

PURDUE Weldon School of Biomedical Engineering Professional Master's Program (PMP) Handbook

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PURDUE Weldon School of Biomedical Engineering PhD Handbook

Mission & Vision

Overall Vision for Weldon Grad Program: Aspirations of the Program

An exceptional graduate education and training program that empowers the next generation of leaders in biomedical engineering to contribute to improving healthcare delivery, patient outcomes, and quality of life through pioneering scientific discoveries and their translation

Overall Mission for Weldon Grad Program: Achieving Our Vision

To provide an exceptional training environment for Weldon School's trainees that is grounded in 1) broad mentorship from faculty, staff, and peers 2) a consistent curriculum grounded in both fundamental theories and practical applications of biomedical engineering that prepares trainees to perform ethically, scientifically, and technically rigorous work, 3) facilities for performing collaborative, multi-disciplinary work using cross-functional methods, 4) individualized professional development opportunities, and 5) an environment with a shared culture and values that allows each trainee to achieve their highest potential.

Core Values of the Weldon Grad Program: What We Stand for

- We collectively hold all individuals to a high standard of ethical and respectful behavior.
- We provide exceptional mentorship of trainees (broad-based faculty, staff, and peer mentoring of each individual).
- We implement empathy, grace, and intentionality in all our activities.
- We provide BME graduate students with support for a well-rounded training environment where they can achieve their highest potential.
- We support graduate students' engagement in professional development opportunities that will enhance and strengthen their portfolio for their chosen career path.
- We celebrate each member's unique lived experiences and perspective and collectively make the Weldon School a community that people want to engage with.

Learning Outcomes of a Weldon Master's degree

- Apply and synthesize a deep understanding of the theories, methods and techniques in biomedical engineering
- Demonstrate the ability to make critically reasoned, ethical, and socially responsible engineering decisions in a variety of scenarios
- Bridge life science and engineering approaches and concepts to address current and emerging biomedical applications

- Contribute to biomedical engineering solutions through clear communication, effective negotiation and strategic leadership

Commitment to a Supportive Academic Community

Respect and Integrity is the bedrock of our community. A lasting and impactful mentoring experience is a result of clear communication and expectations, professionalism, and consistency. We celebrate and recognize the individuality of each community member. We expect contributions from all and build relationships through collaboration, networking, and team work. We value **developing the individual**. We support the person where they are and coach them to meet their professional and personal goals. We celebrate failures and successes as critical pieces of the growth process.

As biomedical engineers at Purdue, we are taking intentional steps to act against all forms of racism, sexism, ableism, xenophobia, transphobia, and other structures of oppression embedded in the fabric of our society. We understand that this commitment is a long-term endeavor and affirm efforts that improve the climate within our academic institution.

We will actively strive to educate ourselves, humbly learn from our missteps, and to commit to building a safe climate where our faculty, staff, and students can thrive. We commit to actively celebrating, learning from, promoting, and advocating for all of our students, staff and faculty.

Preferred Communication Methods

Your student support team uses many ways to communicate important information to students. The most common means of communication is your Purdue email. Students must check their Purdue email daily. Student support staff provide links to schedule one-on-one meetings within their email signature blocks. These links utilize BoilerConnect and should be used for all 1:1 meeting requests. Students will also receive a weekly newsletter via email each week from the grad office with professional development opportunities as well as job announcements. Our team is available year-round and can assist in answering a variety of questions pertaining to your training.

Academic Integrity and Generative AI Use

Academic Integrity

Refer to the University [Academic Integrity and You: Graduate Edition](#) for information and examples of academic integrity and dishonesty.

Generative AI Use

The use of generative artificial intelligence (AI) tools in coursework is determined by the faculty member teaching each course. Instructors will communicate whether and how these tools may be used, including any requirements for disclosure, citation, or documentation. Because expectations may vary by course and assignment, students are responsible for reviewing the syllabus and assignment instructions and seeking clarification from the instructor before using generative AI. Any use of generative AI must comply with the instructor's expectations and [Purdue's academic integrity policies](#).

Responsible Conduct in Research

All Purdue graduate students must satisfactorily complete the [Responsible Conduct of Research](#) requirement as outlined on the Office of Research website before the end of their first semester.

Enrollment Format and Program Requirements

Online Courses

Students must complete a minimum of 60% of their total courses on campus. International students may take some courses online as long as they remain in compliance with [ISS policies](#). If you are interested in taking a majority of your coursework online, you may consider switching to our [online master's program](#).

Enrollment and Internship Considerations

Enrollment

BME PMP students who are U.S. citizens or permanent residents of the U.S. may choose to either register full-time or part-time. Full-time enrollment is considered a minimum of 8 credits in fall and spring, minimum of 6 credits in summer. International students are expected to be enrolled full-time unless it is their final semester. International students who choose to enroll less than full-time will need to apply for a reduced course load through [myISS](#).

Students are responsible for monitoring their semester registration level to ensure successful completion of at least 30 credits by the end of their degree program.

PMP students who are interested in performing research may do so through one of the following options:

- The PMP student performs the research for course credit, via enrollment in an independent study course set up by the overseeing faculty member.
- The PMP student performs research for hourly pay.

Internships

Internships can be a great way to gain exposure to what industry is like while gaining marketable skill sets and building your network. Regardless of your specific career goals, an internship adds valuable training to your master's experience. All of the PMP concentrations have an industry immersion option for those interested in including an internship as part of your master's degree.

Students must follow [BME's established procedure for going on internship](#). Students are expected to allow adequate time for all necessary steps to be completed prior to the start of the internship.

International students are responsible for maintaining compliance with Purdue ISS (International Students and Scholars) policies. This includes but is not limited to:

- Attending on-campus for the final semester of your graduate degree
- Not exceeding the total amount of courses that may be taken online

PMP Degree Requirements

Core Competency Requirements – All BME PMP Concentrations:

30 credits total of coursework required (500 and 600 level):

- 6 credit hours of [BME](#)
- 3 credit hours of [Quantitative / Analytical](#)
- 3 credit hours of [Life Sciences](#)
- 12 credit hours of [Regulatory Affairs and Professional Skills](#)
- 6 credit hours of [Graduate Electives for Specialization](#)
- 6-12 month internship for students in the Industry Immersion concentration
- Students must maintain minimum academic standing as outlined in this handbook.

Students admitted to the combined BME BS/MS degree program may use a maximum of 12 graduate-level credits taken as an undergraduate (whether dual-counted or in excess or combination of both) toward the master's degree requirements. Grades in each course must be B- or better. BME BS/MS students admitted to the [Regulatory Affairs and Regulatory Science for Medical Devices graduate certificate program](#) must take all three required courses as a graduate student (after graduating with the BS).

AI and Digital Health Concentration Requirements

Courses selected meet both the concentration and competency requirements.

- Required: Two of the Following Five Courses (6 credits)
 - BME 51100--Biomedical Signal Processing
 - BME 53800--Wearable Sensors in Healthcare
 - BME 59500--Advanced Artificial Intelligence in BME
 - BME 64600 (ECE 60146--Deep Learning--Theory and Practice of Deep Neural Networks
 - BME 69500 AI in Medicine
 - ECE 59500--Introduction to Deep Learning
 - IE 52500--Healthcare Delivery Systems
- Choose: One Elective (3 credits) from the [approved list for the AI & Digital Health concentration](#)

Clinical Engagement and Biomedical Innovation Concentration Requirements

Courses selected meet both the concentration and competency requirements.

- Required Courses (3 credits):
 - BME 58300--Clinical Engagement and Translational Biomedical Engineering (2 credits)

- BME 58501--Clinical Engagement and Translational Biomedical Engineering - Clinic (1 credit)
- Choose: One Selective (3 credits) from the following
 - BME 50500--Virtual Reality Anatomy for Engineering Medicine
 - BME 55600--Introduction to Clinical Medicine for Engineering Solutions
- Choose: One Additional Selective (3 credits) from the following
 - BME 56100--Preclinical and Clinical Study Design
 - BME 56200--Regulatory Issues Surrounding Approval of Biomedical Devices
 - BME 58501--Clinical Engagement and Translational Biomedical Engineering (1 credit) This course can be repeated for different clinical specialty areas
 - BME 59500—Biomedship

Additional Requirements

All students must satisfy admission conditions for continued enrollment (e.g., submission of final transcripts to the Office of the Vice Provost for Graduate Students and Postdoctoral Scholars (OGSPS) office and fulfill immunization requirements) by the end of your first semester of graduate study. Refer to your OGSPS admission letter for details.

Transfer Courses

Up to 3 credits of graduate-level coursework beyond the BS degree and which has not been applied to a subsequent degree may be transferred from another university. This will require appropriate documentation from that university. Transfer courses must be 3 credits with grades of B- or better. Any required BME core competency courses must be taken through the Weldon School of BME at Purdue.

Courses that will not transfer to a BME Plan of Study:

- Graduate-level courses that fulfilled undergraduate degree requirements
- Undergraduate-level courses
- Seminar courses
- Project or independent study courses

MS(E) + MBA Dual Degree

Purdue University offers a unique dual degree opportunity that allows eligible students to earn both a Master of Science in Engineering and an MBA from the Mitch Daniels School of Business. This integrated path is designed for students who want to combine deep technical expertise with strategic business and leadership skills in an efficient timeframe.

Admitted BME PMP students interested in this pathway should notify the Daniels School of Business Master's Office via email at businessgradadmissions@purdue.edu and follow guidance on eligibility and their application process.

Registering for Classes

- [Registering for Classes](#)
- [Using myPurdue to Self-Register for Courses](#)
- [Schedule of Classes](#)
- [myPurdue](#)

Electronic Plans of Study

The BME Academic Programs Office will instruct you when it is time to submit your official plan of study.

[How to Use the Electronic Plan of Study System](#)

[Professional Master's Plans of Study](#)

Minimum Academic Standards

There are several [resources](#) available to help with your academic success. Reach out to someone you trust either in the department or someone else on campus if you feel additional support is needed.

GPA Requirements

To be in good standing with BME and the university, students must maintain a GPA of 3.0 or above for the duration of the program. If your semester and/or your overall GPA falls under a 3.0 or if you receive a letter grade of a C or below, you will receive an academic notice letter from the BME Grad Office. If your GPA stays below a 3.0 for more than 3 consecutive semesters (not including summer), you will be dismissed from the program regardless if you are meeting the University standard. If you fall below the [University's guidelines](#), you can be dismissed from the university prior to the BME three(3) semester rule.

If you feel the action taken by the BME Graduate Program is not warranted or if you have extenuating circumstances, you may follow the waiver policy in this handbook.

Graduation

In order to graduate, students will need to have done the following:

1. Have a completed and approved plan of study prior to the semester of graduation
2. Ensure that they have a minimum of a 3.0 GPA
3. Enroll in the candidate course for graduation (CAND 99100) for the semester they are graduating
4. Make any final edits to the plan of study to reflect the actual coursework taken if different from the original approved plan of study
5. Follow the guidance on the commencement website:
<https://www.purdue.edu/commencement/>

Funding Opportunities

BME PMP students are self-funded and not eligible for school, university, or faculty funding support that provides a tuition waiver. Students might pursue on-campus hourly employment

such as course graders. Refer to our [Paying for Purdue](#) webpage for current BME PMP tuition and fee information as well as various PMP funding options.

Many forms of financial assistance will require you to maintain a GPA of a 3.0 or better to maintain your funding. If you have an outside source of funding, be aware of those sources' guidelines and restrictions.

Professional Development Opportunities

BME Resources

- [BMEGSA](#)—The BMEGSA hosts several workshops, speakers and symposiums to help student with their professional development each year.
- [BME PMP Professional Development Scholarship](#)—BME has approved a scholarship for PMP students to pursue professional development opportunities that may enhance your professional skills training while here at Purdue. Please see below for the policy and process for applying for this opportunity
 - One time award up to \$500 that will be reimbursed to the student after documentation of expense and successful completion of activity is submitted
 - Must fill out application and be pre-approved for the opportunity
 - Only one scholarship will be awarded per student during the duration of your program
 - Once approved, keep all receipts associated with event for your reimbursement
 - Some examples of professional development opportunities: take a course outside of Purdue, register for a professional exam, attend a conference or industry trade event
 - Incomplete applications, activities not related to professional development, or applications for opportunities that will happen after graduation from the program will not be considered.
 - [BME PMP Professional Development Scholarship Application](#)
- [Career Coaching](#)—Schedule an appointment with the Grad Programs Director (currently Tammy Siemers) for one-on-one coaching for skills needed in the job search
 - Resume and Job Search
 - Interviewing Skills
 - Job Negotiation
- [Weekly Announcements](#)—every Wednesday, there will be a weekly announcement sent to students which will compile many of the workshops and opportunities around campus as well as job postings each week.

Career Fairs and Center for Career Opportunities

- The Center for Career Opportunities hosts several opportunities and workshops to strengthen your job search including resume reviews, workshops, career fairs, company information sessions, current job postings etc.
- [CCO Website](#)

College of Engineering Resources

[COE Professional Development](#)

OGSPS Resources

[OGSPS Website](#)

Graduate Certificates

Students can choose to pursue a [graduate certificate](#) alongside their master's training to enhance their skill set. One of the most popular certificates for BME students is the [Regulatory Affairs and Regulatory Science for Medical Devices](#) certificate. Students are required to [apply for the certificate](#) at least one semester prior to your graduation semester.

Purdue Graduate Student Government Grants

PGSG offers a wide variety of [grants](#) to students that are available for individuals and organizations.

Innovation and Entrepreneurship

[Purdue Innovates](#) is a system providing innovators support and resources for technology commercialization, intellectual property protection and venture capital.

Travel Grants

- [Purdue Student Government Travel Grant](#)
- [OGSPS Awarded Grants](#)

Writing Lab

[Purdue's award-winning Writing Lab offers](#) free resources including writing and teaching, research, ESL (English as a Second Language), grammar and mechanics, job search, and professional writing assistance.

[Parking](#)

Mental Health Resources

- [Purdue's Counseling and Psychological Services \(CAPS\)](#)
- [Purdue CARES Hub](#)
- [Office of Graduate Assistance \(OGA\)](#)
- [The Office of the Dean of Students](#)
- [Health and Wellness Resources](#)
- [Therapy Assistance Online](#)

Conflict Resolution Resources

[College of Engineering Anonymous Reporting](#)

[Office of Graduate Assistance \(OGA\)](#)

[Student of Concern Report](#)

[Conflict Resolution Flow Chart](#)

Confidentiality and Mandatory Reporting

The BME Graduate Leadership Team will provide impartial and informal assistance with reference to your concerns based on our knowledge of university policy, practice and personnel without judgement.

The information you share during any of our conversations will be handled with the highest degree of confidentiality as possible. Our office may share information about your situation with others on the Graduate Leadership Team to draw on our collective knowledge and experience. Grad office will recommend in cases where the BME graduate chair or BME graduate committee should be brought in. We will not share information with others outside our office except in the following circumstances:

- with your express, written consent;
- if required by university policy to report cases of alleged research misconduct to the Research Integrity Office or the Office of the Executive Vice President for Research and Partnerships;
- if required by law to report, such as in cases in which our faculty and staff have a reasonable basis to believe that there is a risk of imminent harm to you or to others or suspected incidents of child abuse or neglect;
- if required by our role as a Title IX mandatory reporter, which requires us to report incidents of sexual discrimination, harassment, assault or exploitation, any other incident of unwelcome sexual conduct, and incidents of relationship violence or stalking.
- in instances where ISS, Sponsored programs or other administrative offices need to be aware

Acknowledgement of Indigenous Caretakers

We acknowledge Purdue University is located on the traditional homelands of the Woodland People. We honor and appreciate these indigenous caretakers which include the Bodéwadmik (Potawatomi), Lenape (Delaware), Myaamia (Miami), and Shawnee People.

Other Documents and Resources

[Graduate Student Forms](#)

[Graduate Staff Employment Manual](#)

[OGSPS Fellowships](#)

[BME Forms](#)