SOUTHERN ILLINOIS UNIVERSITY
EDWARDSVILLE

Our Community of Academic Excellence

A Family Introduction to Student Transition & Success

An Institutional Culture of Success

- Transitional Pathways
- Academic Advising
- Student Success
- Educational Resources
- Staff & Faculty Support

SOUTHERN ILLINOIS UNIVERSITY
EDWARDSVILLE

Transitional Pathways

- Initial Entry
- Educational Preparation
- Resource Procurement
- Preparing to Start
- Beginning the Journey

Academic Advising & Preparing to Succeed

- Cougar Four (15 to finish in four years)
- First Year & Transitional Advising
- Reaching Out & the Relationship with the Advisor
- Academic Schedule and Progression Toward Degree
- Registration and Preparing to Succeed

SOUTHERN ILLINOIS UNIVERSITY
EDWARDSVILLE

Student Success

- Cougar Four (15 to finish)
- Navigating the University
- Starfish
- CougarNet
- Degree Works
- New Student Transition Course

SOUTHERN ILLINOIS UNIVERSITY
EDWARDSVILLE

Educational Resources

- Academic Success Tools (Cougar Net, Starfish, Degree Works)
- Learning Support Services
- Success Coaches
- Changing Majors (or adding minors, metamajors)
- Financial Aid
- Academic Advising, SOAR, Program Specific Advisors/Mentors
- Academic Testing

Faculty/Staff Relationships & Support

- Faculty & Staff **want** your Cougar to succeed
- Encourage your student to read and follow the course **Syllabus**
- Encourage your student to check **Blackboard** daily
- Encourage your student to take advantage of faculty **office hours**
- Encourage your student to get involved in a **club/organization**

SOUTHERN ILLINOIS UNIVERSITY
EDWARDSVILLE

Syllabus for **IE 106**
Engineering Problem Solving
School of Engineering
Spring 2025 Semester

About the Course

Welcome to IE 106

Welcome to Engineering Problem Solving! This course is designed for first year engineering students as an introduction to the engineering profession. Several disciplines in engineering (civil, electrical, mechanical, and industrial) will be explored through group-based hands-on projects. Students will be introduced to fundamental engineering concepts as well as problem solving, communication, technical writing and teamwork required of all engineering disciplines.

Class Meeting (Live, Face-to-Face)

Tuesday & Thursday 12:30 to 1:45 pm, Engineering Building, Room 1033
No Classes March 10-14 (Spring Break)

See the accompanying schedule for topics each session. Class sessions will be a mix of technical lectures, communications skills lectures, tests, project work days, and project presentations. Attendance and full participation is expected of you at all sessions.

Course description

Fundamental steps of problem definition, formulation, and solution approaches universal in all engineering disciplines; basic skills of reasoning & logic; case studies; small projects. 3 credit hrs.

The class will be broken up into four, four-week modules. Each module will focus on a single engineering discipline at a time (civil, mechanical, electrical, and industrial). Classes will also include technical writing, communication and a panel session with practicing engineers.

There will be one project per module, for a total of four projects. There will be one individual homework assignment and one group homework assignment per module, for a total of eight homework assignments. There will be one test per module, for a total of four tests.

Prerequisites

None

The Syllabus

- It all starts with the **Syllabus**
- Course outline & goals

Course textbooks

Eide, Jenison, Mickelson & Northup ***Engineering Fundamentals and Problem Solving,*** 7th Edition; McGraw Hill Education, 2018. ISBN 9780073385914. This textbook is required. Undergraduate students can rent textbooks from SIUE. Please visit the Textbook Service website for more information.

Other course materials (required)

1. Trigonometry-capable calculator (sine, cosine, etc.)
2. Straight edge (preferably transparent).
3. Template for drawing basic shapes (e.g., circles, squares, triangles).
4. 25' tape measure.
5. Digital camera or photo-capable smart phone.
6. Computer use is required, but the student does not need to furnish their own computer. Many open-access computers are available throughout campus, including Lovejoy Library, the Engineering Building, and on-campus student housing buildings.

Grading

An overall percentage determined by the weighting scheme shown below. You will receive, at a minimum, the letter grade indicated on the scale below. If the instructor deems it necessary to adjust the scale, you may receive a higher grade. In no case will you receive a lower grade.

The course will be graded as follows (1000 points total are possible):

Attendance/Participation	25 points or 2.5% (one point for most class sessions)
Surveys	15 points or 1.5% (three surveys, 5 points/each)
Homework	160 points or 16% (8 assignments at 20 points/each)
Projects	400 points or 40% (4 projects at 100 points/each)
Tests	400 points or 40% (4 tests at 100 points/each)

Letter Grade Scale (no round-up):

A	900 points or more
B	800 – 899.99 points
C	700 – 799.99 points
D	600 – 699.99 points
F	less than 600 points

The Syllabus

- It all starts with the **Syllabus**
- Course outline & goals
- Textbook(s) & other resources
- Grading & assessment methods

Submitting work

Assignments and homework are due at the date and time indicated. Homework and other assignments should be submitted via Blackboard. Your submissions should be:

1. In the format I specify for that assignment; legible and professionally presented.
2. Clearly show how you worked out the problems. Submissions with only final answers will not receive credit.
3. Proper grammar, spelling, punctuation, and format all count. By now you should have taken English Composition and Interpersonal Communication courses; use what you learned there in this course.

Assignments that are not submitted as per the above guidelines will receive a lower score. These guidelines are not established because I want to be difficult; these guidelines are intended to replicate expectations in the real world of business. In industry, the ability to stay on schedule is absolutely critical to the success of every project, so get accustomed to the discipline of meeting deadlines and following instructions.

Late Homework Policy

Homework or projects that are submitted from 1 minute late to 23 hours + 59 minutes late will lose 10% of the available points.

Homework or projects that are submitted from 24 hours late to 48 hours late will lose 25% of the available points.

Homework or projects that are submitted more than 48 hours late will receive a zero.

Homework and projects are not just busy work; they are an important part of the learning tools in this course, and should not be taken lightly. In extenuating circumstances, exceptions to the above late policy can be requested by the student *in advance*, or as soon as possible thereafter when a valid emergency prevents timely completion.

Missed Quiz/Exam Policy

Missed quizzes or exams will receive a score of zero unless arrangements are made in advance.

If a student has an unavoidable conflict with a scheduled exam or quiz, the student must notify the instructor in advance. The decision to excuse or not excuse an absence on a quiz or exam date is solely at the discretion of the instructor. For a missed quiz or exam not cleared with the instructor in advance, exceptions will be made only in rare circumstances.

In cases where the instructor has excused a student absence on a quiz or exam date, the student will be given the opportunity to make up the quiz or exam in the instructor's office during normal office hours. The missed quiz or exam must be made up within 5 calendar days; otherwise the quiz or exam is considered forfeited with a score of 0.

The Syllabus

- It all starts with the **Syllabus**
- Course outline & goals
- Textbook(s) & other resources
- Grading & assessment methods
- How to communicate with the course instructor
- Policies and expectations

The Syllabus

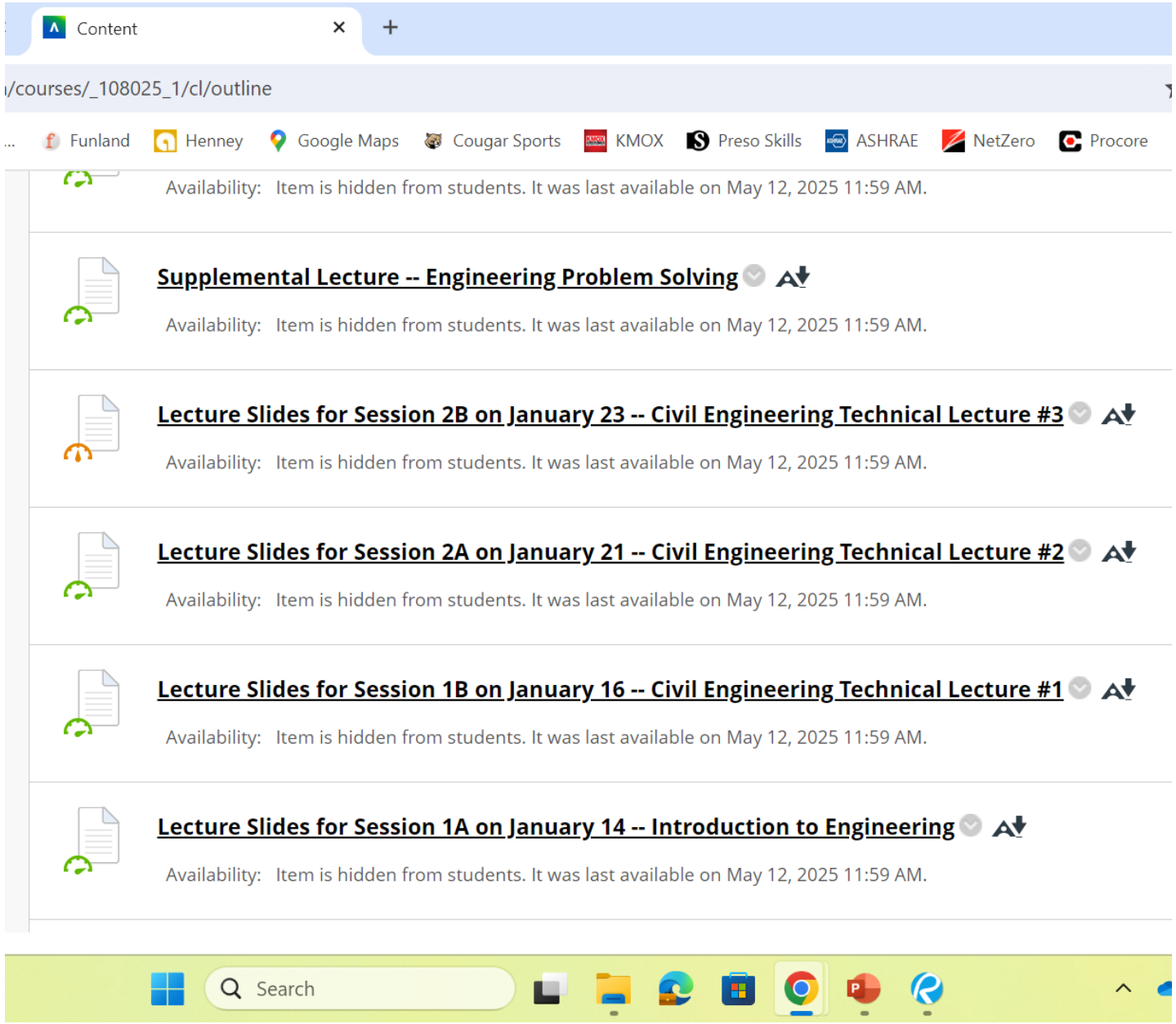
IE 106 Engineering Problem Solving / Spring 2025 / Instructor: Mr. Stephen W. Duda, PE
Class Meets Tuesday & Thursday 12:30 to 1:45 pm in Room EB-1033

Class Date	Lecture Number & Description	Required Reading*	Homework Assignments	Group Projects
1/14	1A: Course Intro, Syllabus, Intro to Engineering	1.1 to 1.4		
1/16	1B: Civil Engineering Technical Lecture #1	1.5.3 & 1.5.6		CE Project Assigned
1/21	2A: Civil Engineering Technical Lecture #2	Chapter 3		|
1/23	2B: Civil Engineering Technical Lecture #3	Chapter 3	CE HW #1 Due	|
1/28	3A: Technical Writing Lecture	Chapter 5		↓
1/30	3B: Civil Engineering **Test** & Project Work Day	---	CE HW #2 Due	
2/4	4A: Civil Engineering Project Demonstrations	---		CE Project Due
2/6	4B: Civil Engineering Project Demonstrations	---		
2/11	5A: Mechanical Engineering Technical Lecture #1	1.5.1 & 1.5.8		
2/13	5B: Mechanical Engineering Technical Lecture #2	Chapter 16		ME Project Assigned
2/18	6A: Mechanical Engineering Technical Lecture #3	Chapter 16	ME HW #3 Due	|
2/20	6B: Oral & Verbal Communications Lecture	Chapter 4		|
2/25	7A: Mechanical Project Work Day	---	ME HW #4 Due	↓
2/27	7B: Mechanical Engineering Test	---		
3/4	8A: Mechanical Engr Project Demonstrations	---		ME Project Due
3/6	8B: Mechanical Engr Project Demonstrations	---		
3/11	***Spring Break***			
3/13	***No Classes***			
3/18	9A: Electrical Engineering Technical Lecture #1	1.5.4 & 1.5.5		
3/20	9B: Electrical Engineering Technical Lecture #2	Chapter 17		EE Project Assigned
3/25	10A: Electrical Engineering Technical Lecture #3	Chapter 17	EE HW #5 Due	|
3/27	10B: Industry Day	Chapter 2		|
4/1	11A: Electrical Project Work Day	---	EE HW #6 Due	↓
4/3	11B: Electrical Engineering **Test**	---		
4/8	12A: Electrical Engineering Project Demonstrations	---		EE Project Due
4/10	12B: Electrical Engineering Project Demonstrations	---		

- It all starts with the **Syllabus**
- Course outline & goals
- Textbook(s) & other resources
- Grading & assessment methods
- How to communicate with the course instructor
- Policies and expectations
- Course schedule

Blackboard

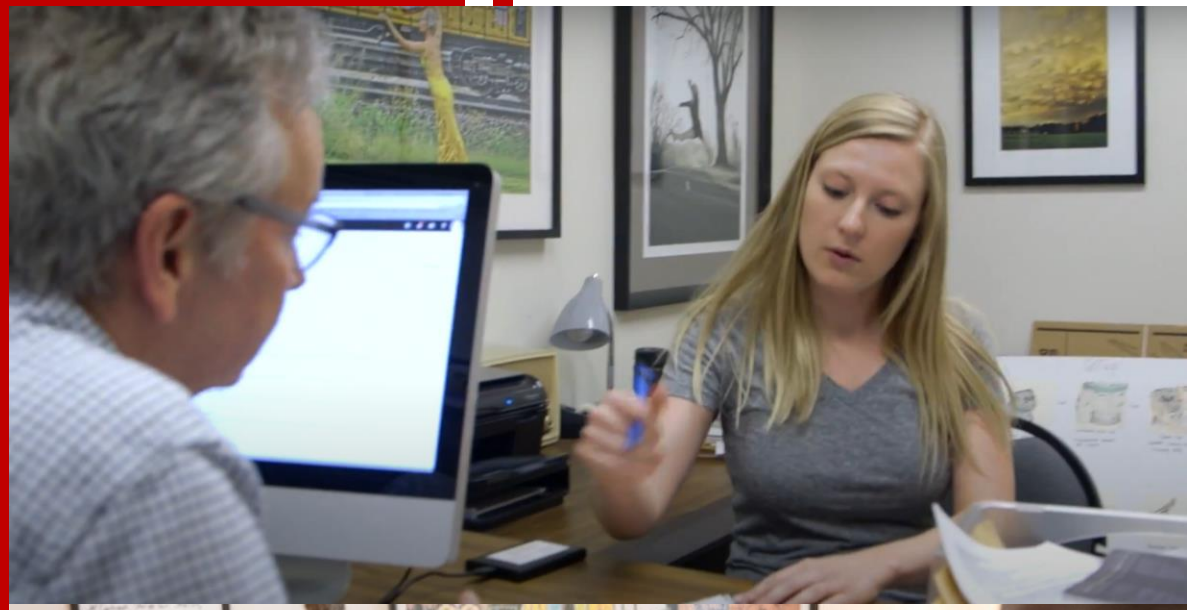
- One “shell” for each course
- This is where your Cougar will track the course **day-to-day**
- Assignments & due dates
- Lecture notes & updates



Blackboard

- One “shell” for each course
- This is where your Cougar will track the course **day-to-day**
- Assignments & due dates
- Lecture notes & updates
- In-progress grading
- Course calendar
- Supplemental material & help
- Announcements

CIVIL ENGINEERING TEST 1/30/2025	CIVIL ENGINEERING PROJECT	MECH ENGR INDIVIDUAL HOMEWORK-3	MECH ENGR GROUP HOMEWORK-4
85.00	92.10	20.00	19.00
97.50	85.50	20.00	19.00
90.00	77.90	19.50	19.30
95.00	85.30	20.00	18.50
97.50	91.05	19.00	18.00
92.50	91.50	16.50	19.00
77.50	82.65	16.50	18.70
70.00	80.11	0.00	17.50
100.00	92.15	19.50	19.50
92.50	83.90	17.00	14.00



Office Hours

- Encourage your Cougar to take advantage of faculty **office hours**
- All Professors have regular office hours each week – schedule is found in Syllabus or Blackboard
- Homework help, study help
- For both the strong & struggling
- Informal, low-key way to get to know the professor outside the classroom

Office Hours

- Encourage your Cougar to join an extracurricular club/organization
- Each RSO (recognized student organization) has a **faculty advisor**
- Informal, low-key way to get to know a professor outside the classroom & bond over common interests

Lessons Learned: Supporting your Cougar

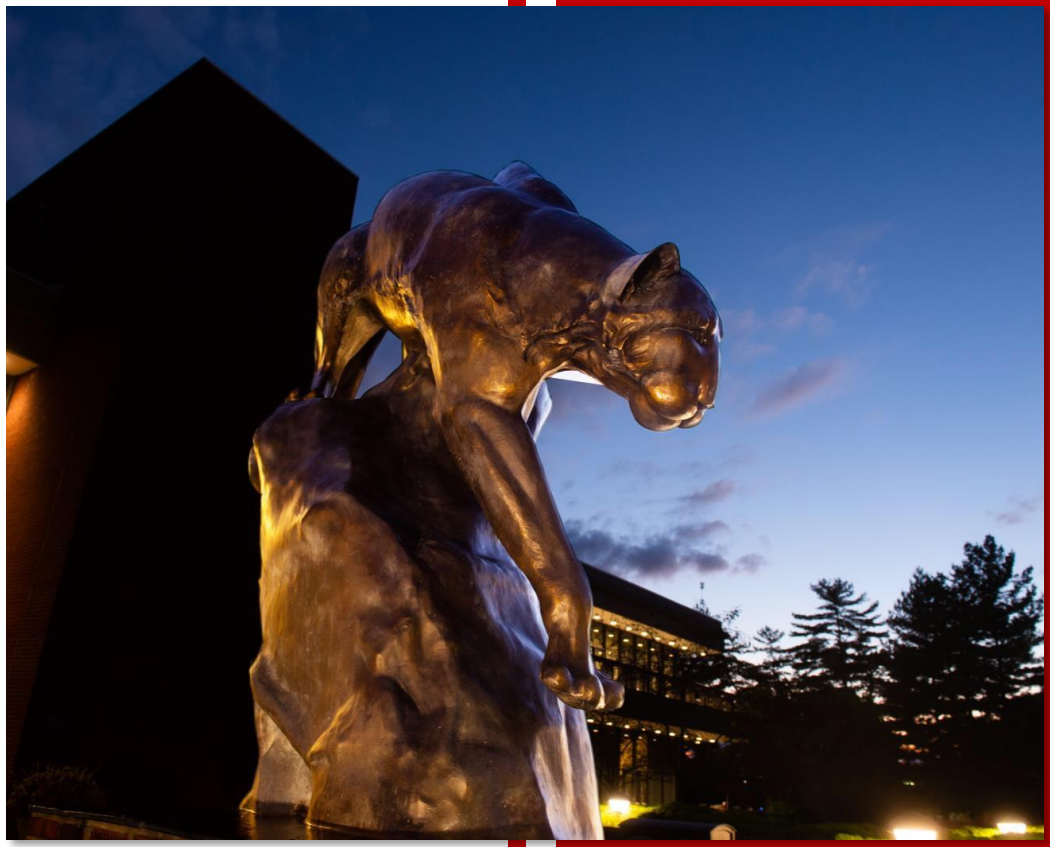
- This isn't High School anymore – your Cougar is an adult
- Professors won't hound students for missing assignments or to make up missed course content – student's responsibility
- It is up to the student to study, submit assignments on time, know when exams will be given, know when projects are due, read the assigned material (whether there is a quiz, or not!

Lessons Learned: Supporting your Cougar

- Tell them it’s okay to ask for help or admit “I don’t understand”
- Remind them to arrive for class on time or a little early
- Suggest they respectfully contribute to class discussions
- Help them manage their time effectively
- Remind them to take responsibility for their actions

Opportunities to Challenge Your Cougar

- Parent & Family Engagement
- Study Abroad
- Senior Assignment (or capstone projects)
- Internships
- Microcredentials




"Dreams can become a reality when we possess a vision, a plan, and the courage to chase it relentlessly." - Walt Disney

CONTACT US

Dr. Andy Benoit
Vice Chancellor for Enrollment Management
(618) 650-2043
abenoit@siue.edu

Prof. Stephen Duda, P.E.
School of Engineering
(618) 650-2788
sduda@siue.edu