diverse thoughts and approaches; multidisciplinary awareness and educational experiences; community engagement, and applied learning; professional connectivity; and educational travel

**Mission:** *"The Department of Architecture seeks to provide a distinctive education for architecture and historic preservation students, providing students the grounding of a rigorous professional education with the critical thinking skills, creative and intellectual confidence, ethics, and self-awareness to allow them to succeed in their professional aspirations in a rapidly changing world. Committed to social equity and environmental stewardship, our graduates will be ready to serve the needs of diverse global communities as engaged leaders advancing their discipline."*

Guided by these values and mission, the department developed an action plan to fulfill the Strategic Plan. This was done in collaboration with faculty, student, and stakeholder (alumni, professional advisory board) input. The department's action plan was submitted in Summer 2019 to the college, and then to the university. Our Strategic Plan conveys our goals as "priorities for action" while also identifying action "champions" and essential collaborators. It targets timeline targets to accomplish these goals, embodying actionable steps for program improvement. We are currently in the first year of this plan, making steps of progress in realizing our prioritized aspirations. Ongoing self-assessment is a critical aspect of this process. The overarching goal of the department's planning and assessment processes is continuous improvement of our program offerings.

CAP's Assessment and Accreditation Manager reviews progress on these action goals for reporting to the university. We believe the framework of our plan is tangible and will result in increased productivity, identity, and impact of our multiple program offerings. Goal 1 of the university's plan focuses on undergraduate excellence, while Goals 3, 4, and 5 focus on aspects of community engagement, enriched design opportunities, cultural wellness, and diversity and inclusivity – all of which directly influence the success of our Master of Architecture degree program and align with strengthening our identity detailed as values: design; environmental stewardship and professional responsibility; equity, diversity, and inclusion; knowledge and innovation; leadership, collaboration + community engagement; lifelong learning. Specifically:

**Design** – Architects design better, safer, more equitable, resilient, and sustainable built environments. Design thinking and integrated design solutions are hallmarks of architecture education, the discipline, and the profession. Design-specific related aspects of our unit's action plan (framed by the goals of the university Strategic Plan) include:

- Enhance student written communication skills (as part of design process, research);
- Consistently integrate environmental stewardship in design studio experiences at all year levels;
- Integrate multi-disciplinary student experiences in studios; establish opportunities (AND funding) to consistently integrate other disciplinary expertise into studios
- Increase student participation in outward focused applied learning experiences with actual community partner(s)
- Undergraduate and graduate studio design + build (solar decathlon local build) program – connect with Muncie (Under Grad) and Indianapolis near eastside neighborhood (Grad) – funding support from neighborhood development groups

**Environmental Stewardship and Professional Responsibility:** Architects are responsible for the impact of their work on the natural world and on public health, safety, and welfare. As professionals and designers of the built environment, we embrace these responsibilities and act ethically to accomplish them. Environmental Stewardship and Professional Responsibility specific related aspects of our unit's action plan (framed by the goals of the university Strategic Plan) include:

- Consistently integrate environmental stewardship in design studio experiences at all year levels
- Research market demand for on-line high performance building certificate (part of approval process for new certificate program offered by the Department of Architecture in High Performance Building Design)
- Initiate graduate studio design + build (solar decathlon local build) program – connect with Indianapolis near eastside neighborhood with funding support from community groups.

**Equity, Diversity, and Inclusion:** Architects commit to equity and inclusion in the environments we design, the policies we adopt, the words we speak, the actions we take, and the respectful learning, teaching, and working environments we create. Architects seek fairness, diversity, and social justice in the profession and in society and support a range of pathways for students seeking access to an architecture education.

**Equity, Diversity, and Inclusion specific related aspects of our unit's action plan (framed by the goals of the University Strategic Plan) include:**

- Access to architecture education – explore the redefinition of our existing BSED degree as a lateral entry point to feed graduate programs (architecture and across the college). Explore articulation agreements with institutions such as Ivy Tech, Vincennes, and Indiana State. Vincennes currently has an articulation agreement (with Southern Illinois University Carbondale) for their two-year Architectural Studies Technology degree program.
- Support synchronic academic + (internship) work for graduate students - Indianapolis Internships provide financial support for students
- Update departmental diversity and inclusivity plan –In-process but with a strong foundation of observations and aspiration, our goal is to have a task force to conclude this work with a summary draft, articulating an action plan along with identified champions and targeted benchmarks.
- Faculty lunch-time conversations – sharing an aspect of their creative efforts or scholarship with other interested faculty and students.
- Assess the existing certificate programs (SEJ) for successes, ways to improve.
- Formalize existing New-Faculty mentorship program – support of new faculty

**Knowledge and Innovation:** Architects create and disseminate knowledge focused on design and the built environment in response to ever-changing conditions. New knowledge advances architecture as a cultural force, drives innovation, and prompts the continuous improvement of the discipline.

**Knowledge and Innovation specific related aspects of our unit's action plan (framed by the goals of the University Strategic Plan) include:**



- Further the Design Innovation Fellowship program to attract innovative, cutting-edge researchers in the discipline of architecture (publicize position, share results)
- Support passions and continued growth of faculty through continued support of release time for research/scholarship/creative and distribute opportunity to teach electives (in areas of faculty interest)
- Support faculty lunchtime conversations – sharing/discussion of individual interests, research, experiences with colleagues and students
- Develop public/private partnerships between the knowledge group/unit, units in CAP, the university, and the community at large to advocate for the importance of quality design and planning – and help facilitate – meaningful place-based initiatives amongst stakeholders, as they relate to the redevelopment of the Village and surrounding neighborhoods.
- On-line and micro-credentialing: Define methods to provide courses for credit to professionals as well as the opportunity for certification. This will appeal to current student as well as the working professional (micro-credentialing); identify (eventually provide??) micro-credentialing opportunities in programs

**Leadership, Collaboration, and Community Engagement:** Architects practice design as a collaborative, inclusive, creative, and empathetic enterprise with other disciplines, the communities we serve, and the clients for whom we work.

**Leadership, Collaboration, and Community Engagement specific related aspects of our unit's action plan (framed by the goals of the University Strategic Plan) include:**

- Undergraduate and graduate studio design + build (solar decathlon local build) program – connect with Muncie (Undergrad) and Indianapolis near eastside neighborhood (Grad) – funding support from neighborhood development groups
- Muncie Makes Lab and MADJAX first Thursday
- Solar Decathlon Design Challenge participation showcasing CAP student and faculty work;
- School of art work; community school student art work
- Increase student participation in outward focused applied learning experiences with actual community partner(s)
- Increase opportunities for students to experience different cultures and communities
- Initiate internships with community service organizations

**Lifelong Learning:** Architects value educational breadth and depth, including a thorough understanding of the discipline's body of knowledge, histories and theories, and architecture's role in cultural, social, environmental, economic, and built contexts. The practice of architecture demands lifelong learning, which is a shared responsibility between academic and practice settings.

**Lifelong Learning specific related aspects of our unit's action plan (framed by the goals of the University Strategic Plan) include:**

- On-line and micro-credentialing: Define methods to provide courses for credit to professionals as well as the opportunity for certification. This will appeal to current student as well as the working professional (micro-credentialing); identify and provide micro-credentialing opportunities in programs

#### **ADDITIONAL NOTES on DEPARTMENT PLANNING PROCESSES and INFLUENCES**

Additional planning discussions in service to our pursuit of program excellence occur in:

- **Year-level faculty groups:** Year-level faculty groups (studio as well as seminar courses) meet prior to start of each semester to review and discuss the alignment of specific learning objectives associated with each course at that year level. Faculty groups identify and share effective methods to address the student learning goals. In addition to subsequent coordination meetings over the course of the semesters, at the end of the semester, each year-level faculty group meets again to present and discuss the resulting assignments/student work product with each other, departmental leadership, and the Accreditation and Assessment Manager in the last all-day faculty meeting at the end of each semester. This is done to assure successful address of student performance

expectations while supporting diversity of teaching assignments and methods across different sections of the same studio or lecture/seminar course.

- **Undergraduate Curriculum Committee:** This elected committee is charged at the beginning of the academic year to look at curricular opportunities (existing and potential) throughout the professional undergraduate program to propose where strategic steps and methods for addressing these goals may occur both short term and longer term through the curriculum. Curricular revisions that address student success and departmental planning objectives are identified by the Undergraduate Curriculum Committee, discussed/approved by all faculty, and moved forward through university governance.
- **College Leadership** (Deans, Department Chairs) meet twice a month to discuss/address any operational issues of program support. Longer term objectives for program improvement (enrollment growth strategies, effective and efficient program delivery, financial support, information technology needs) are also discussed in this group with articulation of action plans generated by smaller groups.
- **Departmental Leadership:** Chair, Associate Chair, Program Directors, and Administrative Staff periodically meet for discussion of short-term objectives (loading, recruiting, admissions, budget, student concerns, operational implementation strategies).
- **Departmental Committees:** faculty committees meet regularly to conduct the shared-governance operations of the department.
- **Faculty:** Program trajectories and improvements are discussed in bi-monthly faculty meetings. The department encourages faculty participation and leadership in ACSA, AIA and NCARB organizations as a means to keep current in issues faced by architectural education and practice, consistently striving to offer support for faculty development to keep our planning objectives relevant and current to the ongoing and evolving discourse in the discipline.
- **Students:** Monthly meetings between the Department Chair and student council are used as an opportunity to share current events, program/building concerns, and longer term discussion topics. Issues raised by students can be discussed further with faculty.
- **Professional:** The department's Professional Advisory Board includes accomplished architects and related professionals, alumni and non-alumni, that have a vested interest in the success of the program meet bi-annually to identify strategic areas of interest. Sub-committees are formed to facilitate focus sessions addressing issues of potential and/or concern in the programs.
- **NAAB:** The Visiting Team Report is used to inform departmental planning specific to NAAB accreditation. The VTR is then used in unit reviews conducted by the Provost; this is an opportunity to discuss departmental goals in specific as well as propose plans to address needs identified in the VTR.
- **College's Accreditation and Assessment Manager** professional staff position was established in 2017 for oversight of professional programs in the department and college. This position demonstrates the College of Architecture and Planning's commitment towards enhancing a culture of continual improvement.
- **Annual performance reviews:** University, college, and department Promotion + Tenure Policies. At department level, an elected committee of five tenured faculty incorporates peer review assessment of each tenure-line and promotion candidate's teaching and scholarship in support of the department and programs. Department's Merit + Salary Policy incorporates peer review assessment from an elected committee of three faculty of each faculty's teaching and scholarship in support of the departmental and program.
- **University:** [Academic Unit Review](#) conducted by the provost's office – the department prepares and submits a reflective document to the provost's office every 5 years, followed by a meeting with the Provost to review and discuss program strengths, weaknesses, opportunities, threats, and needs. NAAB Visiting Team Reports are incorporated into this process. As part of Ball State University, the department fully supports all efforts and requests by the university used to achieve institutional accreditation with the [Higher Learning Commission](#).

- **Departmental productivity reports** addressing the university Strategic Plan initiatives are generated each spring and coalesced into the college's and university's [Strategic Plan Dashboard](#), measuring accomplishment of university planning objectives.
- **Job + Internship Fair** – the steady increase in firm participation at the college's Job + Internship Fair indicates a steady demand for our graduates. The college is developing data collection and review of job and internship placement data to broaden internship opportunities for students beyond Indianapolis. Graduate students seek internships during the summer between the first and second year in Track 1 program and between second and third year in Track 2 program. Although many students desire to continue their internships in Indianapolis after living and learning there for an academic year, students are also made available opportunities for summer internships in firms outside of Indianapolis and Indiana.
- **Surveys** (by CAP, BSU, and the department) are undertaken of the following stakeholder groups: first year students, current undergraduate and graduate architecture students, recent graduates, alumni 5 years out, and professionals who hire our students. CAP conducts surveys of learning experiences in the CAP first year program; results are shared with the departments, first year curriculum committee, and faculty teaching in the first-year program. Ball State's [Office of Institutional Research and Decision Support](#) surveys alumni, graduating seniors, and freshmen to solicit feedback on program effectiveness and publishes results on the [National Center for Education Statistics](#) website. Additional university surveys assess employment post-graduation; retention and graduation rates; graduate school enrollment among other metrics aligned with student success and program effectiveness. University administered, [student course evaluations](#) are required for every class offered by our department. These are reviewed by Department Chair, faculty member, salary-merit committee, and promotion and tenure committee.

#### 5.2.2 Key performance indicators used by the unit and the institution

##### Program Response:

Thirteen Key Performance Indicators were approved by the Board of Trustees in 2019 and are indicated on the university's [executive dashboard](#). The 2024 targets were established in reference to historical data and projections in areas of:

- Students participating in High Impact Practices (undergraduate research; immersive learning; study abroad or study away; or a course that focuses on a societal issue or global challenge and that engages students with people across diverse disciplines, cultures, and thought
- Current Level of Student Engagement
- Post-Graduate Job Placement Rate
- Student Loan Repayment Rate
- On-time (four year) Graduation Rate
- Bachelor's Degrees Conferred
- Graduate Degrees Conferred
- Online Degrees Conferred
- External Grants and Contracts Expenditures
- Research Grants Contracts Expenditures
- Composite Financial Index
- Annual Donor Commitments
- Carbon Neutrality

Additionally, 16 KPI targets are under development through collaboration of President, Provost, and the Chief Strategy Officer of the university.

The Department of Architecture is in the process of fulfilling the action plan goals in our five-year plan. Cascade reports are compiled every semester. In year 3, the department will review any action items which have NOT seen progress towards completion and revisit these with faculty. Additionally, in light

of the need for performance metrics to measure our continual improvement for NAAB continuing accreditation, KPI's are in the process of being defined.

Based upon Planning initiatives in the department (strategic action plan and inclusive excellence planning), target goals for the following are being identified:

#### **Recruitment**

- Goal: **more diverse student body** at both undergraduate and graduate levels
  - Assess last 4 year trends

#### **Retention**

- Goal: **improve degree completion %** in all programs (baseline – 2021 Architecture Unit Report)
  - 86.44% undergraduate class cohorts of 2018 through 2021;
  - 82.3% for graduate +2 program 2018 through 2021 and
  - 56.75 for Track 2 program 2018 through 2021
- Second year undergraduate
  - average 2016 through 2020 is 92.07% (avoid COVID-19 year 2020-2021)

#### **Culture and Climate of Inclusion**

- Goal: assess and define improvement metric. Assessment to be on-going

**Department Mission + NAAB Conditions assessment through student feedback:** The department is in the process of collecting data and establishing Key Performance goals from baseline of student self-assessment in graduate exit survey (baseline % May 2021). Our baseline performance is established by responses of graduating students in an exit survey established May 2021. Performance Targets for Spring 2022 are 75% of students responding “well” or “very well.”

1. Integrating environmental stewardship as an essential consideration of architecture, while developing an understanding of the dynamic between built and natural environments to allow for future address of climate change through the practice of architecture and through advocacy activities
  - Undergraduate B.Arch (well or very well) = 87.93%
  - Graduate M.Arch (well or very well) = 90.90%
2. Integrating social equity values as an essential consideration of architecture while informing your understanding of diverse cultural and social contexts and how to translate this understanding into built environments that equitably support and include people of different backgrounds, resources, and abilities.
  - Undergraduate B.Arch (well or very well) = 82.76%
  - Graduate M.Arch (well or very well) = 100%
3. Developing strong communication skills (verbal, written, graphic) as necessary for presenting your work and for professional interactions, employment as well.
  - Undergraduate B.Arch (well or very well) = 93.10%
  - Graduate M.Arch (well or very well) = 63.63%
4. Awareness of the paths to becoming licensed as an architect in the United States and the range of available career opportunities that use our discipline's skills and knowledge.
  - Undergraduate B.Arch (well or very well) = 86.20%
  - Graduate M.Arch (well or very well) = 54.54%
5. Developing an effective design process that is integrative, iterative, and driven by ideas, in different settings and for different scales (building to city).
  - Undergraduate B.Arch (well or very well) = 93.10%
  - Graduate M.Arch (well or very well) = 72.73%

6. Establishing an understanding of the histories and theories of architecture and urbanism (framed by diverse social, cultural, economic, and political forces) both nationally and globally.
  - Undergraduate B.Arch (well or very well) = 63.79%
  - Graduate M.Arch (well or very well) = 63.64%
7. Preparation to engage and participate in design research as part of the architectural discipline, to test and evaluate innovations in the field of architecture.
  - Undergraduate B.Arch (well or very well) = 79.31%
  - Graduate M.Arch (well or very well) = 81.82%
8. Understanding how to work in teams and apply effective collaboration skills to solve complex problems.
  - Undergraduate B.Arch (well or very well) = 81.03%
  - Graduate M.Arch (well or very well) = 72.73%
9. Understanding the impact of the built environment on human health, safety, and welfare at multiple scales, from buildings to cities.
  - Undergraduate B.Arch (well or very well) = 94.83%
  - Graduate M.Arch (well or very well) = 72.73%
10. Understanding professional ethics, the regulatory requirements, the fundamental business processes relevant to architecture practice in the United States.
  - Undergraduate B.Arch (well or very well) = 84.48%
  - Graduate M.Arch (well or very well) = 72.73%
11. Understanding the fundamental principles of life safety, land use, and current laws and regulations that apply to buildings and sites in the United States.
  - Undergraduate B.Arch (well or very well) = 70.69%
  - Graduate M.Arch (well or very well) = 54.55%
12. Understanding established and emerging systems, technologies, and assemblies of building construction, and the criteria architects use to assess those technologies against the design, economics, and performance objectives.
  - Undergraduate B.Arch (well or very well) = 77.59%
  - Graduate M.Arch (well or very well) = 54.55%
13. An ability to make design decisions within architectural projects while demonstrating synthesis of user needs, regulations, site conditions, accessibility, and consideration of the measurable environmental impacts of your design decisions.
  - Undergraduate B.Arch (well or very well) = 96.55%
  - Graduate M.Arch (well or very well) = 100%
14. An ability to make design decisions within architectural projects that demonstrate integration of building envelope systems and assemblies, structural systems, environmental control systems, life safety systems, and the measurable outcomes of building performance.
  - Undergraduate B.Arch (well or very well) = 86.20%
  - Graduate M.Arch (well or very well) = 63.63%

**Learning Culture goals:**

15. My education in the Department of Architecture has been student focused with an emphasis on individual student learning and growth along with an emphasis on teaching excellence.
  - Undergraduate B.Arch (agree or strongly agree) = 98.28%
  - Graduate M.Arch (agree or strongly agree) = 72.73%

16. The professional internship experience with a firm/architect was an essential aspect of my education and furthered my understanding of how I want to direct my learning and professional aspirations.
  - Undergraduate B.Arch (agree or strongly agree) = 98.28%
  - Graduate M.Arch (agree or strongly agree) = 100% (of students who participated in internship program)
17. Overall, my experience in the Department of Architecture has been positive, with a learning culture that encourages optimism, respect, sharing, engagement, and innovation amongst students, faculty, staff, and administration.
  - Undergraduate B.Arch (agree or strongly agree) = 98.28%
  - Graduate M.Arch (agree or strongly agree) = 100%

#### **5.2.3 How well the program is progressing toward its mission and stated multiyear objectives.**

##### **Program Response:**

- CASCADE report is indicating progress on 2019-2024 Action Plan goals. Of our 25 departmental goals, 18 goals are “on-track”, 6 are “behind” and 1 is “not-started”.
- Inclusive Excellence planning is in-process – action plan and performance goals to be identified by task group in fall
- Baseline of performance being identified in areas of NAAB conditions, departmental mission, and Inclusive Excellence (IE), recruitment, retention, culture and climate. This baseline is established through survey tools as well as through current preparation for accreditation visit Spring 2022.

#### **5.2.4 Strengths, challenges, and opportunities faced by the program as it strives to continuously improve learning outcomes and opportunities.**

##### **Program Response:**

##### **Strengths:**

- Departmental Action Plan (based upon university Strategic Plan) has initiated a new phase in the department’s planning processes, establishing shared values, goals, and the necessary actions identified to accomplish these goals. Progress is being made on those actions as demonstrated by Cascade reporting.
- The alignment of two subsequent reports (Departmental Unit Report, May 2021 and current APR, June-July 2021) have helped establish foundational data that our pursuit for continuous improvement can be measured against.
- The Unit report has resulted in a draft of an action plan to address some of the deficiencies considered in the report. These actions are organized by four overarching goals:
  1. Inclusive Excellence: Increase minority enrollment, success, and degree completion thereby broadening the access to architectural and preservation education to a more diverse student body that reflects the diverse communities that architecture and historic preservation serve
  2. Assessment + Continuing Improvement: Systematize and clarify the assessment processes for programs, courses, faculty, student professional preparedness, and student learning outcomes. Integrate assessment observations into actions to result in continuing improvement of department operations, programs, and graduates.
  3. Marketing and Recruitment (for Graduate Programs in particular): Annual marketing and ease/effectiveness of recruitment, particularly for the graduate programs, is currently a heavy lift for Graduate Program Directors. We need to learn how to do this better as a collective departmental community.
  4. Strengthen Alumni / Professional Connections: Our graduates are what we make; architectural and preservation professionals are the colleagues of our graduates. We need to do a better job at connecting with alumni and professionals, and integrating their interest, when possible, with our operations.



**Challenges:**

- The NAAB 2020 Conditions and Procedures are changing the culture of assessment in the department. Having just completed a visit for Initial Accreditation for the B.Arch based upon the 2014 conditions, and having geared up the M.Arch program for Continuing Accreditation based upon the 2014 conditions (originally scheduled for Spring 2021 but then rescheduled by NAAB to Spring 2022 due to COVID-19), the department has had to pivot from prior conditions and processes to the 2020 Conditions and Procedures and expectations for ongoing self-assessment as a means of continuous improvement. This is a learning process for faculty, staff, and administration, but the potential is seen and we are looking forward to this process.

**Opportunities:**

- The potential to fully connect an analysis / assessment of our current conditions, with the establishment of planning objectives, to the definition of actions and strategies to achieve the objectives, to the data collection of our results (and the realignment of planning objectives and strategies to achieve and on and on) is a tangible process that will bring us the results we desire to improve our program offerings.

**5.2.5 Ongoing outside input from others, including practitioners.****Program Response:**

**Department's Professional Advisory Board.** comprised of approximately 22 professionals (most but not all of whom are alumni) meets twice a year in the college. The department provides an overview of program status, developments, successes, and issues which the board then discusses and provides feedback on. Additionally, the [Professional Advisory Board](#) participates in student reviews, and has discussions with faculty and students as a further way to assess the status of the professional programs. In prior meetings, the Board's reflections on program effectiveness, strengths, weaknesses, opportunities, threats are solicited and subsequently compiled in an executive summary of meeting which informs our planning process. The Board's feedback, shared with faculty, provides assessment of how we are succeeding in our ambitions, how the professional education is supporting our students' success in the work-force; what we are overlooking, and what we might need to consider further for incorporation into our unit planning.

The department established an active Professional Advisory Board in 2016-2017. The board meets "at" the college (last year via zoom) twice a year, roughly September and February. Departmental leadership presents an overview of current data (programs enrollment, job and internship placement), discuss and get feedback upon current initiatives, gather feedback on relative "needs" that the program/department could consider addressing, and also provides an opportunity for the board members to see student work and discuss overall impressions of the students' learning experiences. These meetings and discussions have proved invaluable in providing both direction and support to our pursuit of ongoing improvement.

The department has initiated a survey of employers who hire our students for internships. Results will be compiled over time to establish a baseline and identify targets for continuing improvement. Similarly, the M.Arch Indianapolis Internship program has surveyed employers and students to identify success metrics that will be used to improve the delivery of our programs.

Program self-assessment relative to our Strategic Plan is ongoing. As the departmental mission, goals, and desired student learning outcomes were used to frame the departmental Action Plan, progress on achieving our mission is imbedded in successfully accomplishing our Strategic Plan. Each semester, the college's Assessment and Accreditation Manager gathers evidence of progress towards the plan, and discusses any areas of concern with departmental leadership. An example of the current year's progress against our defined multiyear objectives. In support the university Strategic Plan, the department's planning process is approached as a continuum of setting goals and assessing progress towards their accomplishment. The assessment includes definition of incremental planning targets to accomplish goals; data collection; stakeholder engagement (faculty, students, alumni,



professionals, and the university administration); goal adjustment, revision, and/or continuation based upon assessment data.

**Program assessment methods incorporate the gathering of post-graduation data, reflections, and feedback regarding:**

- effectiveness of the teaching methods
- perceived quality of learning opportunities for students;
- the clarity of articulated values, pedagogical focus, and identity of the program;
- perceived relevance and effectiveness of students' preparation for their professional and educational aspirations.

**Department, College, University Policies and Procedures for Program Self- Assessment**

**Department Faculty** – the faculty meet regularly throughout both semesters, once or twice every month. Led by the Department Chair, these meetings provide an open forum for committee reports, topical discussions and decision making. Any proposed curriculum changes are provided to faculty a week prior to any vote. Annual discussion includes the departmental Mission Statement along with program values and educational goals which are reviewed, assessed, and revised by faculty for appropriate representation of the department's direction, program goals, and aspirations. Minutes of all meetings are recorded and shared with faculty prior to next meeting. Agenda is set by the Department Chair and is open to suggestions by faculty.

Additionally, at the conclusion of each semester, faculty meet during exam week to present and discuss student work in a day long 'curricular review'; the focus of these discussions are student work deliverables that demonstrate accomplishment of assigned NAAB SPCs. The Department Chair and department faculty review student work throughout the semester by regularly attending others' studio reviews and exhibits. Though informal, this too is an effective method to self-assess the program delivery.

Year-Level Faculty meetings occur prior to the start of each semester, as well as additional coordination meetings throughout the semester as needed. Prior to each semester's start, faculty teaching at each year level meet for half a day to discuss all courses, affirm objectives and program and student criteria addressed in that class as identified on master syllabi, explore opportunities for connections between courses. Clarity and collective agreement on overall objectives as shared by all faculty is the goal. Faculty teaching in studio sections at each year-level are being asked to share project descriptions and grading rubrics as a way to make assessment of diverse project explorations more consistent in light of the assigned SPCs. Goal is to provide clearer understanding of methods for addressing student learning objectives and more easily allow for comparison between individual course sections and the varying pedagogical strategies employed by faculty. The department's curricular and teaching effectiveness assessment is ongoing and essential in the productive advancement, improvement, evolution, and delivery of a discipline-relevant professional program at both the undergraduate and graduate levels.

**NAAB Annual Reports and accreditation visits** provide the most significant opportunity for self-assessment, prompting changes and enhancements to the architecture program. The most recent NAAB accreditation visit for our accredited Track 2 M.Arch program indicated deficiencies in areas of professional practice education. One resulting action to address that assessment was to add an Introduction to Professional Practice course (ARCH 520) into the first year summer semester of the 3-year Track 2 program to further address the student learning outcomes in that area prior to internship. This course is also strategically located in the BS/BA + B.Arch program to facilitate student decisions on their personal professional path trajectory. Both professional programs (B.Arch + M.Arch) have an additional professional practice course later in the curriculum.

The recent NAAB initial accreditation "visit" for the B.Arch provided multiple opportunities to assess our program offerings. While this focused upon our undergraduate program, it identified the benefit of twice yearly all-day end-of-semester faculty meetings where we collectively review student work

products that are identified as demonstrating the learning competency. We continue to bring alignment of demonstrated student performance within each year-level (grad and undergrad) while maintaining our program value of diverse learning experiences. Our department embraces our shared pursuit of student success; through these semester-end meetings we believe we are advancing faculty awareness effective teaching and learning methods, and of incorporating necessary adjustments to teaching methods and results to promote the success of our students.

**Department Student Council** has representation from each year level as well as student organization leadership. Students meet with the Department Chair on a monthly basis to share departmental events and opportunities as well as concerns and recommendations for program improvement, provide an update on student organization events, and discuss other activities happening within the college and university.

The program must also demonstrate that it regularly uses the results of self-assessments to advise and encourage changes and adjustments that promote student and faculty success.

**Program Response:**

- NCARB's Architecture Registration Exam pass rates ([ARE 4.0](#) and [ARE 5.0](#)) for graduates of our professional programs are reviewed periodically to determine if there are any apparent curricular deficiencies in our program's address of professional competencies.
- The results of self-assessment, as demonstrated in the Department's Unit Report, are used to establish new goals regarding recruitment, retention, culture and climate.
- The use of an exit survey based upon departmental values, mission statement, as well as NAAB criteria, is a shared assessment touchpoint for all programs. Exit survey results from the graduating students will be --
  - Used to establish baselines and target benchmarks for continuous improvement (need assessment task force to identify target benchmarks)
  - shared with curriculum committees (graduate and undergraduate) to establish specific goals in areas of deficient student learning outcomes and the methods for addressing those deficient learning outcomes through curricular actions.
  - Discussed by departmental leadership (program chairs, Department Chair, assessment manager) to identify areas of deficient student outcomes that can also be addressed through *non-curricular* actions and other curricular thoughts that could be brought to the Curriculum Committees.

### 5.3 Curricular Development

The program must demonstrate a well-reasoned process for assessing its curriculum and making adjustments based on the outcome of the assessment.

*Programs must also identify the frequency for assessing all or part of its curriculum.*

**Program Response:**

**Department, College + University Curriculum Committees – Membership, Roles, and Responsibilities:**

The committee members serve two year terms and are elected as representatives of different curricular focus areas that they have taught in during the last year: design, history/theory, technology (structural, building, and environmental systems), as well as an "at-large" member. Curriculum committee members can be tenure line or full-time contract faculty. Program Directors are automatically on the committee as well, and serve as chair. The Graduate Curriculum Committee (GCC) has co-chairs of M.Arch Program Director and MSHP Program Director, the Undergraduate Curriculum Committee's (UCC) chair is the Undergraduate Program Director. The professional Undergraduate Advisor for our department also serves on the UCC in a non-voting capacity along with the Department Chair (Ex-Officio on both committees). The department Programs Assistant attends all committee meetings as well.

The Department provides two representatives to the college Curriculum Committee (CCC). Though not required, the committee chairs (Program Directors) are typically asked to serve in this role. The college faculty elect two CAP representatives to the university's Undergraduate Education Committee

(UEC) that reviews/approves all curricular changes at the undergraduate level. The college faculty elect two CAP representatives to the university's Graduate Education Committee (GEC) that reviews/approves all curricular changes at the graduate level.

### **Curriculum Adjustments**

The collection of self-assessment information as described above in Program Self-Assessment, is used to set curricular agendas and initiatives. Through discussion with department faculty, this process for curricular assessment and development is guided by the Department Chair in concert with the elected curriculum committees, undergraduate and graduate. Any proposed changes to the curriculum, initiated by any stakeholder group (faculty, students, administration, university, profession) are vetted by the appropriate (undergraduate or graduate) curriculum committee. All faculty are informed of initiatives during regular department meetings.

Any curricular changes must first be approved by the curriculum committee. The committee- approved changes are then shared with all department faculty one week prior to discussion and vote to approve/reject changes. Approved changes then advance to the college Curriculum Committee, are presented by the Architecture Department representatives and (depending on the scope) the Department Chair. Changes are shared in written form prior to the meeting. Upon final approval by CAP CC, the change is posted for the entire university review for a period of ten days. The university curriculum committees then take up the approval process. This is explained in minute detail under the "[Curriculum Change Process](#)" tab of the Provost's office Curriculum Management web page. The university [Course Approval Flow Chart](#) is diagrammed on next page.

Additionally, the Curriculum Committees conduct periodic reviews of course descriptions, learning objectives, learning outcomes, year level 'themes,' and alignment with the NAAB student performance expectations. The committees seek to align the curriculum with the department's Mission and Values, while also looking for any possible gaps in the curriculum revealed in reviews of student work.

**5.3.1** The relationship between course assessment and curricular development, including NAAB program and student criteria.

#### **Program Response:**

The Graduate Curriculum Committee reviews all course material for all courses aligned with each PC and SC. The GCC identified areas of weakness through review of course narratives and primary and secondary assessment metrics (in-class assignments, through student exit survey). Areas of weakness are identified recommendations are provided to the course file for incorporation in subsequent course offerings. IF NECESSARY, potential curricular revisions are discussed to address PC +SC deficiencies.

**5.3.2** The roles and responsibilities of the personnel and committees involved in setting curricular agendas and initiatives, including the curriculum committee, program coordinators, and department chairs or directors.

#### **Program Response:**

Graduate Curriculum Committee review of PC and SC address by aligned courses. Matrix adjusted as necessary. Suggested course tweaks also identified and recorded in the course file (sub-folder in each PC + SC) for incorporation in future course offerings. IF NEEDED, new courses are identified and/or revised courses descriptions are written and/or to-be-dropped courses are identified.

### **5.4 Human Resources and Human Resource Development**

The program must demonstrate that it has appropriate and adequately funded human resources to support student learning and achievement. Human resources include full- and part-time instructional faculty, administrative leadership, and technical, administrative, and other support staff. The program must:

**5.4.1** Demonstrate that it balances the workloads of all faculty in a way that promotes student and faculty achievement.

**Program Response:**

The university's Office of the Provost and Vice President for Academic Affairs offers structured access to resources for faculty to support their continued growth while maintaining currency in the discipline and practice of architecture. Perhaps the most substantive support for faculty development is the [Special Assigned Leave with Pay](#) program, for all tenured and tenure-track faculty who are in their fifth or subsequent year of full-time employment are eligible. Within the last four years, four tenure-line faculty have taken this opportunity, allowing them to devote time to their research and practice interests. The department, per university policy, must absorb the leave with existing resources.

**Department of Architecture Loading – Teaching, Research, Service**

The department assigns teaching responsibilities and committee work in a way that will support the faculty member's pursuit of professional practice, research, or creative work. Ball State is a teaching-focused university that affirms Boyer's teacher-scholar model. The departmental P+T policy includes professional + creative endeavors as a valued aspect of scholarship. All tenure line faculty with active research projects and pursuits (tenured and tenure-track), receive 25% release time for Research/Creative Endeavor each semester. This translates into a typical load each semester for all tenure-line faculty of one studio (6 hours of load), one lecture course or seminar (3 hours of load), and "research/creative endeavor" (3 hours of load). Prior to receiving the research load, faculty submit a plan to the department for their research/creative endeavor that semester including objectives they plan to accomplish; at the end of the semester, faculty submit a report to the department of what was accomplished with that release time.

Committee work is generally identified through departmental faculty elections during the spring semester. All faculty (tenure-line and contract) are enfranchised into the voting process each year for all decisions including committee formation with the exception of Promotion and Tenure business. Some committees (i.e., search, ad-hoc task groups, etc.) are appointed by the Department Chair. Faculty service on professional boards and organizations is encouraged and supported by the department's P+T and Salary and Merit policy.

**5.4.2** Demonstrate that it has an Architect Licensing Advisor who is actively performing the duties defined in the NCARB position description. These duties include attending the biannual NCARB Licensing Advisor Summit and/or other training opportunities to stay up-to-date on the requirements for licensure and ensure that students have resources to make informed decisions on their path to licensure.

**Program Response:**

Assistant Professor Daniel Overbey, AIA, NCARB, LEED Fellow, WELL AP, is the Architectural Licensing Advisor (ALA) for our programs. He is also the faculty advisor for our active AIA chapter. A tenure-track faculty in the third year of his tenure was previously a part-time faculty the past few years in the Department of Architecture while being a Project Manager at Browning Day Mullins Dierdorf Architects in Indianapolis. To maintain his currency in the profession, he will maintain connections with practice as Director of Sustainability at BDMD to support his scholarship and teaching efforts in areas of professional practice and sustainability. Dan participates in the NCARB Licensing Advisors' Summit every other summer and the Region 4 NCARB Educators symposium at Ball State University (October 2019). Dan is the point person for advising our students in their third, fourth, and fifth years of the B.Arch program as they transition into the profession. He also advises students to register for the Architectural Experience Program (AXP), take the Architect Registration Examination (ARE), discusses pathways toward obtaining an NCARB Certificate, and other provides addition guidance to students for their professional development.

Assistant Professor Overbey served as the 2017 President of AIA Indianapolis and, through his position at that time, formalized a Ball State liaison position on the AIA Indiana Board of Directors (a position that the Chair of the Department currently holds) in order to cultivate better communication channels between CAP and AIA. Currently Dan is the president-elect of AIA Indiana. He also continues to serve in a leadership role with the AIA Indiana Committee on the Environment (COTE) and Legislative Committee, where he has been influential in substantive advocacy efforts and legislative changes for the state of Indiana. Additionally, Dan has provided education for hundreds of

architectural professionals through local and regional AIA presentations on current priorities within the profession. He is an exemplary liaison between our students and the profession.

#### **5.4.3 Demonstrate that faculty and staff have opportunities to pursue professional development that contributes to program improvement**

##### **Program Response:**

##### **Travel in Support of Scholarship**

This is distributed from the college to the departments and is in support of faculty development in their areas of research and creative endeavor. Going back to 2019-2020 (last AY of real travel), the department's travel expense pool was \$28,019 which, on average, provided tenure-track faculty approximately \$1,500 of travel support, and provided tenured faculty approximately \$750 of travel support. It is a limited amount that remains an area of concern with faculty as the registration fees and associated expenses for professional and academic conferences generally exceeds these amounts. The department and college are trying to find other avenues for support of faculty travel associated with their scholarship. Full-time contract faculty can apply to the Provost's office at the beginning of each semester for travel support funding.

##### **Faculty and Staff Professional Development Opportunities**

Continuing Education credits necessary for professional licensure in architecture are consistently available through the CAP Guest Lecture Series. Many licensed architects on the faculty also take advantage of the monthly AIA chapter meetings in Indianapolis (typically meetings are located in the CAP INDY facility) where learning unit presentations are offered. The Provost's office oversees a comprehensive list of [faculty services](#), many of which support faculty development. Additionally, see Section III, page 231 of the [2019-2020 Faculty and Professional Personnel Handbook](#) for other university-wide development opportunities including publication support, further education support, special leave with pay detail, support for course/workshop attendance, supplemental support of faculty travel, faculty research grants, faculty creative arts grants, and faculty creative teaching grants. Human Resources provides faculty and staff access to ongoing [learning and development](#) courses.

##### **Immersive Learning Grants**

Immersive learning projects that "that blends [faculty + student] interests and educational focus with societal needs" are part of Ball State's defining ethos. The university's [Office of Immersive Learning](#) coordinates access to support for these educational opportunities. All full-time faculty can apply to receive support for student [immersive learning projects](#); faculty in the Department of Architecture often receive this. Immersive learning "brings together interdisciplinary, student-driven teams guided by faculty mentors to create high-impact learning experiences" that connects with community partners. Through these courses, students earn credit for working collaboratively with businesses, nonprofits, and government agencies to address community challenges.

##### **New Faculty Development Opportunities**

All new full-time contract and tenure-line faculty go through [faculty orientation](#) prior to the start of fall semester. Additionally, the university requires all new tenure-line faculty to receive a course release in their first year's loading to support their participation in the [New Faculty Academy](#), supported by the Provost's office. The New Faculty Academy, now in its fifth year, is a program established to help ensure a productive and enjoyable start to an academic career at Ball State University. All new tenure-track faculty participate, throughout the fall semester, in weekly sessions facilitated by a team of faculty mentors. The program is inspired by a community of practice model; it has as its goal to deepen knowledge and expertise through reciprocal mentoring, mutual exchange of ideas, and joint engagement in practice. Specifically, the participants and the facilitators work to build and enhance their student-centered pedagogies, develop and exchange research/creative project agendas that will lead to high productivity in alignment with tenure and promotion goals, imagine and articulate ways university resources can assist in all aspects of faculty work, and collectively identify and address barriers to faculty success. Throughout the process, this "community of practice model shapes collegial relationships across campus, sparking engagement and reducing isolation." No new tenure-line faculty have left the Department of Architecture in the last six years.

**Internal Grants**

Ball State University's [Aspire Internal Grant Program](#) provides access to newer faculty, professional personnel, and students to support projects in the areas of research, scholarly studies, and creative endeavors. Aspire awards advance the goal of ultimately seeking sponsorship from external funding agencies. Funds awarded through the Aspire competitions are open to Faculty, Professional Staff, and Students. The department's tenure line faculty have all received support from this program.

**Faculty Undergraduate Research Grants**

The Office of Immersive Learning and Sponsored Projects Administration support faculty engaging undergraduate students in student-driven research projects through the [Teacher-Scholar Research Grant](#) opportunity. Additional internally supported faculty support grants are identified here.

**Presidential Initiatives.**

In 2015, the former university president awarded \$4.2 million for 16 [Academic Excellence Grants](#) to support student learning, community outreach, and research. Three Department of Architecture faculty (Harwood, Swartz, Shimizu) received one of these awards in support of community oriented programming initiatives located in MADJAX - a community Makers Hub - to link university and community.

The current administration recently initiated another competitive funding request for proposals for the [President's Strategic Imperative Fund](#). This fund is designed to support faculty led initiatives that advance the university's Strategic Plan. Department faculty have submitted three pre-proposals to this funding call.

As a whole, the Department of Architecture faculty are highly engaged, active, and productive in a broad swath of research and creative work as conveyed in the Faculty one-page CV's.

**5.4.4** Describe the support services available to students in the program, including but not limited to academic and personal advising, mental well-being, career guidance, internship, and job placement.

**Program Response:**

Through the Office of the Vice Provost for Academic Affairs, the university offers substantive academic [student support services](#) in support of each student's academic success. This includes resources connecting students to academic advising tutoring, writing assistance, and support provided by the [Learning Center](#). An overview of university support services for students' non-academic needs is available under the umbrella of [Campus Life](#) and includes access to resources for student including the health center services, counseling, and campus safety. The [Office of Disability Services](#) supports the success of students with disabilities. The [Office of Student Life](#) connects students to scholarships, cultural events, student organizations, and student leadership opportunities. [The Career Center](#) connects students with employment opportunities and provides assistance in the job interviewing processes.

All Freshmen take a two-day university orientation over the summer prior to their first fall on campus. All architecture undergraduates have a dedicated Academic Advisor (Julie Maugherman) assigned to them; she is instrumental in her work with students to keep them on track for degree completion. Her office, convenient to all architecture students, is on the fifth floor of the Architecture Building in AB508. The College of Architecture and Planning's Professional Initiatives staff member (Tracy Hendricks) organizes an annual [Job and Internship Fair](#) every spring semester. The [list of attendees](#) from the past two years is also available on our website.

The [Office of Admissions](#) publishes annual tuition and room and board rates. In-state undergraduate tuition and fees total approximately \$10,000 per academic year; out-of-state undergraduate tuition and fees is approximately \$26,000. Room and board for an academic year is also approximately \$10,000



for all students. Roughly 80% of undergraduate students receive [financial aid](#) with the average aid award of \$5,000. In addition to [university scholarships](#), the College of Architecture and Planning and the department also have [scholarships](#) to support architecture students. A Scholarship Task Group in the department oversees the award process of these scholarships.

Two industry supported year-level design competitions (end of second year – Indiana Hardwood Lumberman's Association; end of third year – MKM Design Competition) award scholarship funds to selected students who are identified through a jury process. The Estopinal Design Prize is a monetary award recognizing the best work in the students' final semester in the 5-year Bachelor of Architecture program. Another corporate sponsor, Cripe Architects and Engineers, supports the comprehensive design studio in the graduate professional Master of Architecture program.

### **Department Support for Student Attendance at Conferences**

The department also supports student engagement in professional and educational experiences such as AIAS events, AIA Indiana Conventions, ACSA national, EDRA, Critical Mass, Race to Zero, and ASHRAE to name a few. This support is primarily through sponsorship of registration fees and travel expenses. Optional enhancement opportunities for our students provide exposure to diverse professionals through scheduled monthly lunchtime presentations and discussions between students and professionals (alumni and other) interested in sharing their professional experiences and trajectory.

The department provides financial support to students who are involved in conference presentations or national competitions. During the last five years, this has included funding for student travel, lodging, and registration for the following:

- **ASHRAE Lowdown Showdown**, 2019 in Denver – travel support for M.Arch student + recent grad
- **NOMA** conference (university support) – previous three years
- **NOMAS** Design Competition (departmental and college support)
- **NCMA** (National Concrete Masonry Association) Unit Design Competition
- **AIAS Grassroots** (all years)
- **AIAS Forum** (all years)
- **AIA Regional Conference** student design “hackathon” competition – 2019 in Cincinnati, OH
- **ACSA National** 2018, Denver (with Professor Pam Harwood) – paper presentation on design build
- **Community Built Association**, 2018 in Clemson – presentation (w/ Prof. Pam Harwood) – design build studio
- **Race to Zero** 2017, 2018, 2019, 2020, 2021 (now **Solar Decathlon Design**) Competition, Golden Colorado (with Assistant Professor Dr. Tom Collins, Professor Walter Grondzik, Assistant Professor Dan Overbey)
- **Critical Mass** 2016, 2017, 2018, 2020 – one graduate student participant, UNC – Charlotte, NC
- **AIA Leadership Conference** (Indianapolis) travel support and registration - ongoing
- **ASHRAE National Conference** – attendance, Luke Kamp, 2017

### **Student Technology Support**

Graduate assistants are assigned to assist undergraduate students in digital fabrication projects. They review model geometries for completeness and schedule use of the machines. Architecture students at Ball State are encouraged to understand the processes of digital fabrication and are engaged in the process. Additionally, the department hires upperclassmen as “software mentors” to assist beginning students in their acquisition of technology skills. The software mentors are available in the fabrication lab from Sunday through Thursday evenings from 7:00 to 10:00 PM.

## **5.5 Social Equity, Diversity, and Inclusion**

The program must demonstrate its commitment to diversity and inclusion among current and prospective faculty, staff, and students. The program must:



**5.5.1** Describe how this commitment is reflected in the distribution of its human, physical, and financial resources.

**Program Response:**

- Salaries of hires are equitable.
- If inequities identified, salary adjustments are applied through the Dean of the college.
- Hiring based upon qualifications.
- Strategic advertising to diverse groups supported by university and department.
- HR assesses pool of candidates from diversity perspective.

**5.5.2** Describe its plan for maintaining or increasing the diversity of its faculty and staff since the last accreditation cycle, how it has implemented the plan, and what it intends to do during the next accreditation cycle. Also, compare the program's faculty and staff demographics with that of the program's students and other benchmarks the program deems relevant.

**Program Response:**

Since the last APR (2013), the demographic of the faculty and students, has slowly changed mostly in terms of gender. All searches within the last 4 years have been assessed as excellent in their "diversity" of applicant pools by Ball State Human Resources metrics.

To encourage diverse applicant pools, the department requests ads for faculty positions to be placed in:

- Academic Women (automatic) – No additional cost – negotiated contract
- Circa (automatic) - No additional cost – negotiated contract
- Chronicle of Higher Education (automatic) – No additional cost – negotiated contract
- Diversity Work (automatic) – No additional cost – negotiated contract
- Diverse Issues in Higher Ed (automatic) - no additional cost; negotiated contract
- HERC (automatic) - No additional cost – negotiated contract
- Higherjobs.com (automatic) - No additional cost – negotiated contract
- Hispanic Outlook - no additional cost; negotiated contract
- HACU - no additional cost; negotiated contract
- Indeed.com – No additional cost
- University Jobs (automatic) – No additional cost – negotiated contract
- ACADIA
- NOMA
- Pink Jobs
- Velvet Jobs
- ACSA

Charts below indicate the changing demographics of full-time department faculty based upon gender and rank between the previous APR 2013 and this 2021 APR.

2013	total N	% female	% male	2021	total N	% female	% male
Professor	15	0.00%	100.00%	Professor	10	30.00%	70.00%
Associate Professor	8	37.50%	62.50%	Associate Professor	5	40.00%	60.00%
Assistant Professors	3	66.66%	33.34%	Assistant Professors	8	12.50%	87.50%
Full-Time Contract	6	16.67%	83.33%	Full-Time Contract	8	50.00%	50.00%

**5.5.3** Describe its plan for maintaining or increasing the diversity of its students since the last accreditation cycle, how it has implemented the plan, and what it intends to do during the next accreditation cycle. Also, compare the program's student demographics with that of the institution and other benchmarks the program deems relevant.

**GOAL 5: INSTITUTIONAL AND INCLUSIVE EXCELLENCE**, of the [University Strategic Plan](#) is, "We will create and sustain an institutional infrastructure that effectively supports progress in achieving the inclusive excellence goals outlined in the University's strategic plan. Ball State's systems, policies, and

*procedures will facilitate **diversity**, inclusion, transparency, and accountability. We will evaluate, revise, and communicate changes in policies and protocols that will facilitate reports of bias and discrimination, improve clarity, provide transparency, promote fairness, and enhance accountability.”*

In 2021, the university built a new [Multicultural Center](#) in the heart of the campus in an effort to enhance diversity and inclusion of underrepresented student populations. The Center provides programs and services that address the contributions of underrepresented student populations such as: [Unity Week](#), [Workshops](#), [Mentoring Programs](#), [Events](#), [Student Organizations](#), and the [Lavender Door](#).

In addition to the Multicultural Center, the university also has an [Office of Inclusive Excellence](#). This office is dedicated to the recruitment, retention, and celebration of diverse faculty, staff, and students in regards to worldviews, identities, and experiences through the development and implementation of strategies that support diversity and inclusion. [2019-2024 Inclusive Excellence Plan](#) developed by the Office of Inclusive Excellence.

By Fall 2020, the R. Wayne Estopinal College of Architecture and Planning had established an Inclusive Excellence Task Force who partnered with the [Peace Learning Center](#) (PLC) of Indianapolis to offer their [Implicit Bias Workshop](#) to: 1) identify and own implicit bias(es) and overt bias(es); 2) how this connects to being a gatekeeper (person with power); and 3) self-reflection about how this can inform/influence actions and interactions with people. 56% faculty and staff attended the inaugural session and additional sessions were provided to obtain additional participation.

The department professional programs have received state permission to list our programs under the DHS-approved STEM CIP designation in Architectural and Building Sciences/Technology. This will potentially incentivize international student interest in our programs (increasing diversity of student cohorts) as program graduates can then apply for 2-year extension of their OPT (Optional Practical Training).

Plans to advance our pursuit for increasing the diversity of our student body were generated in spring 2021 by department faculty, staff, and students (Chair's Student Council). Starting with the department's intention to finish the departmental Inclusive Excellence Plan (anticipated 21-22 AY), proposed planning initiatives and proposals include:

- Connect with the Division of Marketing and Communications to more accurately represent our shared value for inclusive excellence in all marketing material
- Engage alumni in recruitment efforts of minority students
- Discuss curricular alignment, student learning objectives, and transfer paths with 2-year community colleges; explore/establish Articulation Agreement with 2-year programs for either/both undergraduate or graduate professional programs
- Establish mentoring partners for students – upper level students and/or our professional colleagues and/or alumni for students and for graduates in licensure process
- Analyze reasons/issues that impact minority student academic success (i.e., financial; cultural) and formulate plan to address issues.
- Strengthen/develop connections with K-12 schools (Muncie + Indianapolis).
- Explore opportunities in our excellent travel learning programs for diversity awareness and diverse student recruitment.
- Involve our students in outreach work – emissaries to their prior school as part of (ARCH 320) **Introduction to Professional Practice** and (ARCH 520) **Introduction to Professional Practice**.
- Establish monthly departmental newsletter for students to coalesce student accomplishments and identify scholarship and employment opportunities.
- Distribute a Campus Climate Survey and use the results to create benchmarks for improvement;
- Finalize CAP Inclusive Excellence statement.
- Support an ONGOING social climate assessment survey
- Continue to support NOMAS efforts (film series)

- Develop Diversity, Equity and Inclusion posters with statements that reflect CAP culture of accountability and support for equity and inclusion.
- Establish consistent slot in college lecture series to include diverse speakers and social justice topics each semester.
- Sponsor/support digital exhibits that focus on topics related to diversity and inclusion
- Sponsor/support/develop exhibits for the CAP gallery

Additional goals:

- ADA assessment report - represent a risk to the institution.
- Identify “safe” places in building where people always feel welcome.

#### Student Demographic in professional architecture programs:

##### RACIAL/ETHNICITY:

2021 BSU- graduate student profile		2021 BSU M.ARCH Programs (combined)	
DIVERSITY	%	%	N
American Indian or Alaskan Native	0.10%	0.00%	0
Asian	2.80%	1.61%	1
Black or African American	7.10%	3.23%	2
Hawaiian or other Pacific Islander	0.20%	0.00%	0
Hispanic	8.10%	6.45%	4
Non Resident Alien	3.30%	17.74%	11
Two or More Races	2.40%	4.84%	3
Unknown	1.50%	3.23%	2
White	74.50%	62.90%	39
Total	100.00%	100.00%	62

2021 BSU- undergraduate student profile		2021 BSU B.ARCH Program	
DIVERSITY	%	%	N
American Indian or Alaskan Native	0.10%	0.00%	0
Asian	1.70%	3.61%	11
Black or African American	9.10%	7.21%	22
Hawaiian or other Pacific Islander	0.10%	0.33%	1
Hispanic	6.50%	11.48%	35
Non Resident Alien	0.70%	0.33%	1
Two or More Races	3.70%	3.28%	10
Unknown	1.40%	0.66%	2
White	76.60%	73.10%	223
Total	100.00%	100.00%	305

## GENDER

2021 BSU- graduate student profile			2021 M.ARCH Programs student profile		
female	4,343	76.40%	female	27	43.55%
male	1,296	22.80%	male	35	56.45%
undisclosed	46	0.80%	undisclosed	0	0.00%
total	5685	100%	total	62	100.00%
2021 BSU- undergrad student profile			2021 B.ARCH Programs student profile		
female	8,370	60.90%	female	118	38.69%
male	5,366	39.00%	male	187	61.31%
undisclosed	13	0.10%	undisclosed	0	0.00%
total	13,749	100.00%	total	305	100.00%

**5.5.4** Document what institutional, college, or program policies are in place to further Equal Employment Opportunity/Affirmative Action (EEO/AA), as well as any other social equity, diversity, and inclusion initiatives at the program, college, or institutional level.

### Program Response:

Ball State University's commitment to equity, diversity, and inclusion is embodied in the [Inclusive Excellence Plan](#), a plan that is communicated to all current (and prospective) faculty, students, and staff. The university's pursuit of equity and inclusion is evident throughout all facets of the institution and is also a pillar of the new Strategic Plan for the university. The university Statement on the Importance of Diversity and Inclusion on page 88 of the [2019-2020 Faculty and Professional Staff Handbook](#) conveys the institutional values in this regard: *"Ball State University aspires to be a university that attracts and retains a diverse faculty, staff, and student body. Ball State is committed to ensuring that all members of the campus community are welcome through our practice of valuing the varied experiences and worldviews of those we serve. We promote a culture of respect and civil discourse as evident in our Beneficence Pledge."*

The effort to establish and promote an inclusive culture in the university is led by the [Office of Inclusive Excellence](#) and is advanced by daily events; faculty lunchtime conversations focusing on diversity strategies for the classroom; guest lectures; seminars and workshops; faculty mentorship of other faculty and students; financial support for diversity initiatives; student scholarships; as well as a Diversity Associates Program that supports faculty research in the areas of race, ethnicity, socioeconomic status, national origin, disability, gender, sexual identity, age, and/or religious viewpoints. The university is currently building a new Multicultural Center next to the main library, and actively supports many diverse [identity-based student organizations](#). Ball State received the [2017 HEED Award](#), the only national honor recognizing U.S. colleges and universities that demonstrate an outstanding commitment to diversity and inclusion.

### Inclusive Excellence Policies + Procedures (University, College, Department)

Ball State is committed to nondiscrimination and equal opportunity in education and employment Ball State University. The EEOC policy is on page 98 of the [Faculty and Professional Handbook](#). Procedures for achieving equity and diversity in faculty and staff hiring, appointments, compensation, and promotion, is affirmed by CAP and the department and we are assisted always by the staff and Director of Employee Relations and Affirmative Action in all position vacancy searches. The department makes concerted effort to advertise positions in a variety of architectural publications to enhance diversity of applicant pool. These efforts will maintain, or ideally *increase*, the diversity of faculty, and staff. Recent hiring has begun to manifest this pursuit; we keep working. Additionally, Goal 5 of the current university [Strategic Plan](#) affirms the university's commitment to inclusive excellence. In 2018, the College of Architecture and Planning initiated an CAP Task Force on Inclusive Excellence to address issues of equity, diversity and inclusivity for students, faculty, and staff in the college; this work is on-going.

**5.5.5** Describe the resources and procedures in place to provide adaptive environments and effective strategies to support faculty, staff, and students with different physical and/or mental abilities

**Program Response:**

*Ball State University strives to strengthen our community through inclusive excellence by working to eliminate barriers to four current and prospective employees, students, and visitors.*

Services and Resources for employees, students and visitors may be found on the [Accessibility](#) webpage. **Employees and Staff** with disabilities need to contact the Human Resources Coordinator of ADA and Leave Administration Programs. The university will provide reasonable accommodations to enable them to successfully perform the essential duties of their jobs. The 2021-2022 [Faculty and Professional Personnel Handbook](#) p. 91 addresses the Equal Opportunity and Affirmative Action Policy as it relates to disabilities. The Office of Disability Services for students, p. 270. More could be said about services and resources for faculty and staff with disabilities.

**Students** with disabilities need to contact the [Office of Disability Services](#) for accommodations and resources. Services that are available depend on the nature of the disability (i.e., autism, chronic, hearing, learning, mobility, psychological, temporary, visual). Faculty are asked to include the following statement on their course syllabus: *"If you need course adaptations or accommodations because of a disability, please contact me as soon as possible. Ball State's Disability Services office coordinates services for students with disabilities; documentation of a disability needs to be on file in that office before any accommodations can be provided. Disability Services can be contacted at 765-285-5293 or [dsd@bsu.edu](mailto:dsd@bsu.edu)."*

In 2020, Ball State earned top-10 national ranking as a 'wheelchair friendly college' by [New Mobility](#) magazine. Key indicators used were the percentage of accessible buildings, and the integrated housing options, as well as personal assistance programs, adaptive sports and recreation opportunities, accessible on-campus transportation, and adaptive computer labs. Services include personal aides to help students in labs and on field trips if needed, helping with navigation campus in inclement weather, advising where to receive physical therapy services, and connecting them with off-campus wheelchair repair services.

## **5.6 Physical Resources**

The program must describe its physical resources and demonstrate how they safely and equitably support the program's pedagogical approach and student and faculty achievement. Physical resources include but are not limited to the following:

### **5.6.1** Space to support and encourage studio-based learning.

**Program Response:** Architecture Building

The [Architecture Building](#) is the college's primary physical resource and houses all the college's degree programs with the exception of the recently added Construction Management and Interior Design Department (they remain in their previous location in the Applied Technology building, a short walk away). The Architecture Building is accessible 24 hours a day to students and faculty when the university is in session. As the academic home for our students and faculty, the facility includes unique features and spaces in addition to offices, conference rooms, and classrooms. A large five-level glass-walled atrium offers settings for exhibits, special events, and informal meetings among students and faculty in a pleasant lounge atmosphere of plants and comfortable furniture. The 25 studios, where students have their own areas for design and graphics courses, are the hub of activity.

The "Architecture Building" (AB), excluding the contiguous Center for Energy Research, Education, and Service, constitutes a total area of 70,000 square feet, 22,000 square feet of which are dedicated to studio space. Constructed in two phases beginning in 1972 (tower) and 1982 (studio bar + atrium) there have been a few modifications to the physical space of the building since phase two was completed. One renovation that recently occurred roughly ten years ago was the addition of the CNC + Robot lab in the basement on the north side of the building adjacent to the loading dock area. More recently, Summer 2018, a \$1.3 million renovation was undertaken to provide more collaborative



learning and review space. The building serves the needs of all programs effectively. The building is overseen by the college, and none of the departments has exclusive claim to any part of it. In any given semester, approximately three-fifths of the available space in the building is dedicated to the use of architecture programs and personnel.

**Program Response: Ball State CAP: INDY**

The [Ball State CAP: Indy Center](#) offers “educational opportunities for students and professionals, assisting neighborhood and community groups through outreach assistance, and supporting initiatives that improve the quality of life in central Indiana.” The center provides a rich interdisciplinary context for CAP’s programs in architecture, construction management and interior design, historic preservation, landscape architecture, urban planning, and urban design. The mission is “to be a catalyst for recovering and redefining the experience of urban places, in order to build livable cities, models for sustainable urban life.”

One academic year of the M.Arch program, students reside in Indianapolis and take all required core curriculum courses of the first year Track 1 and the second year Track 2 program at the Ball State CAP: INDY Center. The city of Indianapolis offers M.Arch students an ideal laboratory as a place to live, work, and learn. The Center is located in the Near Eastside on the historic 1811 National Road (Washington Street). Housed in a load bearing masonry, timber frame structure that was originally a mirror glass factory built in the late 1800s, the building was part of a major adaptive reuse renovation project by local start up home services advisor Angie’s List in the early 2000’s. In 2018, Angie’s List consolidated and relocated to a downtown location and the ex-CEO of Angie’s List reacquired the east-side Angie’s List campus to create a mixed-use collaborative community, home to everything from up and coming technology companies to learning institutions such as the Ball State CAP: INDY Center. This history is important as we work with students pedagogically to build relationships with the community residing and working in the rapidly changing Near Eastside. During the year, students collectively consider architectural issues related to urban life, health and wellness through their personal lived experiences within the community, and we seek to address societal issues that impact the well-being of all through our studio and seminar design work.

The Ball State CAP: Indy Center facility is ideally suited for our explorations and design investigations in the Near Eastside of Indianapolis. The physical resources of the CAP: Indy Center include a large open studio space shared with Master of Urban Design students, three well-appointed small collaborative classroom spaces with three new larger classroom spaces under construction, a lecture style classroom, a collective faculty office “huddle space”, a staff and director’s office, a kitchen and eating social space, and a large event space used for professional and community gatherings. The center also has a laser cutting and 3 d printing lab and printing and plotting area for student use. We established a woodshop in a building across our parking lot in 2020. This shop with table saw, planer, jointer, band saw, drill press, and hand tools has been a great addition to our physical resources at the CAP: Indy Center.

**5.6.2** Space to support and encourage didactic and interactive learning, including lecture halls, seminar spaces, small group study rooms, labs, shops, and equipment.

**Program Response:**

All students enrolled in the college’s programs are assigned a dedicated desk and locker for their use. Capacity indicated on the floor plans in this section are determined by existing furniture dimensions/. Capacity can increase with different furniture footprints – something the college is exploring currently. The Lecture Hall (AB 100) can be connected with two adjacent instructional areas for a capacity of approximately 215 people and is where CAP’s Guest Lecture Series is typically held. The primary classrooms (AB 210, 310, 410 and 101), typically hold up to 42 students; AB 101 holds 60 people; other rooms are available to use as instructional class rooms but are not restricted to that use (meetings and seminars also occur in these spaces). Collaboration space exists within studios as well as the main multi-story atrium. The atrium also houses an social area on the second floor with vending machines located in the basement. Student organization offices are located on the fifth floor.

In addition to studio spaces, the college features a wide variety of shared support facilities for teaching, learning, research, and service. In addition to college facilities, students and faculty benefit from other university units located in the Architecture Building, such as the [Center for Energy Research Education and Service \(CERES\)](#), the [Architecture Library](#), the [Drawing and Documents Archive](#), and the [Institute for Digital and Intermedia Arts \(IDIA\)](#). Other dedicated spaces include the CAP [Wood Shop](#), [Digital Fabrication Labs](#), [Computer SIM Lab](#) (for VR simulation), [Historic Preservation Lab](#), and [Design Build Lab](#) (catty-corner from CAP to the northwest). The [Communication Resource Center](#) provides student, faculty, staff, university, and local community access to printing and making resources.

The dedicated [CAP Exhibition Gallery](#) (1522 s.f.) is located adjacent to the building's front entry with additional exhibit and pin-up areas throughout the main atrium and public circulation paths. Additional pin-up space for design reviews exists in all classroom areas. Similarly, the display of work in public spaces occurs in all the hallways throughout the building with each department and the Dean's office having dedicated tack space for the public display of work.

## **PHYSICAL RESOURCES DETAIL: CAP MANAGED RESOURCES**

### **Wood Shop and Laser Fab Lab - AB 029 and AB 031**

The wood shop and laser lab are available for student and faculty use and operate as sister facilities with the digital fabrication lab. All first-year undergraduate CAP students are introduced to the Wood Shop through a series of training and education modules. The shop contains an array of large woodworking tools and other heavy equipment for physical construction projects. Hours and guidelines for use are posted in the facility and on the CAP website; Judy Kreiger is the Digital Fabrication Technician that oversees both laser lab and wood shop. The Wood Shop and Laser Lab are also both staffed by graduate assistants and student employees. Most portable equipment and tools are available for check-out and use outside of the shop on a 24-hour basis. All first-year CAP students participate in shop training sessions to familiarize them with tool operation and safety procedures. [Policies](#) are communicated once a year to all students.

The College of Architecture and Planning's wood shop contains equipment for working with wood, plastics, glass, and many other materials. Equipment includes woodworking machines, 8" jointer, 20" planer, belt sanders, the SawStop table saw with technology that can detect contact with human flesh and prevent injuries, a sand-blasting cage, hot-wire foam cutters, vacuum forming machines, and band saws.

The full-time Digital Fabrication Technician oversees the use of the equipment in the area and assists students with model building and special creative projects for CAP's hands-on courses. Additionally, the Digital Fabrication Technician employs a number of student attendants to help provide Wood Shop and Laser Lab patrons with the support and assistance they need.

The Laser Lab includes four Universal Laser Systems, solid-state CO2 laser cutters. These machines are extremely useful for etching patterns and cutting two-dimensional shapes from vector artwork into a wide variety of thin materials such as chipboard, cardstock wood, Delrin, stamp rubber, and acrylic.

One of these machines has a bed size of 18" x 24" and the other three have an 18" x 32" bed. They can typically process materials up to 1/4" in thickness. Powering these machines are several workstations on which CAD, Rhino, Illustrator, and drawing software are installed.

### **2020 - 2021 Schedule – anticipated**

<b>WOOD SHOP</b>		<b>LASER LAB</b>	
Monday –	10 AM to noon	Monday -	10 AM to noon
Thursday	+ 1 PM - 5 PM	Thursday	+ 1 PM - 10 PM
	+ 6 PM - 9 PM		



Friday	10 AM to noon + 1 PM - 5 PM	Friday	10 AM to noon + 1 PM - 5 PM
Saturday	CLOSED	Saturday	CLOSED
Sunday	4 PM – 8 PM	Sunday	3 PM – 10 PM

At mid-semester and end of semester, hours are increased for one to two weeks each time typically.

### **CAP FABLAB DFAB Facilities**

#### **CNC, and Robotics Lab (AB 032)**

The CAP CNC and Robotics Lab houses advanced manufacturing equipment, including an industrial-grade Thermwood CNC mill as well as a KUKA industrial, six-axis robotic arm.

The CNC mill uses a powerful electric motor mounted on a moving robotic gantry to cut or carve both two- and three-dimensional shapes using a variety of rotary cutting tools.

Sheet materials up to 4'x8' such as plywood, MDF, acrylic, HDPE and LDPE plastics, and all manner of closed and open-cell foam can be carved easily on this machine. The CNC mill is available to students by arrangement with the Digital Fabrication Services Manager working with graduate assistants trained to run the equipment.

The KUKA robotic arm is primarily a research tool and is used by students in the context of classes or graduate research work. It is capable of fabrication tasks ranging from milling with greater degrees of freedom than the CNC mill to hot-wire foam cutting, but it is also being used for design- and materials- research, including experimental 3D printing. Due to its additional degrees of freedom, it is more complex to program, so its use is always supervised by a trained faculty member.

Software: GAs use Rhino and RhinoCAM to set up jobs for the CNC mill. Both RhinoCAM and Mastercam are available to interested students on select computers in the Architecture Library and the Sim Lab. The robot is programmed using tools including RoboDK, Octopuz OLP and the KUKA|prc plugin for Rhino/Grasshopper, which are available to students through the faculty member associated with their class or through the Digital Fabrication Services Manager.

Digital Fabrication Services Team: Since CAP is home to digital fabrication equipment that requires various degrees of training to operate, a Digital Fabrication Services Team, consisting of the Lab Manager, graduate assistants (GAs), and student hourly workers, exists to ensure the equipment is maintained and available to students in a safe and consistent fashion. The [FABLAB DFAB](#) website provides instructional resources for students on file do's and don'ts as well as sign-up instructions.

The student workers are trained to operate the equipment and to run daily operations that include staffing designated consultation hours and handling incoming service requests. During consultation hours, which are held in the 3D Print Lab for 2 hours each day, GAs assist students with preparing their projects for milling or 3D printing and schedule times to process each project. To prepare projects GAs use software such as RhinoCAM and various proprietary, machine-specific programs. Digital Fabrication Services Manager: Dan Eisinger, 765-285-8843

#### **3D Print Lab - AB 005**

The 3D Print Lab houses most of CAP's 3D printers as well as a small desktop CNC mill. Students have access to this equipment through the Digital Fabrication Services Team during Consultation Hours. The 3D Printing wiki landing site identifies [procedures](#) and resources:

- Makerbot Z18 large build volume, PLA plastic-extrusion 3D printer
- Makerbot Replicator 5th Gen PLA plastic-extrusion 3D printers
- Ultimaker 2+ Extended multi-material, plastic-extrusion 3D printer
- Formlabs Form 2 liquid-resin stereolithography 3D printer and associated post-processing equipment
- 3D Systems ProJet 460Plus gypsum powder-based, binderjet 3D printer

- 3D Systems ZPrinter 450 gypsum powder-based, binderjet 3D printer (in AB 031)
- Carbide3D Nomad desktop CNC mill
- PCs (plus 1 in AB 031) with the proprietary software required to control each piece of equipment housed in the lab

Consultation Hours are held in the 3D Print Lab in AB005 at the following times each week. 2019-2020 AY hours – anticipated to be same for 2021-2022:

Monday: 10 AM – 11 AM and 7 PM – 9 PM

Tuesday: 7 PM – 9 PM

Wednesday: 10 AM – 11 AM and 7 PM – 9 PM

Thursday: 7 PM – 9 PM

Friday: 10 am – 11 AM

### **In-Studio Resources, Ball State CAP: INDY**

Graduate students have access to 3D printers and a laser cutter in the M.Arch studio 24/7 at CAP Indy. The following resources are currently available:

- Makerbot Replicator + 3D Printer

### **Historic Preservation Lab – AB 213**

Undergraduate and graduate students in the College of Architecture and Planning use this contemporary facility to carry out class projects, research, and outreach work in preservation technology, building assessment, material analysis, documentation, and digital 3D modeling of historic sites and buildings. Located on the 2nd floor of the Architecture building and integrated with the Preservation Studio, this laboratory includes, digital microscopes, drying kilns, dedicated computers, material testing equipment, survey equipment, and field kits for on-site building investigation

### **Paint Room - AB 028**

This facility is outfitted with a spray booth, hood, and fume exhaust system, and is the only facility in the building where paint and spray adhesive may be used.

### **Digital Simulation Lab – “SIM Lab” - AB 023**

The College of Architecture and Planning's Digital Simulation Lab (SIMLab) provides a state-of-the-art environment for creating stereoscopic 3D design presentations and virtual reality projects. The SIMLab technologies are available to both graduate and undergraduate students for high-end visual analysis of their design work. Our virtual reality infrastructure is currently used in a variety of internal and external research projects, commissions, and international competitions. The lab also offers facilities for funded contracts in collaboration with public and not-for-profit corporations. SIM Lab provides opportunities for CAP faculty and students to work in collaboration with practitioners on real-life architecture, landscape architecture, interior design, construction management, urban planning, design or historic preservation projects. The lab creates for its clients a digital proving-ground for cultural heritage, historic preservation and environmental studies including potential for considerations such as thermal, solar, acoustical, or structural simulations of proposed projects. Typical contracts team CAP faculty and students with lead designers or planners in national and regional firms. Faculty and student teams can provide design studies on a wide variety of projects.

The space is divided into two main sections. The front is comprised of Dell and Alienware workstations providing high powered rendering and VR authoring. The meeting area includes a 50" plasma monitor with web connections for webcam conferences. The workstations include industry software such as Maya, Rhinoceros, Visual Nature Studio, and 3D Studio Max. The back room is a stereoscopic 3D Lab with a nearly 14' diagonal rear-projection screen used for larger presentations, as well as a variety of 3D technologies.

Director: John Fillwalk office: (765) 285-7437 or lab: (765) 285-4325

Hours: 9-6 M-F and after-hours by permission.

### **Institute for Digital Intermedia Arts (IDIA) - AB 021A**

The Institute for Digital Intermedia Arts (IDIA Lab) at Ball State University explores the intersection between the arts, sciences, humanities with technology. Scholarly, creative and pedagogical projects investigate virtual reality, human computer interface (HCI), augmented reality, mobile apps, visualization and 3D simulation. IDIA Lab studios were initially incubated through the Eli Lilly Endowment's Digital Media Initiative as part of two generous grants to the university. IDIA Lab's research facilities include five distinct labs – IDIA Lab, CAVE Lab, Dome Lab, HCI Lab, and Sim Lab – all working in concert with the recently formed Digital Scholarship Lab (DSL). The labs' faculty, staff and students develop projects in partnership with a cohort of international clients in this innovative initiative that investigates the forefront of emergent design and learning. Facilities include the IDIA Lab for multiuser VR, animation, mobile and screen based solutions; HCI Lab for Human Computer Interface custom electronics, sensor and software solutions; DOME Lab, spherical Fulldome and Planetarium projects; and SIMLab for immersive Head Mounted Display (HMD) and CAVE VR projects.

Director: John Fillwalk (office: 285-7437 or lab: 285-4325) Website: <http://idiarts.org/>  
Hours: 9-6 M-F

### **Communication Resource Center (CRC) - AB 011**

The CRC is managed by the College's Design Resources Manager, and is staffed by student employees. Plotters, scanners, and printers with associated workstations are readily accessed by students, faculty, staff and members of the community.

These include in 2020-20201AY:

- **Printers – large format**
  - HP PageWide XL5000
  - HP Designjet Z6200
  - HP Designjet Z5200ps
- **Cost for large format printing**
  - \$0.01 per sq. inch for Bond/Vellum
  - \$0.02 per sq. inch for Glossy/Photo Satin
- **Printers – small format**
  - HP Color Laserjet CP5525
- **Cost for small format printing**
  - \$0.50 for 8.5x11 bond
  - \$0.55 for 8.5x11 cardstock
  - \$1.00 for 11x17 bond
  - \$1.10 for 11x17 cardstock
- **Scanner – large format**
  - WideTEK 36
- **Cost for large format scanning per item**
  - \$0.50 for 100 sq. inches or less
  - \$0.75 for 101 to 500 sq. inches
  - \$1.00 for 501 sq. inches or greater

An array of material and tools are also available in the center for checkout and sale. Sale items include items such as: acrylic, cardboard, chip board, mat board, foam core, museum board, bond sheets, vellum sheets, Mylar sheets, Bristol sheets, watercolor sheets, trace paper, cardstock, transparency sheets, dowels, sketch pads, tapes, pens, pencils, markers, paint pens, scales, glues, portfolio

albums, X-Acto knives/blades, batteries, rulers, paint brushes, correction tape, erasers, pencil sharpeners, page protectors, flash drives, locks, CD-Rs.

The center also offers full-service photocopying and self-serve printing and plotting. Certain studio materials not readily available in local stores are sold in this facility.

Items available for check-out for both faculty and students include:

- (4) 65" smartboards (faculty & staff checkout only)
- 40" monitor with DVD/VCR combination (faculty & staff checkout only)
- Epson portable projectors (faculty & staff checkout only)
- laser pointers (faculty & staff checkout only)
- digital cameras (faculty, staff and student checkout)

Faculty can also check out interactive plasma carts for use in studio reviews. CAP has four 62" portable interactive monitors available for studio presentations and classes throughout the building. The interactive monitors can be used to display design projects for reviews. The drawings can be uploaded to the digital screen, allowing students to forgo plotting their work at times. The interactive monitors are available for checkout from the CRC during its open hours. Only faculty may check them out.

**The CRC hours for 2020-2021 AY are anticipated to be:**

Monday to Thursday: 10:00am – 9:00pm

Friday: 10:00am – 6:00pm

**CAP Design Build Lab**

The CAP DBL is housed in a 90' x 60' free standing building located catty-corner to the College on the northwest corner of McKinley and Petty Aves. This facility contains a reception area, two restrooms, and two office spaces. In addition, the building features the following:

- 19' x 20' classroom / tool room with seating and work tables for 16 to 24 students.
- 18' x 24' metals working / welding area
- 25' x 28' wood working area
- 15' x 15' flexible assembly / staging area

The lab has a variety of hand tools, powered hand tools, as well as stationary tools. The classroom / tool room has surveying equipment, cordless and corded drills, sanders, saber saws, powered hacksaws, powered hand shears, routers, circular saws, powered hand planers, Sawsalls, angle grinders, abrasive cut off saws, etc. The metals area has a pedestal grinder, wire wheel / buffer, horizontal band saw, sheet metal brake, foot powered shear, a plasma cutter, and various types of welders (MIG, TIG, GMAW, Stick), as well as acetylene cutting and welding equipment.

The wood working area has a jointer, planer, table saw, band saw(s), miter saw, shaper, and drill press. The assembly / staging area is available for material storage during the construction and assembly phases of the fabrication process. All of the portable tools and equipment are available for faculty check out for the duration of their project for on-site use. The Design Build Laboratory is maintained by one full time university employee.

Computer numerically controlled equipment includes an Omax Proto Max CNC water jet machine and a Shop Sabor RC4 CNC router.

**DBL hours for 2020-2021 AY are per faculty instructional use.** Any faculty teaching a course has access to the lab WITH students and they act in supervisory role.

**CAP:INDY**

25 N Pine Street, Indianapolis, IN. 46204

An extension of Ball State's R. Wayne Estopinal College of Architecture and Planning, the Ball State CAP: INDY:

- serves as a community resource for neighborhoods, organizations, and local government by providing technical assistance in the planning, design, development, and construction fields through the Center of Civil Design (CCD)
- serves as a hub of engagement for the largest concentration of Ball State alumni, faculty, students, and design, construction, and planning professionals in Indiana
- offers visioning support, planning facilitation, and community outreach, providing students with real-world experience while fulfilling a need in the Indianapolis area
- serves as an urban laboratory for students by facilitating Indianapolis-based studio design projects
- offers graduate-level courses (Master of Urban Design (MUD) and one year of the Master of Architecture (M.Arch) throughout the academic year (see NAAB's Branch Campus Questionnaire at end of this report)
- promotes the value of design and planning in Indiana through conferences, exhibits, and public education

The R. Wayne Estopinal College of Architecture and Planning's Ball State CAP: INDY provides Ball State students the opportunity to experience and help shape the future of Indiana's capital and largest city by taking part in neighborhood planning, community design, and design workshops. The center draws from the rich interdisciplinary nature of Ball State's programs in architecture, construction management, historic preservation, interior design, landscape architecture, urban design, and urban planning. The purpose of the center is to serve as a resource for the City of Indianapolis and beyond through the engagement of students in real-world, immersive learning experiences.

**Ball State CAP: Indy Center hours:**

It is open to students and faculty with digital key cards, 24-7.

It is open to the public M-F 8 AM – 5 PM.

Administrative Contact Information for CAP:INDY:

Associate Professor Joe Blalock, CAP Indy Director

Ball State CAP: Indy Center (317) 829-1025

**PHYSICAL RESOURCES DETAIL: UNIVERSITY MANAGED RESOURCES**

5.6.3 Space to support and encourage the full range of faculty roles and responsibilities, including preparation for teaching, research, mentoring, and student advising.

**Program Response:**

All full-time faculty (and part-time upon request) in the Department of Architecture are provided office space. On the main Ball State campus, architecture faculty offices are located in the 'tower' portion of CAP (the 1972 building) to the west. Faculty indicate regularly scheduled office hours, and office hours by appointment, on syllabi, outlining their availability to meet with students outside of class-time. In CAP Indy, faculty have access to a shared office space. All full-time faculty (both contract and tenure line) are provided a laptop of their preference (Mac or PC). The cycle of replacement is currently every four years for tenure line faculty.

As noted, faculty and students have ready access to library and archives staff through drop-in visits, phone calls, email, and chat (accessed via the University Libraries website and online research guides; see, for example, the [guide for architecture](#)). Staff members respond to inquiries quickly and when a more in-depth interaction is required, will schedule appointments with users for reference interviews (in the case of the library) or arrange for a reference appointment to allow access to the collections or assist in research efforts (in the case of the archive). Faculty work with the librarian, archivist, or visual resources curator to schedule class visits or instruction sessions as needed. Often, as in the case of the research methods courses, these class visits are scheduled to coordinate with a particular phase of the course research assignment.

**Architecture Library AB 116**

The Architecture Library is a branch of the University Libraries and it is managed and staffed by that unit. As part of the University Libraries system, it is available to the entire University community,

alumni, Indiana residents, and other visitors. The Architecture Library collections include books, journals and magazines, DVDs, and the Visual Resources Collection of digital images and building material samples (see more on the Visual Resources Collection below).

Faculty (and students) have access to computers, printers, and scanners in a number of CAP and university facilities including Bracken Library, the main library in the University Libraries system, and the Architecture Library. All workstations are connected to the university's cloud-based printing solution, PrintSmart, and students and faculty may upload print jobs from their own devices to PrintSmart using Mobile Print. Students each have a printing allowance of 600 impressions that renews every semester they are enrolled. Equipment that can be checked out of the library includes flash drives, phone and laptop chargers, and scientific calculators.

**Hardware:**

- (16) Lenovo ThinkStations with dual monitors;
- (7) 11" X 17" flatbed scanners;
- (2) Alienware workstations.

**Software on all computers:**

- Microsoft Office 2019 (including Word, Excel, PowerPoint, Outlook, Access);
- Adobe CS (including Illustrator, Photoshop, Acrobat Pro, InDesign, and Dreamweaver);
- ArcGIS Desktop 10 (and other GIS software);
- AutoCAD 2020;
- Revit 2020;
- Rhino 6

**Software on the Alienware workstations only:**

- 3Ds Max 2019;
- Maya 2018;
- Revit Architecture 2019

**HOURS:**

Monday – Thursday: 7:30 AM – 10:00 PM

Friday 7:30 AM – 6:00 PM

Saturday 9:00 AM – 6:00 PM

Sunday 12:00 PM – 10:00 PM.

Architecture librarian: Amy Trendler (765) 285-5858

**Visual Resources Collection (Architecture Library) AB 117**

The Architecture Library's [Visual Resources Collection](#) is home to the Architecture Building Material Samples collection of innovative, sustainable, and traditional materials. Students and faculty can browse through materials in the collection or search for specific items using the University Libraries' discovery tool, [OneSearch](#). Items in the collection may be checked out for 4 days for use in studio or displayed during student presentations. [Materials Talks](#) at lunch by manufacturing and materials representatives are hosted by the Visual Resources Collection throughout the year.

University Libraries personnel administer the VRC, develop the collections, and assist faculty and students with finding and using images and building material samples. Images in the collection are available online to both faculty and students; samples in the collection may be checked out to faculty or students for four days.

The David R. Hermansen Slide Collection of more than 89,000 slides of images related to architecture, landscape architecture, and urban planning formed the basis of the digital image collection. The collection is named for David R. Hermansen, one of the founding faculty members of the College, who was responsible for the initial development of the Architecture Library and slide collection.



The Visual Resources Collection has two public workstations, one with a slide scanner for faculty members to scan slides from their personal collections, and one with an 11 x 17 flatbed scanner. Both workstations are connected to the university's cloud-based printing solution.

**Hardware:**

- (2) Lenovo ThinkStations with dual monitors;
- slide scanner;
- 11" x 17" flatbed scanner

**HOURS:**

Monday – Friday, 8:00am – 5:00pm

Curator: Bradley Johnston (765) 285-5865

**Drawings and Documents Archive – (Archives & Special Collections) AB 120**

The Drawings and Documents Archive is a unique resource that is dedicated to preserving the history of Indiana's built environment. The collection contains over 130,000 original architectural drawings, landscape plans, photographs, models, and documents that tell the stories of Indiana's buildings, site, and structures. The Archive was started in 1977 to help support the preservation of Indiana's cultural heritage. Its longevity and connection to the Estopinal College of Architecture and Planning has led it to become one of the largest archives in the state that collects items a state-wide level.

The Archive includes both physical and digital collections. Inventories of our physical collections are available by searching the online [database](#) which is both keyword searchable or searchable by geographic location/address. The Archive has [80 collections](#) that consists of architecture, landscape architecture, planning, engineering, and historic preservation resources that support the preservation and revitalization of the built environment. There are also a number of collections that have been fully digitized and can be viewed and downloaded by visiting the online [Digital Media Repository](#).

Instructional Sessions are also offered through the Archive, and these range from a basic overview of the Archive to more in-depth offerings that cover building research methodology and introductions to drawing types and historic reproduction methods.

The primary patrons of the Archive are the students of the Estopinal College of Architecture and Planning. Hundreds of students visit and use the resource of the Archive every year. In addition to this, a consistent patron of the Archive are active practitioners who access the resources of the Archive to help support community revitalization projects. The Archive is also open to the general public.

**The Drawings and Documents Archive hours are by appointment.**

**Center for Energy Research, Education, Service (CERES) – AB 018**

CERES is a university supported Center whose Director, Professor Robert Koester, is a tenured faculty in the Department of Architecture. CERES is "an interdisciplinary academic support unit focused on issues related to energy and resource use, alternatives and conservation...(with a) mission to serve the campus, local, state and regional communities." Facilities within CERES that are accessible to students in the department include two Heliostats, Mirror Box Artificial Sky, Fluid Mapping Table, and environmental measurement devices (air temperature and humidity, light level, noise level, air flow/velocity, and power use) for use under supervision by CERES staff. As mentioned, CERES also supports access to Sefaira energy modeling software for all students in the department.

CERES also manages the Remote Review Facility (RRF - AB 115) that was built as part of the CAP renovation in 2018. The RRF is configured to facilitate and encourage participation in students' design reviews by persons in remote locations. While someone may not have the time, the travel resources or the carbon emissions to spare to make a trip to Muncie they may be to participate online. The setup utilizes multiple cameras and computer source inputs to create an online review environment that



enables alumni and other practicing professionals to participate from their desktops, laptops, tablets and/or smartphones from anywhere in the world with internet connectivity. The setup enhances the experience for remote participants while maintaining the traditional in-person review environment. The conference environment will accommodate multiple remote reviewers as well as participation by local reviewers and an in-person audience of about 25 people. The RRF system will broadcast electronic, paper-drawn/printed, physically-modelled and/or hybrid media presentations and can also display materials shared by remote participants.

**CERES Hours:**

M-F 8 AM – 5 PM, by appointment

**5.6.4 Resources to support all learning formats and pedagogies in use by the program.**

**Program Response:**

**Facilities –**

The Architecture Library, Visual Resources Collection (VRC), and Drawings and Documents Archive are conveniently located on the first floor of the Architecture Building in close proximity to the classrooms, studios, faculty and administrative offices, and other support facilities for the College of Architecture and Planning. Bracken Library, the main library on campus, is located directly across from the Architecture Building, and the many resources of this collection are only a short walk away.

The Architecture Library supports individual study and group collaboration as well as networked computing and laptop use in a light-filled space that also comfortably houses the collection. Workstations and counter-height study tables along the library's wall of exterior windows take advantage of the natural light, and the wall of windows onto the building's interior hallway allow for high visibility of items on display and current issues of design magazines.

The Visual Resources Collection (VRC) space features open shelving and bins that encourage browsing of the building material samples collection which is organized into categories such as concrete, wood, and metal. There are several areas designated for changing displays of colorful, tactile samples that are easily seen through the windows onto the interior hallway, and additional space in the Architecture Library for thematic displays of building material samples from the VRC collections. Two computer workstations in the VRC are available to students researching materials online or finding digital images, and study tables provide space to spread out items from the samples collection. The VRC space can host class visits or the audience for the Materials Talks at Lunch series.

The Drawings and Documents Archive contains a reading room and workspace to accommodate the work of student employees, student researchers, faculty, and community patrons. The reading room area contains large table workspaces to accommodate the use of oversized archival drawings. The reading room area also contains a large display screen to support instruction sessions and demonstrations regarding the search and use of digital collections and databases. This computer station is also accessible to researchers conducting independent and collaborative research.

If the program's pedagogy does not require some or all of the above physical resources, the program must describe the effect (if any) that online, off-site, or hybrid formats have on digital and physical resources.

**Program Response:** N/A

**5.7 Financial Resources**

The program must demonstrate that it has the appropriate institutional support and financial resources to support student learning and achievement during the next term of accreditation.

**Program Response:**

Two years ago, as part of the university's Strategic Planning Process, the university decided to migrate to an *"Incentive-based model that aligns our human and financial resources with our strategic priorities and encourages innovation and effective resource management."* This [new budget model](#) is gradually being introduced to the university. Communication initiatives describing and discussing this process that started in February 2019; records of the [budget redesign](#) initiative are available on-line for reference. While there is some uncertainty as to when this new budget will be fully operational, and what its impact will be, the university administration has done an excellent job in sharing the development of the process with all stakeholders. The most current understanding is that years 2019-2020 and 2010-2021 serve as the basis for planning, and next year (2021-2022) will initiate the new budget model – a "hold-harmless" year that will used to "test-out" the system. There is not transparency in how the budget is being shaped at the College level; the department is not aware of how it can positively impact budget.

In 2020-21 the Department of Architecture received total institutional support of \$3,245,966 from the university. In addition, we received enhancement support via student program fees of \$61,000 (the latter is used for Graduate Assistantships). Program fees are distributed by the Provost's office in consultation with the Dean of the College. The department's general fund operating expenditures are faculty/staff salaries, student wages and graduate assistantship stipends, benefits, supplies/expenses, travel, and enhancement. Some enhancement funding is used to support the ECAP Labs (woodshop, laser lab, fabrication lab). The operational budget for the past five fiscal years is indicated here shows the gradual reduction in total support (primarily reduction in faculty salaries and travel support) over this time:

FISCAL YEAR BUDGET SUMMARIES - DEPARTMENT OF ARCHITECTURE							
Department of Architecture - General Fund Operating							
		2020-2021 estimated to date	2019 -2020	2018-19	2017-18	2016-17	2015-16
Faculty & Staff Salaries	Secured/Tenure Track	\$ 2,203,933	\$ 1,865,538	\$ 1,824,316	\$ 1,901,265	\$ 1,942,858	\$ 1,848,343
	Contract/Overload	\$ -	\$ 410,293	\$ 434,304	\$ 415,282	\$ 445,944	\$ 469,607
	Summer	\$ -	\$ -	\$ 126,379	\$ 159,216	\$ 131,026	\$ 127,804
	Staff	\$ 69,951	\$ 70,643	\$ 74,940	\$ 65,049	\$ 75,013	\$ 75,714
<b>Subtotal Faculty &amp; Staff Support</b>		<b>\$ 2,273,884</b>	<b>\$ 2,346,474</b>	<b>\$ 2,459,940</b>	<b>\$ 2,540,812</b>	<b>\$ 2,594,840</b>	<b>\$ 2,521,468</b>
Student Wages and Graduate Assistantships	Student Wages	\$ 7,429	\$ 7,429	\$ 7,078	\$ 6,034	\$ 6,159	\$ 6,593
	Graduate Assistantships	\$ 92,500	\$ 94,000	\$ 106,096	\$ 102,829	\$ 83,809	\$ 110,606
<b>Subtotal Student Wages</b>		<b>\$ 99,929</b>	<b>\$ 101,429</b>	<b>\$ 113,175</b>	<b>\$ 108,863</b>	<b>\$ 89,968</b>	<b>\$ 117,199</b>
Benefits	Employee Benefits	\$ 818,754	\$ 752,331	\$ 870,818	\$ 891,001	\$ 897,215	\$ 904,891
Supplies and Travel	Supplies	\$ 24,985	\$ 20,610	\$ 24,612	\$ 18,865	\$ 24,030	\$ 17,988
	Travel	\$ 14,700	\$ 26,122	\$ 28,019	\$ 36,346	\$ 47,763	\$ 33,072
<b>Subtotal Supplies and Travel</b>		<b>\$ 39,685</b>	<b>\$ 46,732</b>	<b>\$ 52,631</b>	<b>\$ 55,211</b>	<b>\$ 71,793</b>	<b>\$ 51,060</b>
<b>Total Institutional Support</b>		<b>\$ 3,232,252</b>	<b>\$ 3,246,966</b>	<b>\$ 3,496,563</b>	<b>\$ 3,595,887</b>	<b>\$ 3,653,816</b>	<b>\$ 3,594,617</b>
Enhancement (Lectures, Reviewers, Addt. Ga's)	Program Fees	\$ 61,000	\$ 61,000	\$ 68,000	\$ 113,000	\$ 118,751	\$ 74,113

## 5.8 Information Resources

The program must demonstrate that all students, faculty, and staff have convenient and equitable access to architecture literature and information, as well as appropriate visual and digital resources that support professional education in architecture.

### Program Response:

#### Institutional Context and Administrative Structure of The Library and Archive

The Architecture Library, which includes the Visual Resources Collection, is a branch of the University Libraries and it is managed by the Architecture Librarian, a professional librarian who reports to the Assistant Dean for Public Services for the University Libraries. The Drawings and Documents Archive is administered by the University Libraries and it is managed by the Archivist for Architectural Records,

a professional position that reports to the Assistant Dean for Digital Scholarship and Special Collections. The Drawings and Documents Archive is a branch of the Libraries' Archives and Special Collections unit. Librarians at Ball State University are classified as professional staff. Although administered separately, the Architecture Library and the Drawings and Documents Archive frequently collaborate on instruction sessions for CAP courses and other projects.

The University Libraries' mission is to support "the university's mission and enduring values by creating transformative experiences for diverse communities through excellent resources, expert research assistance, dedicated study and learning spaces, and innovative services and technologies for knowledge discovery and dissemination, lifetime learning, and community engagement." The Architecture Library, the Visual Resources Collection, and the Drawings and Documents Archive participate in achieving this mission through their support of the teaching and research efforts related to the bachelor's and master's degrees offered by the College of Architecture and Planning. These include degrees in architecture, landscape architecture, urban planning, construction management, interior design, urban design, and the master's program in historic preservation administered by the Department of Architecture.

During the academic year, the Architecture Library is open 7 days a week and 87.5 hours per week. During summer-sessions the library is open 7 days a week and 76.5 hours per week. Interims and academic breaks the library is open Monday – Friday and 52.5 hours per week. The Visual Resources Collection is open Monday – Friday, 8am – 5pm, or 45 hours per week, and the Drawings and Documents Archive is open to the public Monday – Thursday, 8am – 5pm, or 32 hours per week, with additional hours by appointment on Friday. During summer session, interims, and academic breaks the archive is open Monday– Friday by appointment.

The [Architecture Library](#) and [Drawings and Documents Archive](#) websites, [online research guides](#), Architecture Images collection, [article databases](#), electronic course reserves, and the archive's [list of collections](#), [searchable database](#) (searchable by geographic location/keyword), and [digital collections](#) are available to users 24 hours a day and seven days a week. If a login is required, faculty members and students may access these resources on or off campus using their Ball State University usernames and passwords.

Students and faculty members have ready access to library and archives staff through drop-in visits, phone calls, email, and chat (accessed via the University Libraries website and online research guides; see, for example, the [guide for architecture](#)). Staff members respond to inquiries quickly and when a more in-depth interaction is required, will schedule appointments with users for reference interviews (in the case of the library) or arrange for a reference appointment to allow access to the collections or assist in research efforts (in the case of the archive). Faculty work with the librarian, archivist, or visual resources curator to schedule class visits or instruction sessions as needed. Often, as in the case of the research methods courses, these class visits are scheduled to coordinate with a particular phase of the course research assignment.

### **Collections**

The Architecture Library offers more than 30,000 volumes of books and periodicals, just over 100 current periodical subscriptions and access to more titles via subscription databases (including subscriptions or access to 57 titles on the Association of Architecture School Librarians List of Essential Periodicals), 392 videos and access to *Kanopy Streaming Films*, access to the *Avery Index to Architectural Periodicals*, *CumInCAD*, and other databases, and a Visual Resources Collection with 78,000 digital images and 650 building material samples. The Drawings and Documents Archive offers over 130,000 original, historical architectural drawings and documents, photographs, and various other material formats related to the history of Indiana's built environment.

In addition, library users have access to the many resources of the University Libraries, which provides user-friendly access to over 1 million volumes of books, more than 1,219 periodical subscriptions, over 1 million microforms, over 119,000 maps, 96,724 unique electronic journals, as well as audio-visual

materials, cartographic resources, manuscripts, music scores, archival records, government documents, reference materials, and other information resources. The Libraries offer access to 327 electronic databases, including *Art Full Text*, *America: History and Life*, *JSTOR*, and *Project MUSE*. Digital collections and databases provide an information-rich online environment for students and faculty. Students gain access to the rich resources provided by the library via OneSearch, online databases, e- journals, and subject guides

The Architecture Library collection supports and reflects the curriculum of programs in the College. A written collection development policy [attached] guides the Architecture Librarian in selecting materials and the policy allows for responsiveness to changes in the curriculum. Faculty and student requests also help grow the collection and identify new interest areas such as architectural activism or pop-up urbanism. The librarian meets annually with department chairs or their departmental library representatives to review purchases, discuss future collecting priorities, and analyze the current periodical subscriptions.

The Visual Resources Collection (VRC) supports the Architecture Images Collection of images related to architecture, landscape architecture, urban planning, and historic preservation. The image collection is available through the University Libraries [Digital Media Repository](#) (DMR). The VRC is also home to the [Architecture Building Material Samples Collection](#). The samples collection opened in the Fall of 2009 to offer students and faculty the opportunity to familiarize themselves with the wide range of materials available to designers today. The collection currently comprises more than 650 samples of traditional as well as innovative or sustainable building materials. Priority is given to faculty or student recommendations for acquisitions.

The collections budget for the University Libraries is made up of two basic components: library budgets assigned to each of the university's academic departments used to fund subscriptions to periodicals and one-time purchases such as monographs and DVDs, and library general funds, which are used to purchase databases, monographs, and other resources.

Library Allocations and Expenditures for Department of Architecture:

<b>Fiscal Year</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>Departmental Allocation</b>	<b>\$19,115</b>	<b>\$19,115</b>	<b>\$19,115</b>	<b>\$19,115</b>	<b>\$19,115</b>
Periodicals	\$9,528	\$8,457	\$8,643	\$8,719	\$9,630
Classified serials	\$5,028	\$4,224	\$5,406	\$4,404	\$6,795
Monographs	\$3,831	\$3,801	\$3,497	\$3,095	\$2,383
Audiovisual materials	\$564	\$453	\$257	\$403	\$109
Monographic series and sets	\$0	\$90	\$90	\$0	\$90
Images	\$2,700	\$750	\$0	\$0	\$994
Approval non-continuing	\$4,747	\$4,890	\$3,089	\$1,659	\$1,135
Library general funds non-continuing	\$332	\$1,937	\$1,339	\$462	\$0
Foundation funds non-continuing	\$1,903	\$1,916	\$1,183	\$2,290	\$1,643
<b>Total Expenditures</b>	<b>\$28,633</b>	<b>\$26,518</b>	<b>\$23,504</b>	<b>\$21,032</b>	<b>\$22,779</b>

The Architecture Library continues to benefit from purchases made with University Libraries general funds for resources such as *JSTOR*, *Project Muse*, *Art Full Text*, and *Kanopy Streaming Films* that offer full text, media, or indexing of architectural publications. The Architecture Library also receives items selected by the Architecture Librarian and purchased through the library approval plan. Nevertheless, a flat budget for the University Libraries collections budget overall means purchasing power decreases every year due to inflation. This is a problem that characterizes all of the university's academic department library budgets and is not unique to the Architecture Department. Greater reliance on interlibrary loan, open access scholarship and online archival resources are providing additional resources as increases to the University Libraries collections budgets are being pursued.

The Visual Resources Collection budget continues to be used to purchase images related to architecture, landscape architecture, urban planning, and historic preservation topics. Images of contemporary buildings and sites are a particular focus of collection efforts, as are requests from faculty members or students, however, there are fewer vendors selling digital images in these subject areas and the budget has been decreased for these purchases. No images were purchased in fiscal year 2018, but purchase requests were submitted for a \$750 budget in fiscal year 2019. The VRC budget may also be used in the rare occasions when a material sample is only available for a fee, but most often samples are sent by the manufacturers free of charge.

At the Drawings and Documents Archive, students have ready access to over 130,000 unique, original architectural plans and documentation dating from the 19th century to the present that are unique to the Archive at Ball State University. The collection contains drawings and plans for buildings, landscapes, urban design, and documentation of historic structures in Indiana. There are 66 practitioner collections, 14 general collections including the College of Architecture and Planning collection, Historic American Building Survey (HABS) collection, and the Ball State University properties collection. In addition, there are significant collections of biographical materials, maps, artifacts, and historic documentation files.

The Drawings and Documents Archive has an impressive collection that continues to grow with historic and current materials. It is one of the largest architectural archives in the state that collects items pertaining to the built environment at a state-wide level. A written collection development policy guides the Archivist for Architectural Records in selecting collections that enhance its mission to preserve the history of Indiana's built environment and support the educational goals of the College of Architecture and Planning. The Archive strives to document Indiana's built environment in a diverse and inclusive manner. A constant effort is made to digitize the collections to provide worldwide online access to the collection; to date, the archive has digitized 26 collections (in whole or partially) which are available online in the University Libraries' Digital Media Repository.

The Digital Media Repository is supported by a robust infrastructure for digital collection building and preservation which enables digital collections from the Drawings and Documents Archive and the Architecture Library to be accessible online for student and community use. Metadata and Digital Initiatives, a unit within the University Libraries, provides support for the scanning of archival records and the management of digitization projects. This unit also contains expertise in describing collections of research materials to facilitate use and discovery.

Library Data and Discovery Solutions also provides invaluable technical support and administration for digital databases supporting digital collections searching. This unit also manages a large digital storage unit of over 100TB of archival data providing long term storage for digital assets held by both the Architecture Library and the Drawings and Documents Archive.

The Drawings and Documents Archive is also available to alumni as a resource that extends past their graduation and into their career. Alumni utilize collection materials to aid in the implementation of real-world community revitalization projects as architects, landscape architects, urban planners, and historic preservationists.

The Drawings and Documents Archive budget has remained stable and is supplemented by digital reproduction fees garnered from commercial and private entities. These funds are used primarily to purchase archival supplies necessary to preserve the collection

### **Services**

The Architecture Library, Visual Resources Collection (VRC), and Drawings and Documents Archive each offer a variety of services tailored to their collections and they collaborate in these efforts whenever possible. All three locations provide reference services, instruction, and collection development.

Additionally, the Architecture Library offers electronic and print course reserves and [online research guides](#) for architecture, landscape architecture, urban planning and historic preservation as well as guides for individual classes or projects. The University Libraries provides [interlibrary loan and document delivery services](#) to students, faculty, and staff.

Beginning with courses in the first-year program, instruction sessions are tailored to build on the research skills students learn in required English classes and teach them subject-specific skills for pursuing research in the library, VRC, and archival collections. Students in CAP 101 are introduced to research in the architecture library and engage in book and article finding exercises in the library as well as an introductory visit to the archive. New graduate students often receive similar introductions targeted towards their more advanced research needs. In other classes throughout the curriculum the librarian, curator, or archivist partner with faculty members to design instruction sessions to support class assignments and projects. Online [research guides](#) for the collections are supplemented with guides for specific classes or projects whenever appropriate.

Information about new items in the collections, services, exhibitions, workshops, and displays of items in the library and VRC are shared with CAP faculty and students through traditional and social media outlets including posters, building monitors, the [Architecture Library Pinterest boards](#), the University Libraries [Facebook](#) and [Twitter](#) accounts, and email.

Exhibitions and events are also organized by the librarian, curator, and archivist to promote the collections. For example, the VRC hosts the Materials Talks at Lunch series, which brings in 3 or more manufacturers' representatives each semester to give presentations on their products to students and faculty. The Architecture Library has begun holding pop-up libraries in locations in the Architecture Building and as requested by classroom instructors. Students can browse a curated slice of the collection and checkout books at the pop-up library. The Drawings and Documents Archive creates topical exhibits that are displayed in the archives' three exhibit cases outside its entrance. Larger exhibits, such as *Unity + Utopia: The 1893 World's Columbian Exposition*, *Indiana Diners and Drive-ins*, and *Civic Pride Begins in Your Backyard: The Mid-Century Work of Edward Pierre*, are presented in the CAP Gallery and facilitated with the CAP Gallery Coordinator; these exhibits also travel to libraries, nonprofits, and architecture firms throughout the state. More recently, the Drawings and Documents Archive began curating and hosting digital exhibits on a publically displayed monitor located just outside of the Archive. Digital exhibits have focused on the works of targeted groundbreaking practitioners that are representative of diversity and inclusivity while other exhibits focus on the application of archival resources as they support the revitalization of the built environment.

The Drawings and Documents Archive offers instructional sessions to all departments within in the College. Instructional sessions include but are not limited to accessing and understanding the resources of the archive, the interpretation of archival resources and research methodology as it pertains to the built environment, and the progression of drawing and reproduction methods of drawings types. Customized instructional sessions are also offered that can be tailored to individual classes to help faculty achieve specific curriculum objectives.

### **Facilities**

The Architecture Library, Visual Resources Collection (VRC), and Drawings and Documents Archive are conveniently located on the first floor of the Architecture Building in close proximity to the classrooms, studios, faculty and administrative offices, and other support facilities for the College of Architecture and Planning. Bracken Library, the main library on campus, is located directly across from the Architecture Building, and the many resources of this collection are only a short walk away.

The Architecture Library supports individual study and group collaboration as well as networked computing and laptop use in a light-filled space that also comfortably houses the collection. Workstations and counter-height study tables along the library's wall of exterior windows take advantage of the natural light, and the wall of windows onto the building's interior hallway allow for high visibility of items on display and current issues of design magazines.



The VRC space features open shelving and bins that encourage browsing of the building material samples collection which is organized into categories such as concrete, wood, and metal. There are several areas designated for changing displays of colorful, tactile samples that are easily seen through the windows onto the interior hallway, and additional space in the Architecture Library for thematic displays of building material samples from the VRC collections. Two computer workstations in the VRC are available to students researching materials online or finding digital images, and study tables provide space to spread out items from the samples collection. The VRC space can host class visits or the audience for the Materials Talks at Lunch series.

The Drawings and Documents Archive contains a reading room and workspace to accommodate the work of student employees, student researchers, faculty, and community patrons. The reading room area contains large table workspaces to accommodate the use of oversized archival drawings. The reading room area also contains a large display screen to support instruction sessions and demonstrations regarding the search and use of digital collections and databases. This computer station is also accessible to researchers conducting independent and collaborative research.

### **Library support for Ball State CAP: Indy**

The Architecture Library provides reference, instruction, and collection development services in support of students based at the CAP: Indy Center.

- Virtual or in-person instruction sessions may be requested by course instructors.
- Students are encouraged to schedule one-on-one research consultations with the Architecture Librarian or Building Material Samples Curator.
- Course reserves are available to students via e-books, scanned e-reserves, and print books from the Architecture Library collection on reserve at the Center.
- A reference collection of print books on site at the CAP: Indy Center and e-book titles selected by the Architecture Librarian in support of students and courses based at the center.
- A tab on the library research guide for Architecture highlights the services and collections available to students at Ball State CAP: INDY: <https://bsu.libguides.com/c.php?g=41209&p=6916380>.

### **Equipment**

The Architecture Library offers library users sixteen computer workstations, each with dual monitors that provide users with an expansive desktop for working on their projects. Seven of the workstations have 11 x 17 flatbed scanners ideal for scanning large drawings or illustrations. The library also features two Alienware workstations provided by the College. These machines, like all the equipment in the library, are available to any current university ID holder on a first come, first served basis, meaning that students at any level of the CAP program have access to the Alienware machines for high-powered computing and rendering. All of the library's computer workstations are connected to university's cloud-based printing solution, PrintSmart. Students each have a \$30 printing balance that renews every semester they are enrolled. Their print balance can be used to print 8 ½ x 11, 11 x 17, or color print jobs in either size at the rates of 5¢, 10¢, and 25/50¢ respectively. Students may also send their print jobs to PrintSmart from a laptop or mobile device. Equipment that can be checked out of the library includes flash drives, phone and laptop chargers, and scientific calculators.

The Visual Resources Collection has two public workstations, one with a slide scanner for faculty members to scan slides from their personal collections, and one with an 11 x 17 flatbed scanner. Both workstations are connected to the university's cloud-based printing solution.

The Drawings and Documents Archive provides digital scans of large format drawings for students upon request and charges 5 dollars per scan. Non-students can request digital scans for 20 dollars per scan.

Further, the program must demonstrate that all students, faculty, and staff have access to architecture librarians and visual resource professionals who provide discipline-relevant information services that support teaching and research.



## **Program Response:**

### **Staff**

The Architecture Library is staffed by the Architecture Librarian (professional staff position), the Architecture Library Coordinator (paraprofessional), and 7-8 student assistants (2.075 FTE). The present Architecture Librarian, Amy Trendler, has been in the position for 15 years. In addition to a Master's of Science in Library Science, Ms. Trendler holds a Master's of Art in Art History. She focused on architectural history while pursuing her M.A. and has a broad knowledge of the subject. Before coming to the Architecture Library, Ms. Trendler worked for nearly six years as Catalog/Reference Librarian and later Senior Reference Librarian in the Ryerson and Burnham Libraries at the Art Institute of Chicago. She is an active member of the following professional organizations: the Association of Architecture School Librarians (AASL), the Art Libraries Society of North America (ARLIS/NA) and the local Midstates chapter of that organization, and the Association of College and Research Libraries (ACRL). Ms. Trendler has published several articles on topics in art and architecture librarianship, she reviews periodicals for the architecture section of the reference resource *Magazines for Libraries*, and she reviews architecture books for *Library Journal*. Jackie Sciscoe, the current Architecture Library Coordinator, has been in the position for the last 7 years.

The Visual Resources Collection is staffed by the Visual Resources Curator (paraprofessional) and 4-5 student assistants (1.625 FTE). Brad Johnston, the current curator, has a Master's of Science in Library Science and brings his 13 years of experience in the University Libraries to the position, which he has held for the last 4 years.

The Drawings and Documents Archive is staffed as-needed, as the University library commences a search this coming AY for a new archivist (former professional staff person took a different job in Michigan).

## **6—Public Information**

The NAAB expects accredited degree programs to provide information to the public about accreditation activities and the relationship between the program and the NAAB, admissions and advising, and career information, as well as accurate public information about accredited and non-accredited architecture programs. The NAAB expects programs to be transparent and accountable in the information provided to students, faculty, and the public. As a result, all NAAB-accredited programs are required to ensure that the following information is posted online and is easily available to the public.

### **6.1 Statement on NAAB-Accredited Degrees**

All institutions offering a NAAB-accredited degree program or any candidacy program must include the exact language found in the NAAB Conditions for Accreditation, 2020 Edition, Appendix 2, in catalogs and promotional media, including the program's website.

## **Program Response:**

**Statement on NAAB-Accredited Degrees** is included on the following webpage:

<https://www.bsu.edu/academics/collegesandDepartments/architecture/about-us/naab-accreditation>

*"In the United States, most registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit professional degree programs in architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted an eight-year term, an eight-year term with conditions, or a two-year term of continuing accreditation, or a three-year term of initial accreditation, depending on the extent of its conformance with established education standards.*

*Doctor of Architecture and Master of Architecture degree programs may require a non-accredited undergraduate degree in architecture for admission. However, the non-accredited degree is not, by itself, recognized as an accredited degree."*

Ball State University, Department of Architecture offers the following NAAB-accredited degree programs:

- M.Arch (pre-professional degree + 57 graduate credits)
- M.Arch (non-pre-professional i.e. any undergraduate degree + 99 credits)
- B.Arch (154 undergraduate credits)

Next accreditation visit for M.Arch program is 2022

Next accreditation visit for B.Arch program is 2023

## 6.2 Access to NAAB Conditions and Procedures

The program must make the following documents available to all students, faculty, and the public, via the program's website:

- a) Conditions for Accreditation, 2020 Edition
- b) Conditions for Accreditation in effect at the time of the last visit (2009 or 2014, depending on the date of the last visit)
- c) Procedures for Accreditation, 2020 Edition
- d) Procedures for Accreditation in effect at the time of the last visit (2012 or 2015, depending on the date of the last visit)

### Program Response:

**NAAB Conditions and Procedures (2020 edition and at the time of the last visit) are accessible to all students, faculty, and the public on the following webpage:**

<https://www.naab.org/accreditation/conditions-and-procedures/>

## 6.3 Access to Career Development Information

The program must demonstrate that students and graduates have access to career development and placement services that help them develop, evaluate, and implement career, education, and employment plans.

### Program Response:

**Career Development Information and Placement Services** is provided on the Department of Architecture accreditation [webpage](#) to assist students in the development, evaluation and implementation of career, education, and employment plans. The [BSU Cardinal Career Center](#) has substantive resources tailored to student career pursuits.

To earn a license and become an architect, students need to document real-work experience through the [Architectural Experience Program \(AXP\)](#) of the **NCARB (National Council of Architectural Registration Boards)**. Internship provides students with pivotal real-work experience that can lead to part or full-time employment opportunities and fulfill AXP requirements. The AXP process is explained to undergraduates when they select their major in architecture and to graduate students during orientation sessions each year. All students are encouraged to sign-up in order to count all work hours as soon as possible. If they are taking the IPAL program courses, they are required to enroll in NCARB and establish a council record.

While undergraduates at CAP are required to take internship in the 5-year professional architecture degree (B.Arch), internship is optional for graduate students in the master of architecture degree (M.Arch). If students in the 4+2 Track 1 program have not had an internship experience or previous real-work experience as part of their pre-professional undergraduate education, they are encouraged to participate in the *Indianapolis Internship Initiative* as part of their first-year curricular program at the CAP: INDY Center. Participating in an internship is woven into the one-year live, work, learn opportunity provided to all graduate students while they are studying at the Center in Indianapolis.

This program was initiated in Fall of 2019 when we moved to a full academic year of study in Indianapolis for all M.Arch students. We had also just acquired residency in our facility at 25 N. Pine Street, which provided an ideal opportunity to connect students to the professional design culture of Indianapolis. In this *Indianapolis Internship Initiative*, we aligned incoming M.Arch graduate students with architecture firms in the city to establish part-time work opportunities while pursuing their studies at the Ball State CAP: INDY Center. We asked firms to commit to hire our students for 15 hours/week for 16 weeks of the semester at the minimum rate of \$15 an hour for the academic year (fall and spring semesters). The students are available for this internship, depending on their academic class schedule, every morning as well as two full days each week, with all required core classes beginning at 12:30 pm and held on three days a week. Students are also able to work full time during breaks and summer, if the firm continues to have work to support the hours. Often, the students receive full-time employment offers from the firms that they interned at upon graduation, which is excellent in terms of maintaining our high graduate placement.

Graduate students may also participate in Ball State's Master of Architecture [IPAL](#) program (NCARB's Integrated Path to Architectural Licensure); qualified students (with enough AXP hours), while in the process of earning our M.Arch degree, can also complete the AXP and the Architect Registration Examination (ARE). Students who have questions regarding AXP, IPAL or ARE, and for making connections with firms, may contact the department's Internship Director and Architectural Licensing Advisor Assistant Professor Dan Overbey AIA for additional information.

While students are encouraged obtain an internship/job on their own – the Professional Practice courses provide instruction to prepare students to enter the marketplace (i.e., interview skills; resume building; portfolio preparation; etc.) and annually each spring the College of Architecture and Planning hosts a Job and Internship fair (which this past spring was conducted virtually due to COVID) in collaboration with Ball State University's Cardinal Career Center Services. Ball State's [Career Center](#) offers many helpful resources.

#### **6.4 Public Access to Accreditation Reports and Related Documents**

To promote transparency in the process of accreditation in architecture education, the program must make the following documents available to all students, faculty, and the public, via the program's website:

- a) All Interim Progress Reports and narratives of Program Annual Reports submitted since the last team visit
- b) All NAAB responses to any Plan to Correct and any NAAB responses to the Program Annual Reports since the last team visit
- c) The most recent decision letter from the NAAB
- d) The Architecture Program Report submitted for the last visit
- e) The final edition of the most recent Visiting Team Report, including attachments and addenda
- f) The program's optional response to the Visiting Team Report
- g) Plan to Correct (if applicable)
- h) NCARB ARE pass rates
- i) Statements and/or policies on learning and teaching culture
- j) Statements and/or policies on diversity, equity, and inclusion

#### **Program Response:**

##### **Architecture Program Reports (APRs) and Related Documents**

To promote transparency in the process of accreditation in architecture education, the following documents are made available to all students, faculty, and the public.

<https://www.bsu.edu/academics/collegesandDepartments/architecture/about-us/naab-accreditation>

#### **ARCHITECTURE PROGRAM REPORTS (APRS) AND RELATED DOCUMENTS**

To promote transparency in the process of accreditation in architecture education the following documents are made available to all students, faculty, and the public.

**All interim progress reports (IPR) and narratives of program annual reports submitted since the last team visit:**

- [2018 Interim Progress Report \(PDF\)](#)
- [2015 Interim Progress Report \(PDF\)](#)

**All NAAB responses to the plan to correct and any naab responses to the program annual reports since the last team visit:**

- Not Applicable (N/A)

**MOST RECENT DECISION LETTER FROM THE NAAB:**

- [2021 B.Arch Accreditation Granted Letter \(PDF\)](#)
- [2013 M.ARCH Accreditation Granted Letter \(PDF\)](#)

**ARCHITECTURE PROGRAM REPORT (APR) SUBMITTED FOR THE LAST VISIT:**

- [2020 B.ARCH \(PDF\)](#)
- [2013 M.ARCH \(PDF\)](#)

**THE FINAL EDITION OF THE MOST RECENT VISITING TEAM REPORT (INCLUDING ATTACHMENTS AND ADDENDA)**

- [2020 B.ARCH VTR-IA Report \(PDF\)](#)
- [2013 M.ARCH VTR Report \(PDF\)](#)

**THE PROGRAM'S OPTIONAL RESPONSE TO THE VISITING TEAM REPORT**

- Not Applicable (N/A)

**PLAN TO CORRECT (IF APPLICABLE)**

- Not Applicable (N/A)

### **6.5 Admissions and Advising**

The program must publicly document all policies and procedures that govern the evaluation of applicants for admission to the accredited program. These procedures must include first-time, first-year students as well as transfers from within and outside the institution. This documentation must include the following:

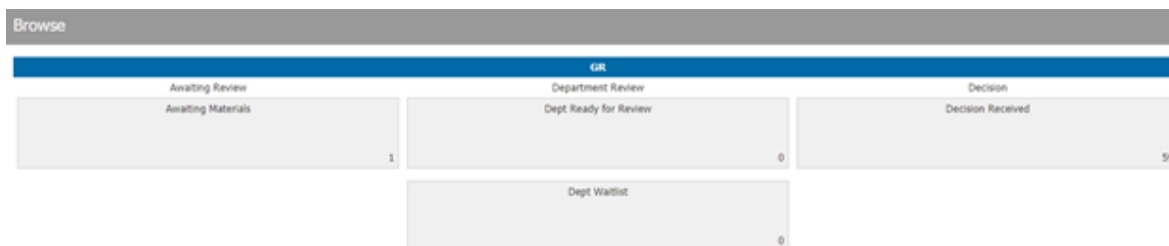
- a) Application forms and instructions
- b) Admissions requirements; admissions-decisions procedures, including policies and processes for evaluation of transcripts and portfolios (when required); and decisions regarding remediation and advanced standing
- c) Forms and a description of the process for evaluating the content of a non-accredited degrees
- d) Requirements and forms for applying for financial aid and scholarships
- e) Explanation of how student diversity goals affect admission procedures

**Program Response:**

#### **a) Application forms and instructions**

Admission requirements, dates and deadlines, and instructions for applying to the Master of Architecture program and how to check the status of the application is explained [here](#).

All required application materials are uploaded by the application to a portal (SLATE) managed by the University Graduate School. Materials are easily accessible to the department for review.



### **b) Admission-decisions procedures, including policies and processes for evaluation of transcripts and portfolios (when required)**

As applications are submitted to the department from the application portal (SLATE) the programs assistant begins the initial evaluation, making sure all application materials have been received. If items as missing, the programs assistant contacts the applicant alerting them to the missing application materials and encourages them to upload these items at their earliest convenience. When all materials are submitted as determined by the SLATE Processor, the student's application will be moved into the Department Ready for Review bin and is available to be reviewed by anyone having access to the SLATE portal.

After the priority application deadline (typically February 19<sup>th</sup>) for all scholarship, graduate assistantship, and financial award considerations, applications are evaluated by the Graduate Program Director in consultation with the Department Chair, Director of the MSHP Program (for Dual Degree candidates), and Graduate Curriculum Committee as required. All decisions will be made based off of the application materials submitted by the applicant (portfolio, statement of intent, resume, letters of recommendation, GRE scores [if applicable], and transcripts from their undergraduate degree granting institution).

The Graduate Program Director closely examines the portfolio and statement of intent of those students whose undergraduate degree was in another discipline other than architecture, to ascertain effectiveness in entering and assimilating a rigorous, accredited Track 2 three-year degree program where the student may have little to no familiarity with the discipline. A majority of the students who submit to the 3-year M.Arch program have, however, visited or attended a virtual open house to learn more about the distinctiveness of the program, so they become familiar with the academic expectations of their study.

Students in the Track 1, two-year program are coming out of a 4 year pre-professional architectural program and are more familiar with graduate programs in Architecture generally, and Ball State's College of Architecture and Planning M.Arch program specifically, as we recruit heavily to regional schools. Many of these Track 1 students also have come for a visit or been a part of the open houses held virtually and in-person every month in Fall beginning in October. Discussions are entertained about each student's undergraduate preparation in the pre-professional program and a description of the process for evaluating the content of their pre-professional, non-accredited degree is discussed.

### **c) and decisions regarding Remediation and Advanced Standing**

All student transcripts for advanced standing will be evaluated and course comparisons made between the applicant's previous institution and Ball State University's undergraduate pre-professional architecture degree program considering design related background and undergraduate majors in any discipline other than architecture. Up to 12 credit hours may be granted for Advanced Standing in the M.Arch Track 1 2-year program (transfer credits). This is for all students considering transferring from another accredited Master of Architecture program. Based on evaluation of prior academic work, up to 12 credits may also be waived at the discretion of the Graduate Program Director for those who hold an advanced design degree in an allied field.

Up to 15 credit hours may be granted for advanced standing in the M.Arch Track 2 3-year program (transfer credits and foundational course waiver). This is based on evaluation of prior academic work

that may be completed in a design related field and can be considered foundational coursework. This is determined by a careful look at individual transcripts and for each individual course in consideration of being waived from the curriculum, the student must provide the course syllabus and assignments to assure content is covered in the required course they are receiving credit for. See 2-year (Track 1) and 3-year (Track 2) degree requirements and courses in the [graduate catalog](#).

Remediation (probationary acceptance) may occur if a student has a grade point average entering the program that falls below the required for admittance into the graduate program (2.75) or Master of Architecture program (3.0). If a student's undergraduate GPA is below 3.0 but higher than 2.75 the student is required to take the GRE and may be considered for admittance after evaluation. If a student's GPA is lower than a 2.75 additional material must be submitted including a narrative discussing the circumstances of the low undergraduate GPA. If after review of additional material, there is a departmental decision to admit the student, a letter of support must be written by the Graduate Program Director and approved by the Department Chair for consideration and approval by the Graduate School Dean. Additionally, a probationary plan, limiting the student to a maximum of 9 credit hours must be prepared and after the first semester of study a GPA of 3.0 must be received.

#### d) forms and a description of the process for evaluating the content of non-accredited degrees

The transcripts from applicants from non-accredited, pre-professional degrees in architecture are evaluated for compatibility with the 4+2 program of Ball State University College of Architecture and Planning (see form below). Applicants are asked to provide syllabi for all coursework to assist in determining that all required coursework has been completed. If an applicant is deemed to be missing important coursework, a course of remediation may be recommended of the applicant. The Graduate Program Director is familiar with the curriculum at area regional schools and this helps with decisions regarding any supplemental courses that may be required of students entering into the 2-year program. Discussions are entertained about each student's undergraduate preparation in the pre-professional program and a description of the process for evaluating the content of their pre-professional, non-accredited degree is shared. Form shown here:

<p>4 year BA/BS Pre-Professional Degree equivalency for students with degree from non-BSU institution.</p> <p><b>4+2 MARCH (track 1) APPLICANT EVALUATION CHECK SHEET</b></p> <p>Department of Architecture, Ball State University</p>			<p>ARCH 100 (2) <i>Introduction to Architecture</i></p> <p>SYLLABUS TRANSCRIPTS PORTFOLIO NOTEBOOK/COURSE ASSIGNMENTS</p> <p>NOTES:</p>																																
<p>Applicant:</p> <p>BSU ID number:</p> <p>Current (or former) institution:</p> <p>Address + contact information of current or former institution:</p> <p>Undergraduate Degree Program Name + type (include BA/BS designation):</p> <p>GPA from prior institution:</p> <p><u>BSU MArch. course credit transfer check sheet:</u></p>			<p><b>2nd YEAR PROGRAM</b></p> <p>ARCH 201 (4) <i>Architectural Design Studio</i></p> <p>SYLLABUS TRANSCRIPTS PORTFOLIO NOTEBOOK/COURSE ASSIGNMENTS</p> <p>NOTES:</p>																																
<table border="0"> <thead> <tr> <th>Ball State architecture undergraduate courses (with credit hours)</th> <th>Transfer Institution Equivalent course(s) (with credit hours)</th> <th>Grade Received</th> <th>Evidence of equivalency (syllabus, notebook, portfolio, etc.)</th> </tr> </thead> <tbody> <tr> <td colspan="4"><b>FIRST YEAR PROGRAM</b></td> </tr> <tr> <td>CAP 101 (4) <i>Environmental Design, Communications + Planning 1</i></td> <td></td> <td></td> <td>SYLLABUS TRANSCRIPTS PORTFOLIO NOTEBOOK/COURSE ASSIGNMENTS</td> </tr> <tr> <td>NOTES:</td> <td></td> <td></td> <td></td> </tr> <tr> <td>CAP 101 (2) <i>Design Communications Media</i></td> <td></td> <td></td> <td>SYLLABUS TRANSCRIPTS PORTFOLIO NOTEBOOK/COURSE ASSIGNMENTS</td> </tr> <tr> <td>NOTES:</td> <td></td> <td></td> <td></td> </tr> <tr> <td>CAP 102 (4) <i>Environmental Design, Communications + Planning 2</i></td> <td></td> <td></td> <td>SYLLABUS TRANSCRIPTS PORTFOLIO NOTEBOOK/COURSE ASSIGNMENTS</td> </tr> <tr> <td>NOTES:</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			Ball State architecture undergraduate courses (with credit hours)	Transfer Institution Equivalent course(s) (with credit hours)	Grade Received	Evidence of equivalency (syllabus, notebook, portfolio, etc.)	<b>FIRST YEAR PROGRAM</b>				CAP 101 (4) <i>Environmental Design, Communications + Planning 1</i>			SYLLABUS TRANSCRIPTS PORTFOLIO NOTEBOOK/COURSE ASSIGNMENTS	NOTES:				CAP 101 (2) <i>Design Communications Media</i>			SYLLABUS TRANSCRIPTS PORTFOLIO NOTEBOOK/COURSE ASSIGNMENTS	NOTES:				CAP 102 (4) <i>Environmental Design, Communications + Planning 2</i>			SYLLABUS TRANSCRIPTS PORTFOLIO NOTEBOOK/COURSE ASSIGNMENTS	NOTES:				<p>ARCH 214 (3) <i>Building Technology 1</i></p> <p>SYLLABUS TRANSCRIPTS PORTFOLIO NOTEBOOK/COURSE ASSIGNMENTS</p> <p>NOTES:</p> <p>ARCH 229 (3) <i>History of Architecture I</i></p> <p>SYLLABUS TRANSCRIPTS PORTFOLIO NOTEBOOK/COURSE ASSIGNMENTS</p> <p>NOTES:</p> <p>ARCH 263 (3) <i>Digital Design</i></p> <p>SYLLABUS TRANSCRIPTS PORTFOLIO NOTEBOOK/COURSE ASSIGNMENTS</p> <p>NOTES:</p> <p>ARCH 202 (4) <i>Architectural Design Studio</i></p> <p>SYLLABUS TRANSCRIPTS PORTFOLIO NOTEBOOK/COURSE ASSIGNMENTS</p> <p>NOTES:</p>
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<b>ARCH 218 (3)</b> <i>Structural Systems 1</i>  NOTES:	<input type="checkbox"/> SYLLABUS <input type="checkbox"/> TRANSCRIPTS <input type="checkbox"/> PORTFOLIO <input type="checkbox"/> NOTEBOOK/COURSE ASSIGNMENTS	<b>ARCH 320 (3)</b> <i>Introduction to Pro. Practice</i>  NOTES:	<input type="checkbox"/> SYLLABUS <input type="checkbox"/> TRANSCRIPTS <input type="checkbox"/> PORTFOLIO <input type="checkbox"/> NOTEBOOK/COURSE ASSIGNMENTS
<b>ARCH 329 (3)</b> <i>History of Architecture 2</i>  NOTES:	<input type="checkbox"/> SYLLABUS <input type="checkbox"/> TRANSCRIPTS <input type="checkbox"/> PORTFOLIO <input type="checkbox"/> NOTEBOOK/COURSE ASSIGNMENTS	<b>ARCH 302 (5)</b> <i>Architectural Design Studio</i>  NOTES:	<input type="checkbox"/> SYLLABUS <input type="checkbox"/> TRANSCRIPTS <input type="checkbox"/> PORTFOLIO <input type="checkbox"/> NOTEBOOK/COURSE ASSIGNMENTS
<b>ARCH 373 (3)</b> <i>Environmental Systems 1</i>  NOTES:	<input type="checkbox"/> SYLLABUS <input type="checkbox"/> TRANSCRIPTS <input type="checkbox"/> PORTFOLIO <input type="checkbox"/> NOTEBOOK/COURSE ASSIGNMENTS	<b>ARCH 314 (3)</b> <i>Building Technology 2</i>  NOTES:	<input type="checkbox"/> SYLLABUS <input type="checkbox"/> TRANSCRIPTS <input type="checkbox"/> PORTFOLIO <input type="checkbox"/> NOTEBOOK/COURSE ASSIGNMENTS
<b>2nd YEAR PROGRAM</b>		<b>4th YEAR of PROGRAM</b>	
<b>ARCH 301 (3)</b> <i>Architectural Design Studio</i>  NOTES:	<input type="checkbox"/> SYLLABUS <input type="checkbox"/> TRANSCRIPTS <input type="checkbox"/> PORTFOLIO <input type="checkbox"/> NOTEBOOK/COURSE ASSIGNMENTS	<b>ARCH 401 (3)</b> <i>Architectural Design Studio</i>  NOTES:	<input type="checkbox"/> SYLLABUS <input type="checkbox"/> TRANSCRIPTS <input type="checkbox"/> PORTFOLIO <input type="checkbox"/> NOTEBOOK/COURSE ASSIGNMENTS
<b>ARCH 318 (3)</b> <i>Structural Systems 2</i>  NOTES:	<input type="checkbox"/> SYLLABUS <input type="checkbox"/> TRANSCRIPTS <input type="checkbox"/> PORTFOLIO <input type="checkbox"/> NOTEBOOK/COURSE ASSIGNMENTS	<b>ARCH 402 (4)</b> <i>Architectural Design Studio</i>  NOTES:	<input type="checkbox"/> SYLLABUS <input type="checkbox"/> TRANSCRIPTS <input type="checkbox"/> PORTFOLIO <input type="checkbox"/> NOTEBOOK/COURSE ASSIGNMENTS
<b>ARCH 373 (3)</b> <i>Environmental Systems 2</i>  NOTES:	<input type="checkbox"/> SYLLABUS <input type="checkbox"/> TRANSCRIPTS <input type="checkbox"/> PORTFOLIO <input type="checkbox"/> NOTEBOOK/COURSE ASSIGNMENTS		

### e) Requirements and forms for applying for financial aid and scholarships

Students seeking to obtain financial aid or scholarship assistance should visit the Financial Aid and Scholarships Department. <https://www.bsu.edu/admissions/financial-aid-and-scholarships>  
 Students will need to submit a FAFSA application <https://studentaid.gov/h/apply-for-aid/fafsa> to determine their individual eligibility.

### f) Explanation of how student diversity goals affect admission procedures

Plans to advance our pursuit for increasing the diversity of our graduate student body were generated in spring 2021 by department faculty, staff, and students and are intended to be part of the departmental Inclusive Excellence Plan (anticipated 21-22 AY), proposed planning initiatives and proposals include:

- Engage alumni in recruitment efforts of minority students
- Discuss curricular alignment, student learning objectives, and transfer paths with 2-year community colleges; explore/establish Articulation Agreement with 2-year programs for either/both undergraduate or graduate professional programs
- Establish mentoring partners for students – upper level thesis students and/or our professional colleagues and/or alumni for students and for graduates in licensure process
- Analyze reasons/issues that impact minority student academic success (i.e., financial; cultural) and formulate plan to address issues.
- Explore opportunities in our excellent travel learning programs for diversity awareness and diverse student recruitment.
- Work with International programs to assist our International Graduate Students in achieving admissions to United States and a welcoming entry to Ball State University

## 6.6 Student Financial Information

**6.6.1** The program must demonstrate that students have access to current resources and advice for making decisions about financial aid.

### Program Response:

Students can see the current tuition and fees rates, as well as opportunities for financial aid including scholarships and graduate assistantship positions by visiting [Tuition and Fees](#)



A convenient calculator is provided to estimate costs for **full-time, on-campus** Ball State graduate students for the 2020-21 academic year. Cost information is based on enrollment for the Fall and Spring semesters. Actual tuition is determined by the number of credit hours taken. Additional course or program fees may apply, depending on your major and course schedule.

**6.6.2** The program must demonstrate that students have access to an initial estimate for all tuition, fees, books, general supplies, and specialized materials that may be required during the full course of study for completing the NAAB-accredited degree program.

**Program Response:**

Every attempt is made to provide all Graduate students in the M.Arch program with partial funding, whether through a Graduate Assistantship, Standerford Recruiting Scholarship, or Internship as a part of the student's academic studies. Tuition and Fees | Ball State University ([bsu.edu](https://bsu.edu))  
If students attend an open house virtually or in person or a weekly Friday visit to campus, they are given a cost of tuition sheet with all fees identified for in state and out of state residents.

This year the Graduate Assistantships have a beneficial change in that students have automatic in-state tuition when awarded a GAship. Because our department only awards half time 10 hour GA ships with a 50% tuition remission, this actually works to our benefit in recruiting International and out of state students, because the remaining cost of tuition and related room and board expenses is low when compared to other regional schools.

**Branch Campuses Questionnaire – submitted with 2020 NAAB annual report November 30, 2020**

[NOTE: if the program uses more than one branch campus, **additional site**, teaching site, online learning, or study abroad program, you must complete a questionnaire for each program.]

Name of Institution:	Ball State University	
Title of Degree:	Master of Architecture	
Name of Program Administrator:	Interim Chair Olon Dotson (was Andrea Swartz in 2020)	
Name of Person Completing this Form:	Andrea Swartz	
Location of Branch Campus, Additional Site, Teaching Site, Online learning, or Study Abroad Program:	CAP Indianapolis Center – 25 N. Pine, Indianapolis	
Distance from Main/Flagship Campus:	49 miles	
Number of Courses from Curriculum Leading to a NAAB-Accredited Degree Offered at this site	5 required, one optional elective/semester also to be offered	
(List all courses: number, title, credits offered) [insert additional rows as necessary]		
Course Number	Credits offered	Course Title
ARCH 601	6	Community Engaged Applied Learning Design Studio
ARCH 624	3	Applied Architectural Building Technology
ARCH 620	3	Professional Practice
ARCH 602	6	Integrated Architecture Design Studio
ARCH 646	3	Urban Design: History, Theory, and Practice
Is attendance at the branch campus, additional site, teaching site, study abroad or online program required for completion of the NAAB-accredited degree program?	yes	
Who has administrative responsibility for the program at the branch campus?	Executive Director Ball State CAP: Indy - Associate Professor Joe Blalock (was Justin Ferguson in 2020)	
To whom does this individual report?	College of Architecture + Planning Dean Dave Ferguson	
Where are financial decisions made?	Ball State University, Muncie, IN	
Who has responsibility for hiring faculty?	For adjunct faculty - Department Chair	
Who has responsibility for rank, tenure, and promotion of faculty at the branch campus?	Department of Architecture, College of Architecture + Planning, Ball State University	
Does the branch campus have its own curriculum committee?	Additional site – not branch campus – no, Graduate curriculum committee is in Muncie	
Does the branch campus have its own admissions committee?	no	
Does the branch campus have its own grievance committee?	no	
Does the branch campus have its own resources for faculty research and scholarship?	no	
Does the branch campus have its own AIAS or NOMAS chapter?	No	
Does the branch campus maintain its own membership in ACSA?	no	

### **Additional Comments:**

The R Wayne Estopinal College of Architecture and Planning has had a presence in Indiana's capitol city for over 25 years and is referred to as "Ball State CAP: Indy." The college's Master of Urban Design program has been located in Indianapolis for approximately ten years. The new (fall 2019) home of the CAP Indy Center at 25 N. Pine Street, Indianapolis, IN is a 13,000 s.f. brick and timber framed factory building built in the 19<sup>th</sup> century that was renovated for office use in the early 2000's, most recently housing Angie's List corporate offices. CAP Indy is not considered a "branch campus;" this is an additional teaching site, currently for our M.Arch program.

Starting **fall 2019**, the M.Arch graduate program initiated a year of the program to be located in this facility in Indianapolis (49 miles from Muncie, approximately 1 hour travel time). The courses indicated on prior sheet span across two semesters (the first year of the +2 program, the middle year of the 3+ program). The final year of the M.Arch program is fully located on the main Ball State campus in Muncie. **Students in other years of the M.Arch and in the undergraduate architecture programs MAY use this space for mid and final reviews, but there is no required coursework there for these students.** The facility is also used by the local AIA chapter for monthly meetings.

The CAP Indy center provides students a diverse, urban experience in combination with the setting in Muncie (small town). Travel time is approximately an hour from Muncie campus although most students have selected to live in the city. There is more student access to professional work experiences in Indianapolis as it is home to the majority of firms in the state; many students have secured part time jobs in these local firms. The presence of the program in Indianapolis has long been encouraged by the professional community in Indianapolis, many of whom are led by our alumni. It allows our students to be introduced to professional activities (via AIA monthly meetings primarily) as well.

The curricular focus of these two semesters of the M.Arch program is aligned with the Indianapolis location. The first semester studio is "community engaged" thematically; Indianapolis has a wide array of active community organizations propelling improvements in the city. We will be aligning with these community groups and broader city initiatives for the studio explorations, hoping to make an impact in the city. The second semester studio is the integrative design studio, ideally located in the largest city in Indiana, home to most professional offices in the state, who contribute to this studio.

Because this facility is within driving distance, the faculty are NOT a distinct sub-set and remain full and active members of the department, attending faculty meetings, serving on student's final project/thesis committees, using university resources for research, serving on departmental, college, and university committees.

**Branch Campus Questionnaire.** Any program using one or more of the options for offsite learning described in Section 8.4, **must submit a Branch Campus Questionnaire as part of any APR.** In addition to the questionnaire the program must provide a supplemental narrative description of its branch campuses, additional sites, teaching sites and online learning. The narrative must address the following matters:

1. Curriculum
2. Geographic location
3. Administrative structure
4. Budgetary and hiring authority and responsibilities
5. Faculty access to committee assignments, research and scholarship opportunities, and participation in professional societies
6. Student access to services and equipment, and participation in governance.
7. Physical resources

The responses to the questionnaire and narrative taken together will be used by the team chair and the staff to determine what additional requirements may be added to a visit.