Hoosier STEM Academy

Course Catalog and Application Instructions

Quick Links

If you are viewing this on a computer, you may select one of the following links to skip to the following sections:

- **Fellows Program Courses**
- **Teachers Program Courses**
- **Course Descriptions**
- **Admissions Information**

Fellows Program Courses

Ball State University

Summer 2018 (9 credits)
- EDFO 620: Social, Historical, and Philosophical Foundations of Education (3 credits)
- EDPS 600: Advanced Educational Psychology (3 credits)
- Content Pedagogy Course or Independent Study (3 credits)

Fall 2018 (9 credits)
- EDSE 580: Theory into Practice in Secondary Schools (3 credits)
- EDJH 585: Theory into Practice in Middle Level Schools (3 credits)
- Science Lab Assistantship (3 credits)

Spring 2019 (9 credits)
- Science Lab Assistantship (3 credits)
- EDPS 628: Adolescent Development (3 credits)
- SCI 799:
  -OR-
  EDST 676: Research on Impacting Student Learning (3 credits)

Summer 2019 (9 credits)*
- EDCU 601: Principles and Procedures of Curriculum Development (3 credits)
- EDTE 650: Curricular Integration of Learning Technology (3 credits)
- EDMU 660: Multicultural and Multiethnic Education in American Schools (3 credits)

* During this semester, Fellows could choose to take graduate content courses instead of those listed, which would count toward their dual credit credential and shore up their content knowledge and content pedagogy skills.

IUPUI

The degree will require 18 credits of graduate courses offered in Biology to meet the total of 30 credits of graduate courses to complete the MS degree.

Students in this MS in Biology, Concentration in Biology for Educators will be required to take 9 credits in Biology from the following courses.

- BIOL 50700: Principles of Molecular Biology
- BIOL 55000: Plant Molecular Biology
- BIOL 51600: Molecular Biology of Cancer
- BIOL 55900: Endocrinology
- BIOL 56100: Immunology
- BIOL 56400: Molecular Genetics of Development

Additional Biology courses will then be determined individually, and may include Project Lead the Way courses, or **Hoosier STEM Academy courses** in Biology offered at IUPUI.

Students will also be required to complete 18 credit hours of coursework through IUPUI's T2T Program leading to teacher licensure, 12 of which will then count towards completion of the MS degree, for example:

- EDUC S509: Middle School STEM Methods
- EDUC K553: Classroom Management and Positive Behavior Support
- EDUC S518: Advanced Study in the Teaching of Secondary School Science
- EDUC S590: Professional Issues in Secondary Education

Purdue University

Core courses (15 credits)
EDCI 59100 C&I MS Seminar I (3 cr.)
EDCI 59100 C&I MS Seminar II (3 cr.)
EDCI 59100 Theories and Trends in Curriculum and Instruction (3 cr.)
EDCI 58500 Multicultural Education (3 cr.)
EDCI 59100 Teachers as Leaders (3 cr.)
EDCI 59100 C & I MS Portfolio (last semester) (3 cr.)
EDCI 59100 Capstone/Reflective Practices (last semester) (3 cr.)

Concentration/Specialization courses

ELL (15 credits-no room for electives) (includes ELL certificate, licensure prep)
EDCI 51900: Teaching English Language Learners
EDCI 52600: Teaching Learns of English as a New Language
EDCI 53000: English Language Development
EDCI 55700: Assessment of Culturally and Linguistically Diverse Learners
EDCI 55900: Academic Language and Content Area Learning

Integrated STEM (12 credits + 1 elective)
EDCI 54900: Assessment in Mathematics/STEM Education
EDCI 53900: Introduction to K-12 Integrated STEM Education
EDCI 55800: Integrated STEM Education Methods-Secondary
EDCI 59100: Introduction to Teaching Engineering and Technology

Math Education (12 credits + 1 elective)
EDCI 54800: Teaching Math to Diverse Learners (Fall)
EDCI 54900: Assessment in Mathematics/STEM Education

Choose two (2) of the following:
EDCI 53300: Teaching and Learning Number and Operations
EDCI 53400: Teaching and Learning Geometry and Measurement
EDCI 53500: Teaching and Learning Algebra and Functions
EDCI 53600: Teaching and Learning Data Analysis and Probability

Learning Design and Technology (9 credits + 2 electives)
(includes Instructional Design certificate)

EDCI 57200: Introduction to Learning Systems Design
EDCI 53100: Learning Theories and Instructional Design
EDCI 57700: Strategic Assessment and Evaluation

Electives – for general consumption across specialization areas:

- EDPS 53300: Introduction to Educational Research
- EDCI 56000: Educational Technology for Teaching and Learning
- EDCI 56400: Integration and Mgmt. of Computers in Education
- EDCI 56600: Educational Applications of Multimedia
- EDCI 56800: Partnering with Web-based Tools for Learner-centered Environments
- EDCI 62000: STEM and Social Justice

Total Credit Hours: 30 Credit Hours

Valparaiso University
Graduate STEM Teacher Education Program

The program is designed for any individual who has an undergraduate degree in Science, Technology, Engineering, and Mathematics (STEM) fields of study other than teacher education and who wants to be licensed in secondary education. Candidates must have an undergraduate major that is "licensable."

Curriculum

Graduate STEM Teacher Education Program (GSTEP) offers two tracks towards earning a Master of Education degree, leading to licensure in science and/or mathematics: a 34 credit track for domestic students and a 38 credit track for international students. GSTEP students begin taking classes in May with seminar/workshop classes, with a full class load the first week of June; classes end the first week in August. During the fall term, fellows co-teach in a high-need urban or rural secondary school setting five days per week from 7 am – 12 noon (half-day), with coursework at Valparaiso University (afternoons, evenings). GSTEP students will also have opportunities to work with the Museum of Science & Industry (MSI) or other educational sites, e.g., Indiana Dunes Environmental Learning Center, Challenger Center, Porter County Museum, Taltree Arboretum, etc. Students have full-time teaching positions in a high-need school during the spring term.

At the end of the spring semester, GSTEP students graduate with a master's degree and, upon successful completion of Indiana Department of Education teacher education test requirements, become certified in a STEM field.

Note: GSTEP students' fall/spring schedule begin and end according to their assigned partner school corporation schedule. Students start co-teaching and full-time teaching with mentor teachers on the first day of school until the last day of school.

Domestic Track

Summer Semester – 13 cr. Hrs.
Foundational Courses

- ED 506: School and Society (2 cr.)
- ED 560: Literacies in the Content Areas (3 cr.)
- ED 570: Diversity, Equity, and Education (3 cr.)
- ED 604: Educational Psychology (2 cr.)
- ED 631: STEM Learning Communities (0 cr.)
- SPED 540: Learning Exceptionalities (3 cr.)

Seminars/Workshops
- ED 513: CPR/AED & First Aid (0 cr.)
- ED 514: Suicide Prevention Training (0 cr.)

Fall Semester – 12 cr. Hrs.
- ED 518: Curriculum Design and Differentiation (2 cr.)
- ED 631: STEM Learning Communities (0 cr.)
- ED 635: Clinical Practicum (co-teaching, 20 hrs./week minimum) (4 cr.)

One course from the following options (3 cr.):
- ED 582: Methods of Teaching Mathematics in Secondary Schools (3 cr.) **OR**
- ED 584: Methods of Teaching Science in Secondary Schools (3 cr.)

One course from the following options (3 cr.):
- ED 591: Investigation of Contemporary Topics in Science (3 cr.) **OR**
- An ED or MATH course (3 cr.)

Spring Semester – 9 cr. Hrs.
- ED 567: English Language Learning Methods (3 cr.)
- ED 631: STEM Learning Communities (0 cr.)
- ED 635: Clinical Practicum (full-time teaching, 14 weeks minimum) (6 cr.)
- ED 651: Seminar: Efficacy in Professional Practice (0 cr.)

International Track

Summer Semester – 17 cr. Hrs.
Foundational Courses
- ED 506: School and Society (2 cr.)
- ED 560: Literacies in the Content Areas (3 cr.)
- ED 570: Diversity, Equity, and Education (3 cr.)
- ED 595: Transition to US Education System (1 cr.)
- ED 604: Educational Psychology (2 cr.)
- ED 631: STEM Learning Communities (0 cr.)
- LS 606: English for Academic Purposes (3 cr.)
- SPED 540: Learning Exceptionalities (3 cr.)

Seminars/Workshops
- ED 513: CPR/AED & First Aid (0 cr.)
- ED 514: Suicide Prevention Training (0 cr.)

Fall Semester – 12 cr. Hrs.
- ED 518: Curriculum Design and Differentiation (2 cr.)
- ED 631: STEM Learning Communities (0 cr.)
- ED 635: Clinical Practicum (co-teaching, 20 hrs./week minimum) (4 cr.)
- GRD 500: Graduate Academic Success (0 cr.)

One course from the following options (3 cr.):
- ED 582: Methods of Teaching Mathematics in Secondary Schools (3 cr.) **OR**
- ED 584: Methods of Teaching Science in Secondary Schools (3 cr.)

One course from the following options (3 cr.):
- ED 591: Investigation of Contemporary Topics in Science (3 cr.) **OR**
- An ED or MATH course (3 cr.)

Spring Semester – 9 cr. Hrs.
- ED 567: English Language Learning Methods (3 cr.)
- ED 631: STEM Learning Communities (0 cr.)
- ED 635: Clinical Practicum (full-time teaching, 14 weeks minimum) (6 cr.)
- ED 651: Seminar: Efficacy in Professional Practice (0 cr.)

Requirements

The program consists of 34-38 credits of required coursework (depending upon thesemester of co-teaching in a rural or urban school setting, and during the spring semester fellows remain in the classroom teaching until the end of the school year under the supervision of a cooperating/mentor teacher and University supervisor.

Three checkpoints must also be successfully completed in the program. Checkpoint 1 is completed through submission of all materials required for admission to the program (see admission requirements described below). Requirements for Checkpoint 2 must be met after successful completion of all required coursework and prior to ED 635, the professional semester of student teaching clinical practicum experiences in the degree program. Checkpoint 3 is completed at the end of the ED 635 clinical practicum student teaching experience. This checkpoint involves successful completion of additional performance assessments during the professional semester of clinical practicum teaching experience, passing scores on Pearson Content Knowledge exam(s)

prior to the professional semester of teaching, and completion of all other licensing and degree requirements and Indiana Department of Education (IDOE) requirements.

Admission

In addition to meeting the requirements for admission to the Graduate School (*See graduate admission for Valparaiso*), applicants should meet the following requirements:

1. A cumulative undergraduate grade point average (GPA) of 3.000 or better on a 4.000 scale (Note: Candidates who can demonstrate excellence through other avenues will also be considered. All applications are considered in their entirety and selection is based on merit.

2. Applicants for admission to teacher education must demonstrate competency in basic skills through submission of passing scores on **ONE** of the following standardized tests[2]:

   • ACT with a score of at least 24 based on Math, Reading, Grammar, and Science
   • SAT with a score of at least 1100 based on Critical Reading and Math
   • GRE with a score of at least 301 based on Verbal and Quantitative
   • CASA (Core Academic Skills Assessment) exam with score of 220 (www.in.nesinc.com). Evidence of passing scores must be submitted at the time of application.

3. Essay relating graduate study to professional goals clearly stating reasons for wanting to become a STEM teacher working in a high-need urban or rural school with underrepresented students; this essay substitutes for the General Essay noted under Admission for Degree- Seeking Students.

4. Completion of an interview with STEM Admissions CommitteeApplicants interested in the Graduate STEM Education Program should contact the Graduate School or program director for additional information.

[2] *Anyone with a master's degree from a regionally accredited institution is exempt from this requirement. Secondary education candidates must also present passing scores on the content area by passing the Pearson Content Knowledge exams at the time of application for admission to the M.Ed. (Initial Licensure) program.*

Teachers Program Courses

Course Number	Course Name	Instructor	Meeting Time	Location
Ball State University				
ANAT 690-11 (37014)	Special Studies in Anatomy (1-3 credits)	M. Kelly-Worden	Independent Study	Arranged meetings
BIO 636-800 (36942)	Graduate Immunology (3 credits)	H. Bruns	Online (5/14/18-7/20/18)	Online
CHEM 563-1 (30730)	Principles of Biochemistry (3 credits)	TBD	Mon-Fri; 10-11:35 a.m. (6/18/18-7/20/18)	TBD
CHEM 675-800*	Advanced Topics in Chemistry (3 credits)	J. Pavlik	Online (6/18/18-7/20/18)	Online
CTE 560-820 (36958)	Occupational Safety and Health (3 credits)	E. Lazaros	Online (6/18/18-7/20/18	Online
HSC 572-800 (37038)	Women and Health (3 credits)	C. Jones	Online (5/14/18-7/20/18)	Online
HSC 581-800 (30665)	Stress Management (3 credits)	J. Kotecki	Online (5/14/18-7/20/18)	Online
MATH 623-810 (36599)	Probability, Data Analysis & Statistical Reasoning (3 credits)	Begum	Online (5/14/18-6/15/18)	Online
MATH 623-820 (31669)	Probability, Data Analysis & Statistical Reasoning (3 credits)	Begum	Online (6/18/18-7/20/18)	Online
MATH 632-820 (36840)	Assessment in Mathematics Education (3 credits)	Woodward	Online (5/14/18-6/15/18)	Online
MATH 641-870 (36841)	Topics in Geometry (3 credits)	Contreras	Tues/Thurs; 6:30-8:45 p.m. (6/18/18-7/20/18)	Online
MATH 690-	Curriculum & Instruction	Leitze	Online	Online

820 (31156)	in Mathematics Education (3 credits)		(6/18/18-7/20/18)	
PSYS 691-810 (35587)	Systems of Psychology (3 credits)	D. Butler	Online (5/14/18-6/15/18)	TBD
PSYS 695-002 (36511)	Issues in Human Sexuality (3 credits)	G. Gaither	Mon-Fri; 9:15-10:50 a.m. (6/18/18-7/20/18)	Online
TEDU 600-800 (37102)	Special Topics (3 credits)	M. Rose	Online (6/18/18-7/20/18)	Online
TEDU 698-800 (37103)	Seminar in Technical Education (3 credits)	J. Flowers	Online (5/14/18-6/15/18)	Online

IUPUI				
BIOL 69700 (13347)	Special Topics (1-3 credits)	P. Gentry	Online (5/8/18-6/19/18)	Online
BIOL 59500 (various—see below)	Special Assignments-PLTW only (3 credits)—See course descriptions below	M. Moore	8 am-6 pm (6/18/18-6/29/18)	TBA
MATH 50500 (12799)	Intermediate Abstract Algebra (3 credits)	R. Morton	Mon., Wed. & Thurs; 5-7:15 p.m. (5/8/18-6/19/18)	LD 229
MATH 51100 (9316)	Linear Algebra with Applications (3 credits)	R. Perez	Mon., Wed. & Thurs; 1-3:15 p.m. (5/8/18-6/19/18)	LD 002
BIOL 69700 (12753)	Special Topics – Stem Cell Theory & Application (3 credits)	J. Marrs	June 25, July 11, 18, & 25 from 1 to 5 p.m. and OL	SL 150
BIOL 59500 (various—see below)	Special Assignments-PLTW (3 credits)—See course descriptions below	M. Moore	8 am- 6 pm (7/9/18-7/20/18)	TBA

Purdue University				
EDCI 53900-001 (11014)	Intro to K-12 Integrated Science, Technology, Engineering & Mathematics Education (3 credits)	Maymester	Online (5/14/18-6/8/218)	Online
EDCI 53600-001 (10995)	Teaching and Learning Data Analysis and Probability (3 credits)	Kinney	Online (6/11/18-7/6/18)	Online

Valparaiso University				
COUN 575-EV (88259)	Human Neuropsychology in Counseling/School Settings (3 credits)	J. Nelson	In-person; Tues & Thurs, 6-9:30 pm (5/22/18-6/29/18)	Dickmeyer Hall, Room 102
IT 510-OL (88267)	Introduction to Information Technology (3 credits)	R. Wichlinski	Online (5/22/18-6/29/18)	Online
IT 502-OL (88272)	Introduction to Programming (3 credits)	S. Poposki	Online (5/22/18-8/10/18)	Online
IT 603-OLB (88268)	Information Management (3 credits)	G. Rue	Online (7/2/18-8/10/18)	Online
MATH 521-OL (88259)	Math Models for Infectious Diseases (3 credits)	D. Maxin	Online (5/22/18-6/29/18)	Online
STAT 540-OL (88310)	Statistics for Decision Making (3 credits)	T. Kolba	Online (7/2/18-8/10/18)	Online

*Email Kizmin Jones (kmjones4@bsu.edu) for registration information for CHEM 675-800

Course Descriptions

Ball State University Courses

Summer Semester (5/14/18-7/20/18)

ANAT 690-11 Special Studies in Anatomy (1-3 credits)
Problems of special interest in anatomy or in anatomy teaching. Individual work under the direction of a staff member may involve one or more of the following: experimental work, attendance in undergraduate classes, wide reading, and development of special techniques or skills in scientific investigation. (Prerequisite: permission of the department chairperson. A total of 3 credits may be earned.)

BIO 636-800 Graduate Immunology (3 credits)
This course will introduce the basic concepts of the immune system and discuss the role of the microbiome and nutrition in health and disease. Emphasis will be placed on the role of the normal microbiota, vitamins, herbs, and other nutritional supplements in metabolic and immunologic processes.   This course is designed to facilitate learning through the reading of primary literature sources, use of appropriate educational and medical databases, writing assignments, and discussion-based activities.

HSC 572-800 Women and Health (3 credits)
General overview of issues related to women and health; health needs of working women, special nutrition concerns the gynecological exam, reproductive anatomy and physiology, fertility and infertility, breast problems, wife abuse, and rape. (Not open to students who have credit in HSC 372.)

HSC 581-800 Stress Management (3 credits)
Aids in understanding the physiological, psychological, and sociological aspects of stress. Students will increase their awareness of the effects of stress, identify personal stress triggers, and develop strategies to minimizing stress throughout their daily lives. (Not open to students who have credit in HSC 381.)

Summer I (5/14/18-6/15/18)

CHEM 563-1 Principles of Biochemistry (3 credits)
Chemistry of proteins, enzymes, nucleic acids, carbohydrates, and lipids. For chemistry, life sciences, and pre-medicine majors. Three hours of lecture weekly. (Prerequisite: CHEM 232 or 235. Not open to students who have credit in CHEM 463.)

CHEM 675-800 Advanced Topics in Chemistry (3 credits)
The course will work within topics covered by the Indiana standards for a secondary school chemistry-I/II sequence, with a focus on exploring and evaluating different pedagogical methods to given topics. Pros and cons of methods will be analyzed based on a variety of academic indicators. Peer reviewed literature will also be incorporated to explore data-driven conclusions on methods where appropriate and available. A separate component of the course will be to have students develop a sizeable inventory of instructions for instructionally robust teacher-lead demonstrations.

CTE 560-820   Occupational Safety and Health (3 credits)
This course is a study of the practices used to ensure a safe and healthful environment for industrial and educational sectors. Examines hazard recognition and correction and the impact of safety and health regulating agencies.

MATH 641-870 Topics in Geometry (3 credits)
A survey of topics in contemporary geometry from various perspectives, including conjecture and exploration, formal analysis, and application beyond geometry. (Prerequisite: at least one year of teaching experience or permission of the department chairperson.)

MATH 623-810 Probability, Data Analysis & Statistical Reasoning (3 credits)
Students will select and use appropriate statistical methods to analyze data, develop, and evaluate inferences and predictions that are based on data, and understand and apply the basic concepts of probability. (Prerequisite: at least one year of teaching experience or permission of the department chairperson.)

MATH 690-820 Curriculum & Instruction in Mathematics Education (3 credits)
Focuses on the mathematics curriculum, with emphasis on current issues and trends, on teaching strategies, and standards-based teaching. Looking at mathematics curriculum from a K-12 perspective, students will work on understanding these recommendations in light of previous mathematics curriculum experiences. (Prerequisite: at least one year of teaching experience or permission of the department chairperson.)

PSYS 691-810 Systems of Psychology (3 credits)
The major concepts of various schools of psychological thought and contemporary theoretical systems as they have evolved from their historical origins.

TEDU 698-800 Seminar in Technical Education (3 credits)
An exploration of current problems, issues in technology and engineering education, career and technical education, and STEM integration.

Summer II (6/18/18-7/20/18)

MATH 623-820 Probability, Data Analysis & Statistical Reasoning (3 credits)
Students will select and use appropriate statistical methods to analyze data, develop, and evaluate inferences and predictions that are based on data, and understand and apply the basic concepts of probability. (Prerequisite: at least one year of teaching experience or permission of the department chairperson.)

MATH 632-820 Assessment in Mathematics Education (3 credits)
Issues related to assessment in mathematics education and the relationship of assessment to curriculum and instruction. Examination of various types of assessments administered in mathematics classrooms, as well as large-scale local, national, and international assessments. (Prerequisite: at least one year of teaching experience or permission of the department chairperson.)

PSYS 695-002 Issues in Human Sexuality (1-6 credits)
Investigation in the current literature of psychology. Topics will vary each semester, at the instructor's discretion. (Prerequisite: 12 graduate credits in psychology. A total of 6 credits may be earned.)

TEDU 600-800 Special Topics (3 credits)
The current shift to integrate science, technology, engineering and mathematics (STEM) into the programs and structure of schools presents both rewards and challenges for school leaders, teachers, and students. This online course will critically examine the nature of integrative STEM, models of implementing STEM programs and school-wide initiatives, and important milestones and quality indicators in the transformational shift to integrated STEM education. These studies will provide a framework for graduate students to evaluate, enhance, and propose an integrative STEM program or initiative at a school. (Prerequisite: permission of the department chairperson.)

IUPUI Courses

Summer I (5/8/18-6/19/18)

BIOL 69700 Special Topics: Model Organisms in Research (3 credits)
This course will look at the evolutionary relationships between organisms and how the similarities and differences allow for study of these organisms in biological research, especially research related to human health and disease. This is a 100% online delivered class. No on-campus class meetings are required.

BIOL 59500 Special Assignments-Purdue: Project Lead the Way Core Training (3 credits)
PLTW Core Training Session Dates: Session 1. Monday, June 18 - Friday, June 29, 2018
Please see [PLTW@IUPUI](#) for more information about the PLTW Core Training Programs

10318: **Human Body Systems**
Students examine the interactions of human body systems as they explore identity, power, movement, protection, and homeostasis. Exploring science in action, students build organs and tissues on a skeletal Maniken; use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration; and take on the roles of biomedical professionals to solve real-world medical cases. (For Participants of the Summer 2018 Project Lead the Way Program.)

MATH 50500 Intermediate Abstract Algebra (3 credits) **-On-campus**
12799 - Group theory with emphasis on concrete examples and applications. Field theory: ruler and compass constructions, Galois theory, and solvability of equations by radicals. (Prerequisite: MATH 45300 Beginning Abstract Algebra.)

MATH 51100 Linear Algebra with Applications (3 credits) **– On-campus**
9316 -Matrices, rank and inverse of a matrix, decomposition theorems, eigenvectors, unitary and similarity transformations on matrices. (Prerequisite: MATH 26100 Multivariate Calculus.)

Summer II (6/26/18-8/6/18)

BIOL 69700 Special Topics: Stem Cell Theory & Application (3 credits)
An intensive hybrid on-line and in-person course on a four-week schedule from June 25 to July 25 with four face-to-face meetings June 25, July 11, 18, & 25 from 1 to 5 p.m. Check Canvas course site for other course preparation, information, and messages. Meets at the IUPUI campus.

BIOL 59500 Special Assignments-Purdue: Project Lead the Way (3 credits)

Core Training Session Dates: Session 2. Monday, July 9 - Friday July 20, 2018
Please see PLTW@IUPUI for more information about the PLTW Core Training
Programs.

10317: Principles of Biomedical Science (PBS)
Teachers will develop a thorough understanding of the PLTW curriculum for students
to investigate the human body systems and various health conditions including heart
disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases.
They determine the factors that led to the death of a fictional person and investigate
lifestyle choices and medical treatments that might have prolonged the person's life.
The activities and projects introduce students to human physiology, medicine, research
processes and bioinformatics. This course is designed to provide an overview of all
the courses in the Biomedical Sciences program and lay the scientific foundation for
subsequent courses. (For Participants of The Summer 2018 Project Lead the Way
Program. Limited to 25 participating teachers.)

10503: Biomedical Innovations (BI)
Teachers will develop a thorough understanding of the PLTW curriculum for students
to apply their knowledge and skills to answer questions or solve problems related to
the biomedical sciences. Students design innovative solutions for the health
challenges of the 21st century as they work through progressively challenging open-
ended problems, addressing topics such as clinical medicine, physiology, biomedical
engineering, and public health. They have the opportunity to work on an independent
project and may work with a mentor or adviser from a university, hospital, physician's
office, or industry. Throughout the course, students are expected to present their work
to an adult audience that may include representatives from the local business and
health care community. (For Participants of the Summer 2018 Project Lead the Way
Program.)

10199: Medical Interventions (MI)
Students follow the life of a fictitious family as they investigate how to prevent,
diagnose, and treat disease. Students explore how to detect and fight infection; screen
and evaluate the code of human DNA; evaluate cancer treatment options; and prevail
when the organs of the body begin to fail. Through real-world cases, students are
exposed to a range of interventions related to immunology, surgery, genetics,
pharmacology, medical devises, and diagnostics. (For Participants of the Summer
2018 Project Lead the Way Program.)

Purdue University Courses

Summer I (5/ 14/18- 6/8/18)

EDCI 53900-001 Intro to K-12 Integrated Science, Technology, Engineering & Mathematics Education (3 credits)

This course will provide students with a conceptual understanding of integrated K-12 Science, Technology, Engineering and Mathematics (STEM) education and the nature of the disciplines of STEM. Students will explore implications for the teaching and learning of integrated STEM in a K-12 context through an evaluation of integrated approaches to STEM, national teaching standards and current research.

Summer II- 6/11/18-7/6/18

EDCI 53600-001 Teaching and Learning Data Analysis and Probability (3 credits)

This course will provide opportunities for the growth of middle school mathematics teachers understanding of data analysis and probability as a means to help analyze and interpret experienced events. The course will address the following: selecting and using appropriate statistical methods to analyze data, developing and evaluating inferences and predictions that are based on data, and understanding and applying the basic concepts of probability. This course will also address pedagogical approaches to students' learning of data analysis and probability.

Valparaiso University Courses

Summer Semester (5/22/18-8/10/18)

IT 502-OL Introduction to Programming (3 credits)
A first course in problem-solving through algorithm development and analysis and software design. Students design and write elementary and intermediate sized programs, including intensive study of Java or other programming language(s) of similar scale and complexity. An introduction to the best practices for professional/industry grade programming in included.

Summer I (5/22/18-6/29/18)

COUN 575-EV Human Neuropsychology (3 credits)
An introduction to the structure and function of the human brain, and the effects of various neurological disorders on cognition, emotion, behavior, learning, and other important aspects of the human person. Assessment and treatment strategies for problems such as learning disabilities, head injury, epilepsy and degenerative neurological diseases are discussed.

IT 510-OL Introduction to Information Technology (3 credits)
Reviews the academic discipline of IT, including pervasive IT themes, IT history, organizational issues, and relationship of IT to other computing disciplines. This also includes practicum to illustrate the nature of platforms and technologies currently employed in industry.

MATH 521-OL Math Models of Infectious Diseases (3 credits)
An application of mathematical methods and concepts to the study of infectious diseases. Analysis of outbreaks and control methods (such as vaccinations) using differential equations and elementary matrix algebra. (Prerequisites: MATH 131 and one of MATH 140, MATH 240, or PSY 201. This course is usually offered online during the summer sessions.)

Summer II (7/2/18-8/10/18)

IT 603-OL Information Management (3 credits)
Builds a deeper understanding of how databases work, including the topics of database theory and architecture, data modeling, normalization, query languages, security, and web applications. May be repeated more than once when topics differ. Prerequisite: IT 502.

STAT 540-OL Statistics for Decision Making (3 credits)
This is a study of statistical concepts and methods to facilitate decision making. Content includes analysis of variance, simple and multiple regression, correlation, time-series analysis, and nonparametric methods.

Admissions Information

Ball State University

Before You Apply
Students who wish to enroll in one or more courses as a Non-degree Seeking Graduate Student must meet the following admission criteria:
1. Hold an earned bachelor's degree from a college or university that is accredited by its regional accrediting association.
2. Satisfy one of the following:
   a. An undergraduate cumulative grade point average (GPA) of at least 2.75 on a 4.0 scale (all undergraduate coursework, including work completed prior to the baccalaureate degree, is used to calculate the GPA).
   b. A cumulative GPA of at least 3.0 on a 4.0 scale in the latter half of the baccalaureate. *

Step 1: Complete the Application
1. Find information about applying at:
   http://cms.bsu.edu/academics/collegesanddepartments/gradschool/admissions/application-process
2. Read the information, and then click the "apply now" box. (or go to:
   https://www.applyweb.com/bsug/index.ftl)
   a. When completing the application, apply as a "non-degree seeking student"
   b. When prompted, choose the "fee waiver" option at the end of the application process and select the "Con Selmer" fee waiver
   c. Add the following in the comments field: "Applying as part of the consortium teacher's grant for dual-credit licensure; please waive my application fee."
3. Follow the instructions for submitting your transcripts
4. Ask your school principal to send a letter confirming that your school is considered underserved and/or is experiencing a shortage of STEM teachers; send letters via email to: Dr. Jill Bradley-Levine, jsbradleylev@bsu.edu
5. In order for applications to be processed and students to register for courses on time, **the deadline to apply is Friday, April 27th**. The Graduate School must receive all of your application materials by this date.

Step 2: Register for Course(s)

1. Find information about registering for classes at:
   http://cms.bsu.edu/academics/advising/scheduling/course-registration
2. Use the username and password you were sent by the Graduate School to log into my.bsu.edu (Graduate Students taking online or on-campus classes will receive a username and password (credentials) from the Graduate School within 4-7 days after acceptance. This will be sent to the email address you provided on the graduate application.)
3. Follow steps on the website above to search for and register for a course.
4. Upon registration, students will receive access to their student account and Blackboard online course portal.

Tuition and Fees

- Tuition and the technology fee for a 3-hour **online course** will be $1,316 ($402/credit hour + $110 technology fee; students taking more than 7 credit hours pay $168 technology fee)
- Tuition and the technology fee for a 3-hour **on-campus course** will be $1,783 ($402/credit hour + $110 technology fee, $277 student services fee, $53 recreation fee, and $45 transportation fee)
- Lists of required textbooks are available through the Ball State Bookstore; you may purchase or rent texts through the Bookstore: http://bsu.bncollege.com/ or through other online book sites.
- **Upon completion of a course with a grade of C or better, the Hoosier STEM Academy will send a stipend of $1,375 to each participant.**
- Also upon completion of a course, students may obtain an official transcript with the course and grade. Official electronic transcripts are $12; instructions are available here:
  http://cms.bsu.edu/about/administrativeoffices/registrar/transcripts/

Please contact Kizmin M. Jones with questions: kmjones4@bsu.edu

*Nondegree students who later apply to a degree program must meet all entrance requirements of that program and must have maintained at least a 3.0 GPA in their nondegree coursework. No more than 9 hours earned in nondegree status may be applied to an advanced degree program if the person is later admitted as a degree-seeking student. The department in which the student is studying and the dean of the Graduate School will determine which credit hours earned in nondegree status will apply to a degree program. Credit hours must have been completed within the six-year time limit allowed for completion of a master's degree.

IUPUI

Go to http://graduate.iupui.edu/admissions/apply.shtml

1. **Click on: Begin your application for graduate or professional school at IUPUI**

2. **If you are new to IUPUI**: click on "**Create New Guest Account**".

3. **If you have been an IU or IUPUI student** in the past, you will need access to your university e- mail and passphrase, including a new feature at IU that requires an additional dual authentication or "Duo" log-in.

    - We recommend that you complete this initial registration step with assistance from UITS, by calling our help desk, available 24/7 at (317) 247-HELP or https://kb.iu.edu/d/abxl#iupui. They will walk you through the initial process to regain access to your IU/IUPUI account, reset your passphrase, and assist you with the new Duo authentication.
    - Once you have your IU log-in information, Click on "**Log in with Guest acct/ User ID**"

Application Steps

The first screen asks about your intentions by selecting one of two options:
Either choice below is acceptable for the Hoosier STEM Academy. However, we recommend that you apply as a **Graduate Non-Degree (GND)** Student initially:

- To apply to a degree (Master's, PhD, professional) or Graduate Certificate program (Select this only if you are certain you will complete a certificate or MS degree. This will require letters of recommendation, transcripts, a personal statement, and GRE scores).
- **To apply to a Graduate Non-degree (GND) Program to explore courses for future enrollment in a graduate/professional degree program or to take continuing education courses (We recommend selecting this option)**

There are six sections to the on-line Graduate Non-Degree (GND) application.
1. Personal Information
2. Additional Information
3. Application Information (Academic Program: Grad Non-Degree; Academic Plan: Graduate Non-Degree program; Enrollment Summer 2018)
4. Department Information (Do not complete the red survey link for "Departmental Information" – it is not needed for this program)
5. Affirmation Statement
6. Submit & Pay Fee ($60)

You do _not_ have to send transcripts, letters of reference, or a personal statement as a GND Student.

Once you submit the application, you will receive an e-mail acceptance, usually within ~72 hours. Please apply by no later than Monday April 23 for the Summer 2018 semester, which begins May 8, 2018.

Next Steps

1. **For new IU/IUPUI Students:** Create your IU University username (e-mail address) and passphrase https://one.iu.edu/task/iu/create-my-first-iu-account

2. **Duo Authentication**: More information about the Duo phone app here: https://kb.iu.edu/d/bfgm

3. **Register for classes at the One.IU Student Center** (One.iu.edu → Student Center SIS)

    (Detailed instructions https://ittraining.iu.edu/sis/sis-job-aids/cross-module-general-job-aids/student_center/Student_Registration.pdf)

4. **Tuition and Fees: Upon completion of a course with a grade of C or better, the Hoosier STEM Academy will send a stipend of $1,375 to each participant.** At IUPUI, Graduate tuition is **$347.22** per credit hour plus fees. For a 3-credit hour course,

    Tuition: $1,041.66 plus Fees: $258.61 = Total Cost: $1,300.27

    Parking: $160 per semester = Total cost (with parking): $1,460.77

5. **Academic Calendar: Summer 2018:** http://registrar.iupui.edu/enrollment/4182/cal4182.html

6. **Parking Services:** A semester ST (student) pass costs ~$160. https://parking.iupui.edu

7. **To obtain your Crimson Card** (student ID) after acceptance to the Graduate School: https://crimsoncard.iu.edu. Your Crimson Card is a combination of: Official ID Card, Payment Card,   Discount Card to local restaurants & attractions, Printing Card, and Library Card. Once you are on campus, plan to visit the Crimson Card office on the 2ⁿᵈ floor of the IUPUI Campus Center.

We're looking forward to working with you as a member of the Hoosier STEM Academy. Please contact me if you have any questions.

Sincerely,

Dr. Kathleen A. Marrs

Dr. Kathleen A. Marrs

Associate Professor of Biology

(317) 278-4551

kmarrs@iupui.edu

Purdue University

Graduate Application Process for the College of Education

1. For those wanting to complete a course or courses at the **post-baccalaureate, non-degree status**:
   A. Complete the Graduate School online admission application at www.purdue.edu/gradschool/admissions/how/index.html.
   B. There is no application fee for non-degree applicants.
   C. Some form of paperwork showing that you have a bachelor's degree; e.g., copy of teacher's license, diploma, or official transcripts, is required via the application.
   D. Once you are admitted by the Graduate School and view your admission letter, you will be sent instructions by email for setting up your *myPurdue* account (https://mypurdue.purdue.edu) in order to register for classes.

2. For those wanting to complete courses for a **graduate degree**:
   A. Complete the Graduate School online admission application at www.purdue.edu/gradschool/admissions/how/index.html. View Degrees & Programs on the Office of Graduate Studies web site at http://www.education.purdue.edu/gradoffice/.
   B. Pay the $60.00 application fee.
   C. Required application documents:
      i. Official GRE test scores (less than 5 years old) **IF** bachelor's or master's overall GPA at time of graduation is below 3.0/4.0
      ii. Official transcripts of grades from all universities attended
      iii. Statement of purpose
      iv. Three letters of recommendation
   D. Once you are admitted officially by the Graduate School and view your online admission decision letter, you will be sent instructions by email for setting up your *myPurdue* account (https://mypurdue.purdue.edu) in order to register for classes. Your registration PIN is 999999 for any session. Complete a Course Request Form 23 (available in Beering 3229) for any courses that are variable credit or require instructor permission to register. Return the form to Beering 3229.

3. For those who have already been admitted into the College of Education **as a post-baccalaureate, non-degree graduate student and have taken a course or courses within the past three sessions**, do not submit another application:
   A. Access your *myPurdue* account (https://mypurdue.purdue.edu) to register for classes. Your registration PIN is 999999. Complete a Course Request Form 23 (available in Beering 3229) for any courses that are variable credit or require instructor permission to register. Return the form to Beering 3229.
   C. Please note up to twelve hours taken at this status may be considered for an advanced degree (subject to approval by your major professor, committee, department, and university).

Beering Hall of Liberal Arts and Education, Room 3229
100 North University Street, West Lafayette, IN 47907-2098
education-gradoffice@purdue.edu; (765) 494-2345, Fax (765) 494-0587
www.education.purdue.edu/gr

Valparaiso University

Before you Apply:
Licensed Indiana STEM teachers who work in an underserved school, or in a school currently experiencing a STEM teacher shortage, are eligible to apply to take Hoosier STEM Academy courses at Valparaiso University. To enroll as a nondegree student you must have completed a bachelor's degree from an accredited college or university and must be able to provide a transcript indicating completion as part of the application process.

How to Apply:
Please submit the following materials (note: by May 4th for Summer enrollment)
- Valparaiso University Graduate School Application (https://emas.valpo.edu/Apply.aspx)
  - Please select *non-degree student* as your program of choice and indicate *Hoosier STEM Academy* on the application.
- Official transcripts of all previous coursework (Associate's, Bachelor's, Master's and/or Doctorate). Transcripts may be sent by secure e-script service to Graduate.School@valpo.edu or by mail to Valparaiso University Graduate School, 1700 Chapel Drive, Kretzmann Hall, Valparaiso, IN 46383.
- Letter from your school principal in support of your participation in graduate education at Valpo, and attesting that your school is either an underserved school or a school currently experiencing a STEM teacher shortage. Applications that make it clear that the intended graduate coursework will facilitate teacher credentialing for dual credit secondary STEM courses will be given priority.

Admissions questions? Contact Jessica Choquette, Assistant Director of Graduate Admissions, at Jessica.Choquette@valpo.edu or 219-464-5313.

Deadline for SUMMER 2018 courses: To enroll for Summer 2018, the Graduate School must receive all of your application materials by **Friday, May 4 at 5PM**. This will ensure sufficient time for applications to be processed and for students to be registered in courses for May 22 start.) For future terms, admissions will be on a rolling basis.

Registration process:
Once admitted, each student must complete and submit the following forms to the Graduate School in order to be registered for coursework:
5. Registration form (http://www.valpo.edu/registrar/files/2015/10/regform-1.pdf)
6. Student Payment Agreement form (http://www.valpo.edu/student-financial-services/files/2014/10/Educational-Benefit-Payment-Agreement-5-25-16.pdf)

Upon registration, students will receive access to a DataVU student account, a Valpo email address, and a Blackboard online course portal. Online orientation information will also be available via Blackboard.

Tuition and fees:
- Graduate course tuition for Hoosier STEM Academy Teachers will be $1,375 (a savings of $515 for a 3-credit graduate course) and students will be responsible for payment of the tuition at the start of each semester. Upon completion of each course with a grade of C or better, the Hoosier STEM Academy will send a reimbursement stipend of $1,375 to each participant. This $1,890 value for a 3-credit course is made possible by a grant from the Indiana Commission for Higher Education and a small scholarship from Valparaiso University.
- Hoosier STEM Academy Teachers are responsible for general student fees. Part time students (1-6 credits) are charged a general student fee of $121 for each Fall and Spring semester. No general fee is charged for Summer courses.
- Hoosier STEM Academy Teachers are also responsible for textbook costs. Books may be purchased or rented through the Valparaiso University Book Center (http://www.bkstr.com/valparaisostore/shop/textbooks-and-course-materials), or through other online book sites (i.e. Amazon, Chegg, etc.).
- Upon completion of a course, students may obtain an official transcript with the course and grade. Official electronic transcripts are $3 and official transcript delivered via USPS are $5.

Registration or tuition questions? Contact Jamie Haney, Associate Director of Academic Services, at Jamie.Haney@valpo.edu or 219-464-5313.