

Engineering Faculty Document No. EFD 90-26

TO: The Engineering Faculty
FROM: The Faculty of the School of Materials Engineering
DATE: November 11/18/2025
RE: New course: MSE 39100: Materials Engineering Seminar II

The faculty of the School of Materials Engineering has approved the new course MSE 39100. This action is now submitted to the Engineering Faculty with a recommendation for approval.

Overview:

The School of Materials Engineering will offer a new course, MSE 39100, which is an update to the MSE undergraduate seminars. Currently, students take MSE 39000 every semester as a non-credit course. MSE 39100, as a required 1-credit hour course, will provide students with a more focused approach to professional development and will provide better documentation of their experiential learning experiences.

Reasons:

- 1) Currently, students take MSE 39000 every semester with both online and in-person enrollment. To emphasize the importance of professional development within materials engineering, students' performance will be assessed in the MSE 39100 *as a required course*.
- 2) Students can use 1-credit from MSE 39100 towards the Technical Elective requirements. This provides opportunities for students to combine this credit with other 1-hour courses offered in different certificates or specialized programs to complete their plan of studies in a convenient fashion.
- 3) Students should take MSE 39000 in their sophomore/junior year and MSE 39100 in their junior/senior year.



Bryan D. Huey,
Professor and Blacutt-Underwood Head
School of Materials Engineering

MSE 39100 Proposal

Proposed Course Structure

Course	Credits	Typical Timing	Frequency Offered
MSE 39000 – <i>Materials Engineering Seminar</i>	0	Sophomore/junior year	Fall (combined section)
MSE 39100 – <i>Materials Engineering Seminar II</i>	1	Junior/senior year Pre-requisite: MSE 39000	Fall (combined section)

Total hours required for graduation remain the same: **125 credits**

MSE 39100: Materials Engineering Seminar II

Course Description

Presentation and discussion of current topics in materials engineering. The course aims to build professional development within materials engineering.

Credits: 1.00

Learning Outcomes

1. Recognize the need for life-long learning in the careers of professionals in the field.
2. Understand the range of contemporary issues impacting engineering professionals in the field.
3. Explore possible career path options including research, graduate school, industry, and service.

Assessment

- 1) Initial informational & experiential learning survey (10%)
- 2) Participation in 10 seminar events with graded reflection assignments (60%)
- 3) Resume update and review (10%)
- 4) Final self-reflection assignment and final survey (20%)

**Changes in the MSE
Degree Requirements**

**Minimum Degree Requirements
For Materials Engineering**

Credit Hours Required for Graduation: 125

<i>Courses</i>	<i>Credit Hours</i>
Mathematics and Physical Sciences	
Calculus: MA 16500, 16600, 26100, 26500, and 26600	18
Chemistry: CHM 11500, 11600	8
Physics: PHYS 17200, 24100, 25200	8
General Education Program	
Foundational Learning Outcomes:	
(Courses approved by the Undergraduate Curriculum Council)	
Written Communication/Information Literacy	3
Oral Communication	3
Humanities	3
Behavior/Social Science	3
Science, Technology, & Society	3
General Education Electives:	9
Electives are selected from approved lists with MSE faculty guidance subject to the programmatic requirements of the College of Engineering General Education Program.	
Seminars	
MSE 39000	0
MSE 39100	1
Core Engineering Courses	
ENGR 13100, 13200 or ENGR 14100 and 14200	4
MSE Core: 23000, 23500, 25000, 26000, 27000, 33000, 33500, 34000, 37000, 38200, 42000, 43000, 44000 and 44500.	45
Integrated MSE courses, including year-long, industry-sponsored senior design projects, on the structure, properties, processing, and performance of engineering materials.	
Technical Electives	21
A plan of study is designed with the help of a faculty advisor to meet each individual student's professional goals. At least 12 of the 21 credits must be approved materials-specific courses; the remaining 9 credits may be selected from an approved list of courses, including other academic disciplines, 3 of which should target statistics, computer science, data science, AI, or related fields.	

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Current MSE 39000 seminars

Fall 2025 – MSE 39000: Materials Engineering Seminar

Wednesday at 3:30-4:20 in ARMS 1010

Date	Topic / Speaker
Aug 27	Announcements: (Syllabus, PUMA, MSE Mentor Corps) MSE Head: Prof. Bryan Huey
Sep 03	Prof. Inna Elsner: Professional Development & Tips for IR
Sep 10	Industrial Round Table (no class)
Sep 17	Leah Criss: National and International Scholarships Office Casey Peters: Safety Training and Updates
Sep 24	Monica Gehrich: ASM International – Indy Chapter
Oct 01	Tyler Logan: Steel Dynamics
Oct 08	Prof. Alejandro Strachan: AI tools for MSE Students
Oct 15	Rina Dean: Malibu Wellness, Inc.
Oct 22	Joe Tort (Director of OPP): GEARE/Co-op & Student Panel
Oct 29	Prof. Arun Kanakkithodi: Ethical Use of AI
Nov 05	Evan Patton (LAM Research)
Nov 12	Options for Graduate School
Nov 19	Resume Review & Workshop with Prof. Inna Elsner and Prof. Jinsuh Lee: (Daniels School of Business)
Nov 26	(No class – Thanksgiving)
Dec 03	Undergraduate Research (MSE 499 Updates)
Dec 10	Quiet Week (TBA)

Current syllabus for MSE 39000

Course Information

MSE 390 Materials Engineering Seminar

W 3:30-4:20 ARMS 1010 generally, with some associated other optional times

0 Credits, S/U grading

Course Mode: Hybrid components: both in person and on Brightspace

Requires MSE major

Course Description

Presentation and discussion of current topics in materials engineering. The course aims to build professional development within materials engineering. You must participate in at least 10 self-selected “curated” scholarly learning or professional development events and record your participation at those events and what you learned. At least 10 events will be scheduled at the course time, with more at other times throughout the semester. You should expect to be engaged during seminar, with the ability to show your video and respond if called upon during discussion if the event is online and engage in dialog if in person. If you are registered for the distance section you can watch recorded videos from the class asynchronously, but you still need to record your events. You also will be able to watch live stream presentations of some of the seminars. If you are registered in person and the event is a remote presentation, you will be able to watch either the live stream or the recorded version (if they allow recording).

Learning Outcomes

Recognize the range of career options available to materials engineering students. Understand issues related to student life and educational systems both within and outside of the United States. Increase skills needed in the materials engineering profession.

- Recognize the need for life-long learning in the careers of professionals in the field.
- Understand the range of contemporary issues impacting engineering professionals in the field.
- Understanding next steps for your career path options available to students with MSE backgrounds, including research and graduate school, industrial, service, and other professional paths.

To achieve these outcomes, you will participate in

- Presentations by and interactions with professionals describing how their careers developed after obtaining their undergraduate degrees.
- Presentations by faculty and visitors about contemporary issues either directly or indirectly related to engineering practice.
- Activities that provide guidance related to professional skills.

Teaching Philosophy

MSE 39000 is about you practicing self-driven professional development. We will have some department-sponsored seminars, but attendance is optional for most of the events except for safety, advising activities, and potentially some other required training. Our goal is to make life-long learning a habit for you in this course and be able to learn professional skills that will enhance your career options no matter what you choose to do upon graduation. In short, you get out of this course what you put into it. We will have the events posted to the calendar of events, as well as allowing you to include self-chosen events.

How to Succeed in this Course

Do not wait until the last minute to look for professional development opportunities. We will be posting lists of approved professional development options that include, but are not limited to, meetings with alumni about career paths, resume workshops, writing skill refinements, corporate info sessions, and strategies and options to succeed in industry or graduate school.

Learning Resources, Technology, & Texts

No textbooks, all on-line in Brightspace.

Assignments and Points

You are responsible for attending at least 10 "events" over the course of the semester. There are some intermediate deadlines to ensure you are not waiting until the last portion of the class to look for events. You will also be responsible for writing a self-reflection on your professional growth during the semester, this posting will not be available until after you have completed the majority of your events and should be done after completing all 10 events. The events that can count for your professional development will be posted to Brightspace: events will be a mix of in person and online, and some will occur at times outside the scheduled course time. Some but not all of the sessions will be recorded for later viewing or those in the distance section. For the in-person section, you will be able to complete the events using the course time if you so choose. To record your attendance at the events, we will have an assignment in Brightspace that will be filled out for each event you participate in.

You can choose up to 3 self-defined events (such as a seminar or webinar that is not one posted to the 390 Brightspace list), this event should have a professional development component, and should not be something you get credit for in another course (a guest speaker in your other class isn't a seminar in this class). The instructor will decide if your event counts as professional development, you can ask about it before the event if you have questions. You can also choose to get your resume reviewed by an alumni, the resume review would count as one of the 10 events/activities and not against your self-defined events.

Finally, attending a job fair and interacting with companies (through an interview or a company info session) looking for an internship or permanent position can count as one of the 10 events.

This would not count against your self-defined event, attending IR and visiting several booths only counts as 1 event, but a company info session could be a self-defined event.

Missed or Late Work

Since there will be many options for events, there should be no need to document missed assignments. If you miss an event deadline when you turn in that submission include an explanation as to why it was late. Continue to turn in events on time if you miss one (if you miss turning in event 3, turn in event 4 on time, go back and turn in event 3 later rather than have every event from then on be late). I may ask for additional work to be done to get credit for a late event, this will be done at my discretion based on your explanation. Historically, this extra work was you had to make up a limerick about materials science. If you have a reason to request an excused absence, please notify me as soon as possible.

Grading Scale

- Attend, participate in, and record activity for 10 approved events or more AND complete your self-reflection, S
- 9 or less and not doing the self-reflection: U

Incompletes

A grade of incomplete (I) will be given only in unusual circumstances. To receive an “I” grade, a written request must be submitted prior to 5 PM Dec. 6, 2023, and approved by the instructor. The request must describe the circumstances, along with a proposed timeline for completing the course work. Submitting a request does not ensure that an incomplete grade will be granted. If granted, you will be required to fill out and sign an “Incomplete Contract” form that will be turned in with the course grades. Any requests made after the course is completed will not be considered for an incomplete grade.

Course Schedule

- Some seminars for the School of MSE will be scheduled on W at 3:30 PM. All events at this time are posted on the Brightspace calendar.
- Sponsored seminars, approved professional development activities, and events are posted on the course Brightspace calendar and sometimes the MSE website:
<https://engineering.purdue.edu/MSE/events>

Attendance Policy

When you are online in a seminar you should be ready to be called on, have video and audio capabilities for the remote course. When it is an in-person event you should be present to later record your attendance. If you have to be quarantined you can choose to attend remote events

during those times. Since the course requires you to participate in 10 events, you should choose which events you attend.

Academic Guidance in the Event a Student is Quarantined/Isolated

If you have to isolate you may watch an event/seminar remotely or the recorded version. Since the event schedule is flexible you should be able to adjust your schedule accordingly to still participate in 10 events.

Academic Integrity

Academic integrity is one of the highest values that Purdue University holds. Individuals are encouraged to alert university officials to potential breaches of this value by either [emailing](#) or by calling 765-494-8778. While information may be submitted anonymously, the more information that is submitted provides the greatest opportunity for the university to investigate the concern. The [Purdue Honor Pledge](#) "As a boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do. Accountable together - we are Purdue" Purdue's [student guide for academic integrity](#).

For this course, what it means is DO NOT LIE about attending an event. Report the ones you go to, do not make stuff up. If you are found to be turning in a record of attending an event you did not participate in (I do see lists of the people logged on to most events and we see you when you're in person, and I can tell when you've watched an online recorded event), that event will not count towards your 10 on the first offense. That deduction will be reported to the dean of students via the Office of Student Rights and Responsibilities (OSRR). A second offense will result in a U for the course.

Classroom Guidance Regarding Protect Purdue

Any student who has substantial reason to believe that another person is threatening the safety of others by not complying with Protect Purdue protocols is encouraged to report the behavior to and discuss the next steps with their instructor. Students also have the option of reporting the behavior to the [Office of the Student Rights and Responsibilities](#). See also [Purdue University Bill of Student Rights](#) and the Violent Behavior Policy under University Resources in Brightspace.

Nondiscrimination Statement

Purdue University is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the University seeks to develop and nurture diversity. The University believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life. [Link to Purdue's nondiscrimination policy statement](#).

Accessibility

Purdue University strives to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let me know

so that we can discuss options. You are also encouraged to contact the Disability Resource Center at: drc@purdue.edu or by phone: 765-494-1247.

Emergency Preparation

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor's control. Relevant changes to this course will be posted onto the course website or can be obtained by contacting the instructors or TAs via email or phone. You are expected to read your @purdue.edu email on a frequent basis.

Mental Health Statement

- **If you find yourself beginning to feel some stress, anxiety and/or feeling slightly overwhelmed, try**

<https://purdue.welltrack.com/>. Sign in and find information and tools at your fingertips, available to you at any time.

- **If you need support and information about options and resources**, please see the [Office of the Dean of Students](#) for drop-in hours (M-F, 8 am- 5 pm).

- **If you're struggling and need mental health services:** Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of mental health support, services are available. For help, such individuals should contact [Counseling and Psychological Services \(CAPS\)](#) at 765-494-6995 during and after hours, on weekends and holidays, or by going to the CAPS office of the second floor of the Purdue University Student Health Center (PUSH) during business hours.

Basic Needs Security

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Dean of Students for support. There is no appointment needed and Student Support Services is available to serve students 8 a.m.-5 p.m. Monday through Friday. Considering the significant disruptions caused by the current global crisis as it relates to COVID-19, students may submit requests for emergency assistance from the [Critical Need Fund](#)

Netiquette

Your instructor and fellow students wish to foster a safe online learning environment when the activity is online. All opinions and experiences, no matter how different or controversial they may be perceived, must be respected in the tolerant spirit of academic discourse. You are encouraged to comment, question, or critique an idea, but you are not to attack an individual. Our differences, some of which are outlined in the University's nondiscrimination statement, will add richness to this learning experience. Please consider that sarcasm and humor can be misconstrued in online interactions and generate unintended disruptions. Working as a community of learners, we can build a polite and respectful course ambience. Please read the Netiquette rules for this course:

- Do not dominate any discussion. Give other students the opportunity to join in the discussion.
- Do not use offensive language. Present ideas appropriately.
- Be cautious in using Internet language. For example, do not capitalize all letters since this suggests shouting.
- Avoid using vernacular and/or slang language. This could possibly lead to misinterpretation.
- Keep an “open-mind” and be willing to express even your minority opinion.
- Think and edit before you push the “Send” button.
- Do not hesitate to ask for feedback.

Violent Behavior Policy

Purdue University is committed to providing a safe and secure campus environment for members of the university community. Purdue strives to create an educational environment for students and a work environment for employees that promote educational and career goals. Violent Behavior impedes such goals. Therefore, Violent Behavior is prohibited in or on any University Facility or while participating in any university activity. See the [University's full violent behavior policy](#) for more detail.

Diversity and Inclusion

In our discussions, structured and unstructured, we will explore a variety of challenging issues, which can help us enhance our understanding of different experiences and perspectives. This can be challenging, but in overcoming these challenges we find the greatest rewards. Everyone should remember the following points:

- We are all in the process of learning about others and their experiences. Please speak with me if something has made you uncomfortable. All discussions will be held in confidence following the university policies on reportable activities.
- Intention and impact are not always aligned, and we should respect the impact something may have on someone even if it was not the speaker's intention.
- We all come to the class with a variety of experiences and a range of expertise, we should respect these in others while critically examining them in ourselves.

Course Evaluation

During the last two weeks of the course, you will be provided with an opportunity to evaluate this course and your instructor. Purdue uses an online course evaluation system. You will receive an official email from evaluation administrators with a link to the online evaluation site. You will have up to two weeks to complete this evaluation. Your participation is an integral part of this course, and your feedback is vital to improving education at Purdue University. I strongly urge you to participate in the evaluation system.

Disclaimer

This syllabus is subject to change in the event of a major disruption in the ability to offer on-campus courses or in changes in university policies. Updates will be provided if needed on the Brightspace course page and sent to your @purdue email.