SYLLABUS | LA 312 – Landscape Architectural Engineering 2

Fall Semester 2026 | Tuesday + Thursday 12:30-3:15pm | RB 109 + studios

1. Course Information

Course Description

Principles and practices of landscape engineering. Emphasizes the techniques and applications of land surveying, earthwork techniques including grading and estimation, and principles of site drainage.
4 credits. Prerequisite: LA 270. Open only to LA majors.

Instructors

Paul Maginnity
AB 113 | Office Hours by appointment

April Westcott, FASLA, NOMA
AB 307 | Office Hours by appointment

Rationale

Visualizing and *understanding* landforms are arguably the most *indispensable tools* that a landscape architect can utilize throughout project design, documentation, and implementation; they are essential to the study and practice of landscape architecture. In those contexts, design very often entails at least some alteration of existing land surfaces – for example…mitigating the impact of people, vehicles, and water; determining proper locations for structures (e.g., buildings, foundations, circulation routes, walls, steps, etc.); accommodating proper & efficient drainage; adhering to basic stormwater management requirements; and *designing* landforms for functional and aesthetic purposes. This course will engage the student in the study of basic existing land and water systems, as well as the design and communication of proposed landforms & structures using the best and most suitable methods.

Course Learning Objectives

The primary objective of this second LA engineering course is to provide the student with the knowledge and skills necessary for comprehending, solving, and documenting a variety of site grading and drainage problems. Upon successful completion of this course the student will be able to do the following:

1. Demonstrate ecological literacy through an understanding of the relationships between ecological systems, land and soil structure, and surface drainage.
2. Identify contours and landform signatures.
3. Demonstrate an understanding of the relationship between soil structure and earthwork activities.
4. Comprehend site surveys and use basic equipment to generate a simple topographic survey.
5. Demonstrate an ability to manipulate contour lines and spot elevations to represent desired landforms.
6. Design basic land-structure relationships and communicate the designs graphically in two and three dimensions.
7. Create positive surface drainage by specifying slopes within allowable ranges and locating drainage structures.
8. Demonstrate a conceptual understanding of traditional stormwater management and green infrastructure strategies.
9. Apply methods of earthwork volume estimation for a site grading project.
10. Demonstrate an understanding of site accessibility requirements and issues as they relate to grading decisions.
11. Apply the fundamentals of standard construction documentation principles & practices to create manually and digitally drafted site grading plans and sections.

2. Course Text and Format

Course Text

- Site Engineering for Landscape Architects, 6th Edition (Strom, et al., 2013); available on Canvas as an eBook (through the Architecture Library); hardcopy available in the Architecture Library.

Course Format

The course will be synchronous, in-person, and consist of lectures, demonstrations, hands-on application, campus walks, and perhaps short field trips and/or guest speakers. Generally, the first hour of class will be dedicated to classroom lectures, demonstrations, and occasional exercises and workshops. The remainder of class time will be spent outdoors or in the studio on individual application, production, and one-on-one critiques/reviews of progress on assigned work. Information will be presented in a progressing sequence, each content area generally dependent on the *mastery* of previous content/topics. Therefore, the wise use of studio and on-time completion of assignments is *essential*. Falling behind in assigned work can quickly and easily lead to failure.

The course will begin with a series of smaller exercises that incrementally emphasize fundamental skills. Those skills will be applied on several increasingly complex site grading projects, which culminate with a larger-scale comprehensive project. Occasional quizzes will supplement assignments/projects to assess the student's understanding of concepts and details, help ensure students are completing assigned readings, and to help monitor class attendance. Mathematical and drawing accuracy is crucial. Hand drawing will be emphasized early but CAD will be the dominant drafting tool.

This course will be managed online using **Canvas** (bsu.instructure.com, your BSU username and password required for access). All course materials (assignments, lectures, etc.) will be made available there. Students will be expected to read, download, and/or print pertinent content as necessary, and are therefore encouraged to check the course site regularly for new postings. The student's BSU email will be the primary method of non-classroom communication, so it is critical that email is checked regularly to avoid missing important course announcements. The student must include BOTH instructors on all student-instructor email correspondence.

Attendance and Punctuality

Attendance at lectures and active participation during scheduled class periods is required. Interaction with the instructor(s), engagement with the material, and demonstration of skill development is critical to a student's learning and final course grade. If a student is absent or tardy for any reason, they alone are responsible for making up the work or catching up on the lessons/material covered while absent. Lectures and demonstrations will not be repeated for a student who misses class. If a student knows in advance that they will be absent, they must immediately inform their instructor(s) immediately via email. The instructor(s) will generally accept excusable absences (e.g., illness, injury, family emergency, etc.).

A student's unexcused absences and frequent tardiness will negatively affect their final course grade. **Four (4) unexcused absences will result in a ½ letter grade reduction of their final course letter grade; each two (2) absences thereafter will result in another ½ letter grade reduction. Missing 30 minutes of class or more is equivalent to one (1) unexcused absence.**

3. Course Assignments and Assessments

Course Assignments and Assessments

The student's performance in the course will generally be evaluated in the following manner. Specific evaluation criteria will be provided with each assignment. *Careful attention to detail is absolutely CRITICAL!*

A. Conceptual understanding through appropriate representation
B. Technical accuracy
C. Communication (drafting, lettering, line work, sheet layout, etc.)

Specifically:

Exercises, Field Assignment, Tutorial, Practice Model, Quizzes **30%**

Periodic quizzes to help engage students in learning the fundamentals of slope and grading.

- Seven (7) short Canvas-based quizzes (7%)

Eight (8) hands-on foundational skill-building exercises/assignments.

- Four (4) Small-Format Exercises (10%)
- One (1) Topographic Surveying Field Assignment (10%)
- One (1) Laser Cutter Tutorial (1%)
- One (1) 3D Practice Model (2%)

Site Grading Projects **65%**

Four (4) site-scale projects of increasing scale and complexity.

- Project #1: Tennis Court (10%)
- Project #2: Parking Lot (10%)
- Project #3: Single-Family Residential Design (25%)
- Project #4: Multi-Family Housing/Community Design (20%)

Progress and Participation **5%**

Punctuality, productivity during class time, participation in course activities, regular response to instructors' feedback, attitude, and professionalism (awarded at instructors' discretion).

TOTAL: 100%

Assigned Work

All assigned work must be completed and submitted for the best chance to pass the course. Assigned work will generally be due at the beginning of class (BOC) or by 11:59pm on a given day. See semester schedule for details. Exercises 01-04 will be awarded a completion grade (full points), where **the student is expected to give maximum effort and submit complete work on-time; <u>if any portion of an Exercise is incomplete, it will receive no credit</u>.** A solution key will be posted for each exercise once all exercises have been submitted. The student will be responsible for using the solution key to self-grade their work, and for comprehending the material and creating a resource guide for use during the semester. All other assigned work will be scored/graded using a suitable rubric.

Late Work

All assigned work must be submitted ON TIME for full credit. Late **<u>submittals must be addressed immediately and communicated to instructor before the deadline</u>**. Failure to communicate with instructor prior to submittal deadline, will result in a zero being recorded for that assignment, no exceptions.

It is the student's responsibility to plan for assignment completion, printing, and delivery. Assignments will be due by the time and date specified. A **10-point penalty will be applied to all assigned work received *after* the time deadline on the day it is due**; a **5-point penalty will be applied each day thereafter** (Note: 11:59pm will be considered the end of the day). **No work will be accepted if received beyond seven (7) calendar days late.**

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Grading Scale

A (100-94)	**Distinguished Work** – work reflecting superior design, technical, graphic, and subject matter execution, with great attention to detail and accuracy; may exceed assignment requirements; revisions are unnecessary or minor.
A- (<94% - 90%)	Nearly Distinguished Work
B+ (<90% - 87%)	Very Good Work
B (<87% - 84%)	**Good Work** – work which demonstrates a solid understanding of the concepts, forms, structures, content, and their application in the assignment, but requires some revisions to clearly and completely communicate or to do so with complete accuracy
B- (<84% - 80%)	Average to Good Work
C+ (<80% - 77%)	Above Average Work
C (<77% - 74%)	**Average Work** – work which indicates a satisfactory understanding and execution of the assignment, but needs moderate revisions to fully communicate and thoroughly demonstrate implementation of concepts and/or requires moderate revisions to achieve complete accuracy.
C- (<74% - 70%)	Below Average Work
D+ (<70% - 67%)	Poor Work
D (<67% - 64%)	**Very Poor Work** – work which is partially incomplete and/or demonstrates a poor understanding of process, concepts, and/or content; solutions are inconsistent, significantly inaccurate, and/or fail to meet minimum requirements; work requires extensive revisions.
D- (<64% - 60%)	Extremely Poor Work
F (<60% - 0%)	**Failure** – work which is substantially incomplete and/or demonstrates a failure to either comprehend or implement the subject matter; most phases of work are incomplete and/or unacceptable; and/or work was not submitted.

NOTE: A final course grade of C- is required; anything lower will require that student to retake the course.

Generative AI Statement

The use of Artificial Intelligence (AI) to complete any assignment (in part or entirely) can be beneficial (brainstorming, image creation, research, writing assistance, etc.), but it can also be a form of cheating. Therefore, if AI is not explicitly part of a given assignment's workflow or deliverables, the student must consult with the instructor on the use of AI tools (e.g., ChatGPT, Claude, Midjourney, Adobe Firefly, or others) for completing any assigned work. If used, the student must cite any AI-generated material that informed their work. Using an AI tool to generate content without proper attribution constitutes a violation of Ball State University's Student Academic Ethics Policy. If it is appropriately determined by the instructor that the work submitted by the student is not their own (by way of plagiarism, unapproved use of AI tools, or other forms of cheating), a grade of zero (0) will be assigned for that work.

Academic Ethics

Academic dishonesty, such as plagiarism, involves violations of procedures which protect the integrity of the coursework completed by a student. Honesty, trust, and personal responsibility are fundamental attributes of the University community. Academic dishonesty by a student will not be tolerated, for it threatens the foundation of an institution dedicated to the pursuit of knowledge. To maintain its credibility and reputation, and to equitably assign evaluations of scholastic and creative performance, Ball State University is committed to maintaining a climate that upholds and values the highest standards of academic integrity.

The student is welcome to discuss assignments with fellow students. However, all work submitted by each student for evaluation must be the result of that student's individual effort. The instructors will adhere to university Academic Integrity policies and procedures.

Academic integrity violations include giving or receiving an unfair academic advantage (cheating), presenting someone else's ideas or work as your own (plagiarism), and falsifying academic records. The student should check with instructors if they are unsure whether something constitutes academic dishonesty. Examples of academic integrity violations include but are not limited to:

- Using resources not authorized by the faculty member (including devices, AI tools, hidden notes, and open books).
- Using commercial study websites to find answers to graded assignments (Chegg, Course Hero, StudyPool, OneClass, etc.).
- Without the instructor's written permission, giving away, buying, or selling graded assignments class notes, exams, study guides, or other course materials to other students or to third-party vendors (Course Hero, Chegg, 24HourAnswers, etc.).
- Working with another person on any assignment other than authorized group projects.
- Sharing or allowing others to access your files, whether done with permission or not.
- Reusing your own work from another semester, course, or section.
- Sharing answers with others during exams (passing notes, texting, whispering, gesturing).
- Discussing exam questions and answers with students who have not taken the exam.
- Soliciting others to complete work for you.

Technical Assistance

If a student needs technical assistance with Canvas or other IT/hardware/software issues, they should contact the BSU Help Desk at 765-285-1517 or toll-free at 1-866-771-3276. The student may also visit the link below and follow the *Knowledge Base* link to find useful how-to videos and answers to many frequently asked questions. They are available for walk-in support at Tech Center, Bracken Library, room 101.

4. University Policies and Statements

University and Disability Statement

We are committed to ensuring that all members of the community are welcome, through valuing the various experiences and worldviews represented at Ball State and among those we serve. We promote a culture of respect and civil discourse. If you need course adaptations or accommodations because of a disability, please contact the instructor of record as soon as possible. Please note that instructors are not authorized to determine disability, provide certification of disability, or to arrange for a determination of disability. 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.

Student Leaves

Leaves and excuses by reason of bereavement/funerals, jury duty, and pregnancy shall comply with university policies. Arrangement for completion of assigned work shall be made with the instructors.

Freedom of Expression

In this course, we are committed to fostering a learning environment that values intellectual diversity, encourages free expression, and promotes open inquiry. As members of the Ball State Community, we treat each person in the Ball State community with civility, courtesy, compassion, and dignity and respect and learn from differences in

people, ideas, and opinions. Please review Ball State University's Statement on Freedom of Expression, the resources on Ball State's Freedom of Expression webpage, and Ball State's Beneficence Pledge.

Title IX

Ball State University is committed to providing a safe and inclusive learning environment for all students. If you or someone you know has experienced sexual harassment—including sexual assault, dating violence, domestic violence, or stalking, please know that you are not alone. The University offers support services and resources. For more information or to report an incident, please visit BSU's Title IX web page or contact the Title IX Coordinator at 765-285-1545 or at titleix@bsu.edu.

As your instructors, we are mandatory reporters under the Title IX policy and required to report any information we receive about possible sexual harassment. This includes information shared in class discussions, assignments, or private conversations.

What happens after we report? The Title IX Coordinator will email the person who experienced sexual harassment (complainant) and invite them to schedule a meeting. If the complainant **chooses** to meet with the Title IX Coordinator,

- Title IX Coordinator will offer supportive measures (e.g., counseling, extensions on deadlines, course-related adjustments, changes to work or class schedules, and/or referrals to campus offices), review the policy, and discuss options to move forward.
- If a complaint is filed by the complainant or the University, an investigation will begin following University policy.

Anti-Bias, Anti-Harassment, Sexual Harassment

To report a bias, harassment, or sexual harassment incident, use the reporting process found at the Say Something link.

- Ball State University's Say Something
- Ball State University's Anti-Harassment Policy
- Ball State University's Statement on Sexual Harassment

University Grade Appeal Policy

If you believe you received a final course grade that does not reflect your performance due to fairness or a procedural issue, you have the right to file an appeal within five (5) school days after final grades are posted by the Office of the Registrar. Review the University Grade Appeal Policy and Process.

5. In Case of Emergency

In Case of Emergency

If, for any reason, an emergency situation occurs during class and your instructors are unable to coordinate a response, PLEASE IMMEDIATELY LOCATE AND ACTIVATE THE RED CALL BUTTON LOCATED ON THE WALL in your studio and/or the AB 210 classroom (and other classrooms in which you may meet). Students should also call 9-1-1 or University Police at 765-285-1111.

6. Student Support Services

The Learning Center

The Learning Center offers free Tutoring and Academic Coaching for many courses at Ball State. Students can make appointments for online (Zoom) or in-person (NQ 350) appointments. To make an appointment, visit myballstate.bsu.edu and click on "Navigate" in the Academic Tools section, or just go directly to bsu.navigate.eab.com.

Testing accommodations for students with disabilities are available for students who have received the appropriate documentation from Disability Services. Tests may be administered in the Learning Center. Supplemental Instruction is available in select courses. If a student has an SI leader for their course, that person will provide students with information the first week of school regarding weekly study sessions. For more information about Learning Center programming, visit bsu.edu/learningcenter or call 765-285-1006. Follow us on Instagram: BallStateLC.

The Writing Center

All writers improve with practice and feedback, so students in this course are encouraged to use the Writing Center (in Robert Bell 295 during weekdays, Bracken Library First Floor West in the evenings, or online during any of our regularly scheduled hours) to get additional feedback on their writing.

The Writing Center offers free planning, feedback, and accountability sessions (in person and online) to all students composing essays, reports, reflections, research projects, web content, lesson plans, slideshows, poster presentations, resumes, and other digital or print texts. To schedule a free appointment to discuss writing, go to bsu.edu/writingcenter. Online and in-person appointments are available; however, students should plan ahead because appointments book quickly!

The Basic Needs Hub

If a student is having difficulty affording enough food, does not have a safe and reliable place to sleep, and/or is experiencing an emergency or crisis, help is available through the Basic Needs Hub. The Basic Needs Hub has information, resources, and provides individualized support to students. To talk with a supportive staff member about an experience, receive one on one assistance, or learn more about resources, students can submit a Basic Needs Assistance Form.

The Counseling Center

The Ball State University Counseling Center offers free and confidential services to all students. The Counseling Center is located in Lucina Hall, Room 320. To schedule an appointment, students can contact them at 765-285-1736. Ball State also offers a 24/7 Crisis Line, which can be reached at 765-285-HOPE (4673). The Crisis Line is a mental health resource for those who are struggling with any mental health concerns, including thoughts of self-harm and/or suicide.

At the Ball State Counseling Center, we see students for a variety of reasons, some of which include homesickness, relationship concerns, anxiety, and depression. At your first appointment, you will work with a therapist to create a plan that will connect you with resources that best fit your needs. We assist students with getting connected to therapy at our Center as well as connecting students to self-help resources, other on-campus resources, and community-based resources. All Ball State students also have access to several on-demand, self-help resources through a variety of different platforms. All of these resources, including a direct link to our website, can be found **here**.

The Speaking Center

The Speaking Center is a free resource available to all members of the BSU community wanting to improve their public speaking abilities. We offer personalized coaching designed to help you become a more confident and effective speaker. Our trained coaches provide constructive feedback and support throughout the entire speech preparation process, whether you are in the early stages of brainstorming ideas and organizing your thoughts, or you need to practice your delivery and refine your message.

The Center is in the David Letterman Communication and Media Building, room 302. To schedule an appointment, please access us through your Navigate app or use this direct link to sign up for a time**.** Appointments are available both in person and on Zoom. Appointments are available in person, on Zoom, and in virtual reality (VR) for those interested in practicing in an immersive speaking environment.

7. Student Privacy

FERPA and Privacy

As a student, your educational records are considered confidential. Under FERPA (Family Educational Rights and Privacy Act), your records are confidential and protected. Under most circumstances, your records will not be released without your written and signed consent. However, some directory information may be released to third parties without your prior consent unless a written request to restrict this is on file. You can learn more about student rights to privacy by reading **Ball State's FERPA and Privacy and Protection.**

To support a learning experience that is responsive to the needs, interests, and pace of our class community, the course schedule may shift over the semester. Likewise, this syllabus is subject to change in the event of extenuating circumstances. The most current version of the schedule and syllabus will always be available on Canvas. You are encouraged to check Canvas regularly for updates and contact your instructors if you have any questions.