BIOMEDICAL ENGINEERING: ACCELERATED PROGRAM, M.S.

This is a course-based named option within the Biomedical Engineering M.S. (http://guide.wisc.edu/graduate/biomedical-engineering/biomedical-engineering-ms/#text)

The Accelerated Program named option in the Biomedical Engineering M.S. is a non-thesis program with coursework focused on engineering and science to afford further preparation and training for students interested in careers in industry or pursuing advanced academic degrees.

ADMISSIONS

Please consult the table below for key information about this degree program's admissions requirements. The program may have more detailed admissions requirements, which can be found below the table or on the program's website.

Graduate admissions is a two-step process between academic programs and the Graduate School. Applicants must meet the minimum requirements (https://grad.wisc.edu/apply/requirements/) of the Graduate School as well as the program(s). Once you have researched the graduate program(s) you are interested in, apply online (https://grad.wisc.edu/apply/).

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Deadline</td>
<td>December 15</td>
</tr>
<tr>
<td>Spring Deadline</td>
<td>September 1*</td>
</tr>
<tr>
<td>Summer Deadline</td>
<td>December 15</td>
</tr>
<tr>
<td>GRE (Graduate Record Examinations)</td>
<td>Not required.</td>
</tr>
<tr>
<td>English Proficiency Test</td>
<td>Every applicant whose native language is not English or whose undergraduate instruction was not in English must provide an English proficiency test score and meet the Graduate School minimum requirements (<a href="https://grad.wisc.edu/apply/requirements/#english-proficiency">https://grad.wisc.edu/apply/requirements/#english-proficiency</a>).</td>
</tr>
<tr>
<td>Other Test(s) (e.g., GMAT, MCAT)</td>
<td>n/a</td>
</tr>
<tr>
<td>Letters of Recommendation</td>
<td>Required</td>
</tr>
<tr>
<td>3**</td>
<td></td>
</tr>
</tbody>
</table>

Complete spring applications as of September 1 are guaranteed review, but domestic applicants are welcome to apply up to November 1 and will be reviewed as space is available.

All applicants must satisfy requirements that are set forth by the Graduate School (https://grad.wisc.edu/). Students admitted to the program may be required to make up deficiency course requirements.

To apply to the BME program, complete applications (https://grad.wisc.edu/apply/), including supportive materials, must be submitted as described below and received by the deadline.

OFFICIAL ACADEMIC TRANSCRIPT

Electronically submit one copy of your transcript of all undergraduate and previous graduate work in your online application to the Graduate School. Unofficial copies of transcripts will be accepted for review. Official copies are required after an applicant is recommended for admission. Please do not send transcripts or any other application materials to the Graduate School or the BME department unless requested. If you have questions, please contact bmegradadmission@engr.wisc.edu.

ENGLISH PROFICIENCY TEST SCORES (IF APPLICABLE)

The TOEFL is required for international students unless a degree from a U.S. educational institution is held. Scores should be sent using institution code 1846.

An applicant whose TOEFL (iBT) score is below 92; TOEFL (PBT) score is below 580; or IELTS score is below 7 must take an English assessment test upon arrival. Depending on the result, an applicant may need to register for recommended English as a Second Language (ESL) courses in the first semester of enrollment.

THREE LETTERS OF RECOMMENDATION

These letters are required from people who can accurately judge the applicant’s academic performance. Letters of recommendation are submitted electronically to graduate programs through the online application. Applicants should not send any more than three letters (if more than three are sent, only the first three will be considered). See the Graduate School for FAQs (https://grad.wisc.edu/apply/) regarding letters of recommendation.

STATEMENT OF PURPOSE

In this document, applicants should explain why they want to pursue further education in BME. See the Graduate School for more advice on how to structure a personal statement (https://grad.wisc.edu/apply/prepare/).

RESUME

Upload your resume in your application.

Applicants should have a bachelor’s degree in engineering (biomedical, chemical, electrical, industrial, mechanical, etc.) or science (biology, biochemistry, chemistry, genetics, immunology, physics, etc.). Each application is judged on the basis of:

- Official academic transcripts
- English Proficiency Test scores (https://grad.wisc.edu/apply/requirements/#english-proficiency) (if applicable)
- Three letters of recommendation
- Statement of purpose (https://grad.wisc.edu/apply/prepare/)
- Resume

Not required for applicants with a UW–Madison Biomedical Engineering bachelor’s degree.
APPLICATION FEE
Submission must be accompanied by the one-time application fee. It is non-refundable and can be paid by credit card (Master Card or Visa) or debit/ATM. This fee cannot be waived or deferred. Fee grants are available through the Graduate School under certain conditions.

FUNDING
GRADUATE SCHOOL RESOURCES
Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid. Further funding information (https://grad.wisc.edu/funding/) is available from the Graduate School. Be sure to check with your program for individual policies and restrictions related to funding.

PROGRAM INFORMATION
Students enrolled in this program are not eligible to receive tuition remission from graduate assistantship appointments at this institution.

REQUIREMENTS
MINIMUM GRADUATE SCHOOL REQUIREMENTS
Review the Graduate School minimum academic progress and degree requirements (http://guide.wisc.edu/graduate/#policiesandrequirementstext), in addition to the program requirements listed below.

NAMED OPTION REQUIREMENTS
MODE OF INSTRUCTION
<table>
<thead>
<tr>
<th>Face to Face</th>
<th>Evening/Weekend</th>
<th>Online</th>
<th>Hybrid</th>
<th>Accelerated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Mode of Instruction Definitions
Accelerated: Accelerated programs are offered at a fast pace that condenses the time to completion. Students typically take enough credits aimed at completing the program in a year or two.

Evening/Weekend: Courses meet on the UW–Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.

Face-to-Face: Courses typically meet weekdays on the UW-Madison Campus.

Hybrid: These programs combine face-to-face and online learning formats. Contact the program for more specific information.

Online: These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.

CURRICULAR REQUIREMENTS

Required Courses
The required coursework is designed to complement each student’s interests and background in biomedical engineering.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CRB 640</td>
<td>Fundamentals of Stem Cell and Regenerative Biology</td>
<td>3 or more</td>
</tr>
<tr>
<td>CRB 650</td>
<td>Molecular and Cellular Organogenesis</td>
<td></td>
</tr>
<tr>
<td>CRB/B M E 670</td>
<td>Biology of Heart Disease and Regeneration</td>
<td></td>
</tr>
</tbody>
</table>

Students choose one of the following areas of specialization. Of the credits above, 15 credits must be in one area of specialization.

Biomaterials and Tissue Engineering
Biomaterials and tissue engineering employ a diverse range of approaches to develop methods to diagnose and treat diseases, create living tissue environments that may be used to restore the function of a damaged organ, and uncover biological mechanisms related to tissue development and disease. Graduate students trained in biomaterials and tissue engineering are expected to gain a detailed understanding of cellular and molecular biology, materials science, and engineering methods.
Biomedical Engineering: Accelerated Program, M.S.

ONCOLOGY 401  Introduction to Experimental Oncology

ZOOLOGY 570  Cell Biology

ZOOLOGY 630

At least 12 credits of Engineering. Relevant options include:

B M E/PHM SCI 430  Biological Interactions with Materials

B M E 510  Introduction to Tissue Engineering

B M E 511  Tissue Engineering Laboratory

B M E 520  Stem Cell Bioengineering

B M E 545  Engineering Extracellular Matrices

B M E 550  Introduction to Biological and Medical Microsystems

B M E 602  Special Topics in Biomedical Engineering (Advanced Stem Cell Engineering)

B M E 630  Nanomaterials for Biomedical Applications

CBE 540  Polymer Science and Technology

CBE 648  Synthetic Organic Materials in Biology and Medicine

CBE 781  Biological Engineering: Molecules, Cells & Systems

CHEM 654  Materials Chemistry of Polymers

M S & E 521  Advanced Polymeric Materials

Electives (taken in consultation with your faculty advisor):

B M E 556  Systems Biology: Mammalian Signaling Networks

B M E/CBE 560  Biochemical Engineering

B M E/MED PHYS/PHMCOL/M/PHYSICS/RADIOL 619  Microscopy of Life

B M E 740  Biomanufacturing Entrepreneurship

B M E/CHEM/MED PHYS 750  Biological Optical Microscopy

B M E/CBE 782  Modeling Biological Systems

B M E/CBE 783  Design of Biological Molecules

B M I/STAT 541  Introduction to Biostatistics

B M I/COMP SCI 776  Advanced Bioinformatics

COMP SCI 765  Data Visualization

STAT/F&W ECOL/HORT 571  Statistical Methods for Bioscience I

STAT/B M I 877  Statistical Methods for Molecular Biology

Biomechanics

Biomechanists use experiments and computational tools to investigate the mechanical aspects of biological systems, at levels ranging from whole organisms to organs, tissues, and cells. Graduate students trained in biomechanics are expected to gain a detailed understanding of mechanics, mathematics, biology, and engineering.

Code  Title  Credits

Required courses:

At least 3 credits of a Bioscience. Relevant options include: 3 or more

ANAT&PHY 335  Physiology

ANAT&PHY 435  Fundamentals of Human Physiology

CRB/B M E 670  Biology of Heart Disease and Regeneration

KINES 773  Cardiorespiratory Adaptations to Environment and Exercise

ZOOLOGY 570  Cell Biology

At least 12 credits of Engineering. Relevant options include: 12 or more

B M E/M E 414  Orthopaedic Biomechanics - Design of Orthopaedic Implants

B M E/M E 415  Biomechanics of Human Movement

B M E/M E 505  Biofluidics

B M E/M E 516  Finite Elements for Biological and Other Soft Materials

B M E/I SY E 564  Occupational Ergonomics and Biomechanics

B M E/M E 603  Topics in Bio-Medical Engineering (Image-Based Biomechanics)

B M E/M E 615  Tissue Mechanics

B M E/I SY E 662  Design and Human Disability and Aging

B M E/M E 715  Advanced Tissue Mechanics

M E/E M A 540  Experimental Vibration and Dynamic System Analysis

M E/CIV ENGR/E M A 508  Composite Materials

M E 563  Intermediate Fluid Dynamics

M E/E M A 570  Experimental Mechanics

M E 573  Computational Fluid Dynamics

E M A 506  Advanced Mechanics of Materials I

E M A 519  Fracture Mechanics

E M A/M S & E 541  Heterogeneous and Multiphase Materials

E M A 545  Mechanical Vibrations

E M A 605  Introduction to Finite Elements

E M A/E P 615  Micro- and Nanoscale Mechanics

E M A 622  Mechanics of Continua

E M A 630  Viscoelastic Solids

Electives (taken in consultation with your faculty advisor):

B M E/MED PHYS/PHMCOL/M/PHYSICS/RADIOL 619  Microscopy of Life

B M I/STAT 541  Introduction to Biostatistics

COMP SCI 368  Learning a Programming Language

MATH 443  Applied Linear Algebra

MATH 519  Ordinary Differential Equations

MATH 619  Analysis of Partial Differential Equations

M E/STAT 424  Statistical Experimental Design
Biomedical Imaging and Optics
Biomedical imaging and optics research develops and utilizes new experimental and computational tools to characterize tissue structure across multiple size scales. A particular focus is on human health, especially with respect to achieving superior diagnostic/prognostic tools for a spectrum of diseased states. Graduate students trained in this track are expected to gain a detailed understanding of mathematics, biology and engineering as well as optical and/or physical methods.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>M E/E C E 439</td>
<td>Introduction to Robotics</td>
<td></td>
</tr>
<tr>
<td>M E/COMP SCI/ E C E 532</td>
<td>Matrix Methods in Machine Learning</td>
<td></td>
</tr>
</tbody>
</table>

Electives (taken in consultation with your faculty advisor):

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>B M I/ COMP SCI 567</td>
<td>Medical Image Analysis</td>
<td></td>
</tr>
<tr>
<td>COMP SCI 300</td>
<td>Programming II</td>
<td></td>
</tr>
<tr>
<td>COMP SCI 300</td>
<td>Programming II</td>
<td></td>
</tr>
<tr>
<td>COMP SCI 320</td>
<td>Data Science Programming II</td>
<td></td>
</tr>
<tr>
<td>COMP SCI 368</td>
<td>Learning a Programming Language</td>
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</tbody>
</table>

Medical and Microdevices
Medical and microdevices involve the use of electronic and computational tools to develop devices used in diagnosis and treatment of disease ranging from the systemic to the cellular and molecular levels.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>M E/E C E 462</td>
<td>Medical Instrumentation</td>
<td></td>
</tr>
<tr>
<td>B M E 515</td>
<td>Therapeutic Medical Devices</td>
<td></td>
</tr>
<tr>
<td>B M E/ MED PHYS 535</td>
<td>Introduction to Energy-Tissue Interactions</td>
<td></td>
</tr>
<tr>
<td>B M E 550</td>
<td>Introduction to Biological and Medical Microsystems</td>
<td></td>
</tr>
<tr>
<td>B M E 602</td>
<td>Special Topics in Biomedical Engineering (Introduction to Neuroengineering)</td>
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</tr>
<tr>
<td>B M E 640</td>
<td>Medical Devices Ecosystem: The Path to Product</td>
<td></td>
</tr>
<tr>
<td>B M E 651</td>
<td>Biophotonics Laboratory</td>
<td></td>
</tr>
<tr>
<td>B M E/ CHEM/ MED PHYS 750</td>
<td>Biological Optical Microscopy</td>
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</tbody>
</table>

Electives (taken in consultation with your faculty advisor):

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<tbody>
<tr>
<td>COMP SCI 300</td>
<td>Programming II</td>
<td></td>
</tr>
<tr>
<td>COMP SCI 320</td>
<td>Data Science Programming II</td>
<td></td>
</tr>
<tr>
<td>COMP SCI 368</td>
<td>Learning a Programming Language (multiple 1-credit options, including R, C++, and Matlab)</td>
<td></td>
</tr>
<tr>
<td>MATH 443</td>
<td>Applied Linear Algebra</td>
<td></td>
</tr>
</tbody>
</table>
Neuroengineering

Neuroengineering is the convergence of neuroscience, computation, device development, and mathematics to improve human health. Neuroengineering brings together state-of-the-art technologies for the development of devices and algorithms to assist those with neural disorders. It is also used to reverse engineer living neural systems via new algorithms, technologies and robotics. Students pursing this track are involved in all of these endeavors so that as the next generation of engineers, they will transcend the traditional boundaries of neuroscience, technology, engineering and mathematics.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 519</td>
<td>Ordinary Differential Equations</td>
<td>5</td>
</tr>
<tr>
<td>MATH 619</td>
<td>Analysis of Partial Differential Equations</td>
<td>5</td>
</tr>
</tbody>
</table>

Neuroengineering

Systems and Synthetic Biology

Systems and synthetic biology utilizes experimental and computational tools in an iterative fashion to analyze and regulate biological systems.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP SCI 368</td>
<td>Learning a Programming Language (multiple 1-credit options available, including R, C++, and Matlab)</td>
<td>3 or more</td>
</tr>
<tr>
<td>COMP SCI/ B M 567</td>
<td>Medical Image Analysis</td>
<td>12 or more</td>
</tr>
<tr>
<td>COMP SCI 766</td>
<td>Computer Vision</td>
<td>12 or more</td>
</tr>
<tr>
<td>COMP SCI/ B M 767</td>
<td>Computational Methods for Medical Image Analysis</td>
<td>12 or more</td>
</tr>
<tr>
<td>MATH 443</td>
<td>Applied Linear Algebra</td>
<td>12 or more</td>
</tr>
</tbody>
</table>

Electives (taken in consultation with your faculty advisor):

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</thead>
<tbody>
<tr>
<td>COMP SCI 320</td>
<td>Data Science Programming II</td>
<td>3 or more</td>
</tr>
<tr>
<td>COMP SCI/ B M 550</td>
<td>Introduction to Biological and Medical Microsystems</td>
<td>3 or more</td>
</tr>
<tr>
<td>COMP SCI/ B M 556</td>
<td>Systems Biology: Mammalian Signaling Networks</td>
<td>3 or more</td>
</tr>
<tr>
<td>COMP SCI/ B M 780</td>
<td>Methods in Quantitative Biology</td>
<td>3 or more</td>
</tr>
<tr>
<td>COMP SCI/ B M E 560</td>
<td>Biochemical Engineering</td>
<td>3 or more</td>
</tr>
<tr>
<td>CBE 781</td>
<td>Biological Engineering: Molecules, Cells &amp; Systems</td>
<td>3 or more</td>
</tr>
<tr>
<td>CBE/B M E 782</td>
<td>Modeling Biological Systems</td>
<td>3 or more</td>
</tr>
<tr>
<td>CBE 660</td>
<td>Intermediate Problems in Chemical Engineering</td>
<td>3 or more</td>
</tr>
</tbody>
</table>
MATH 443  Applied Linear Algebra
MATH 519  Ordinary Differential Equations
MATH 619  Analysis of Partial Differential Equations

Footnotes
1 These pathways are internal to the program and represent different curricular paths a student can follow to earn this degree. Pathway names do not appear in the Graduate School admissions application, and they will not appear on the transcript.

Other Policy
Students in this program may not take courses outside the prescribed curriculum without faculty advisor and program director approval. Students in this program cannot enroll concurrently in other undergraduate, graduate or certificate programs.

Policies

GRADUATE SCHOOL POLICIES
The Graduate School’s Academic Policies and Procedures (https://grad.wisc.edu/acadpolicy/) provide essential information regarding general university policies. Program authority to set degree policies beyond the minimum required by the Graduate School lies with the degree program faculty. Policies set by the academic degree program can be found below.

NAMED OPTION-SPECIFIC POLICIES

PRIOR COURSEWORK
Graduate Work from Other Institutions
This program follows the Graduate School’s policy for Satisfying Requirements with Prior Graduate Coursework from Other Institutions. (https://policy.wisc.edu/library/UW-1216/) Reach out to the BME Graduate Coordinator for more information.

UW–Madison Undergraduate
A student who has completed their bachelor's degree at UW-Madison may transfer 6 credits of coursework with program approval. These courses must be engineering or advanced biological sciences coursework numbered 400 or above. Coursework earned five or more years prior to admission to a M.S. degree is not allowed to satisfy requirements. These courses may not be used toward the Graduate School's Minimum Graduate Residence Credit.

UW–Madison University Special
This program follows the Graduate School’s policy for Transfer from UW–Madison University Special Student at UW–Madison. (https://policy.wisc.edu/library/UW-1216/) Reach out to the BME Graduate Coordinator for more information.

PROBATION
This program follows the Graduate School’s Probation policy (https://policy.wisc.edu/library/UW-1217/).

ADVISOR / COMMITTEE
This program follows the Graduate School’s Advisor policy (https://policy.wisc.edu/library/UW-1232/).

CREDITS PER TERM ALLOWED
15 credits

TIME LIMITS
The accelerated MS program is typically completed in less than 18 months. This program follows the Graduate School’s Time Limits policy (https://policy.wisc.edu/library/UW-1221/).

GRIEVANCES AND APPEALS
These resources may be helpful in addressing your concerns:
• Bias or Hate Reporting (https://doso.students.wisc.edu/bias-or-hate-reporting/)
• Graduate Assistantship Policies and Procedures (https://hr.wisc.edu/policies/gapp/#grievance-procedure)
• Hostile and Intimidating Behavior Policies and Procedures (https://hr.wisc.edu/hib/)
  • Office of the Provost for Faculty and Staff Affairs (https://facstaff.provost.wisc.edu/)
  • Dean of Students Office (https://doso.students.wisc.edu/) (for all students to seek grievance assistance and support)
  • Employee Assistance (http://www.eao.wisc.edu/) (for personal counseling and workplace consultation around communication and conflict involving graduate assistants and other employees, post-doctoral students, faculty and staff)
  • Employee Disability Resource Office (https://employeedisabilities.wisc.edu/) (for qualified employees or applicants with disabilities to have equal employment opportunities)
  • Graduate School (https://grad.wisc.edu/) (for informal advice at any level of review and for official appeals of program/departmental or school/college grievance decisions)
  • Office of Compliance (https://compliance.wisc.edu/) (for class harassment and discrimination, including sexual harassment and sexual violence)
  • Office of Student Conduct and Community Standards (https://conduct.students.wisc.edu/) (for conflicts involving students)
  • Ombuds Office for Faculty and Staff (http://www.ombuds.wisc.edu/) (for employed graduate students and post-docs, as well as faculty and staff)
  • Title IX (https://compliance.wisc.edu/titleix/) (for concerns about discrimination)

BME Grievance Procedures
If a student feels unfairly treated or aggrieved by faculty, staff, or another student, the University offers several avenues to resolve the grievance.

Step 1
The student is encouraged to speak first with the person toward whom the grievance is directed to see if a situation can be resolved at this level. Students are also encouraged to talk with their faculty advisors regarding concerns or difficulties, or reach out to the Graduate Student Services Coordinator or Associate Chair of BME Graduate Advising for additional assistance. These activities do not rise to the level of a formal grievance;
however, the student is encouraged to keep documentation of these interactions as they may be useful if a formal grievance is pursued.

**Step 2**

Should a satisfactory resolution not be achieved, a formal grievance can be filed with the BME Grievance Committee. To do so, the student contacts the Department Administrator, who will provide the student with the name of the current chair of the Grievance Committee. The student will then contact the Chair of the Grievance Committee, who will reply within seven calendar days. If the grievance is with the current Chair of the Grievance Committee, please let the Department Administrator know and they will identify an alternate committee member to contact. It is advised that grievances are filed within 60 calendar days of the alleged unfair treatment to enable a thorough investigation.

**Step 3**

If the student does not feel comfortable working through the departmental process, they are encouraged to seek out other campus resources including:

- The Assistant Dean for Graduate Affairs in the College of Engineering
- The Graduate School
- UW Division of Diversity, Equity & Educational Achievement (DDEEA)
- McBurney Disability Resource Center
- Employee Assistance Office
- Ombuds Office
- University Health Services

**Step 4**

At this point, if either party (the student or the person toward whom the grievance is directed) is unsatisfied with the decision of the faculty committee, the party may file a written appeal. Either party has ten working days to file a written appeal to the School/College. For more information, students should consult the College of Engineering Academic Advising Policies and Procedures.

**Step 5**

Documentation of the grievance will be stored for at least seven years. Significant grievances that set a precedent will be stored indefinitely. The Graduate School has procedures for students wishing to appeal a grievance decision made at the school/college level. These policies are described in the Graduate School’s Academic Policies and Procedures.

**OTHER**

Students are strongly discouraged to pursue positions as Project Assistants, Teaching Assistants or Research Assistants during their time in this program, as the rigor and accelerated nature of this program may not accommodate those work time commitments. Students in this program will not receive the tuition remission that is typically part of the compensation package for a graduate assistantship.

**PROGRAM RESOURCES**

**THE INDIVIDUAL DEVELOPMENT PLAN (IDP)**

An Individual Development Plan (IDP) ([https://grad.wisc.edu/pd/idp/](https://grad.wisc.edu/pd/idp/)) helps graduate students and postdoctoral researchers:

- assess current skills, interests, and strengths;
- make a plan for developing skills to meet academic and professional goals; and
- communicate with supervisors, advisors, and mentors about evolving goals and related skills.

The IDP is a document to be revisited again and again, to update and refine as goals change and/or come into focus, and to record progress and accomplishments.

The university recommends IDPs for all postdoctoral researchers and graduate students, and requires IDPs for all postdoctoral researchers and graduate students supported by National Institutes of Health (NIH) funding. See the Graduate School for more information and IDP resources ([https://grad.wisc.edu/pd/idp/](https://grad.wisc.edu/pd/idp/)).

**ENGINEERING CAREER SERVICES**

The Engineering Career Services ([https://ecs.wisc.edu/](https://ecs.wisc.edu/)) staff offers assistance to students searching or preparing for internships, co-ops, and jobs with well-recognized organizations.

**THE WRITING CENTER**

The Writing Center ([https://writing.wisc.edu/](https://writing.wisc.edu/)) is a campus-wide organization that provides free of charge, face-to-face and online consultations for students writing papers, reports, resumes, and applications.

**PEOPLE**

### FACULTY

Paul Campagnola (Chair)  
Randolph Ashton  
David Beebe  
Walter Block  
Christopher Brace  
Kevin Eliceiri  
Shaoqin ‘Sarah’ Gong  
Aviad Hai  
Melissa Kinney  
Pamela Kreeger  
Wan-ju Li  
Kip Ludwig  
Kristyn Masters  
Megan McClean  
Beth Meyerand  
William Murphy  
Krishanu Saha  
Melissa Skala  
Darryl Thelen  
Justin Williams  
Colleen Witzenburg  
Filiz Yesilkoy

**PROFESSIONAL DEVELOPMENT**

**GRADUATE SCHOOL RESOURCES**

Take advantage of the Graduate School’s professional development resources ([https://grad.wisc.edu/pd/](https://grad.wisc.edu/pd/)) to build skills, thrive academically, and launch your career.
INSTRUCTIONAL STAFF AND TEACHING FACULTY

Amit Nimunkar
John Puccinelli
Tracy Jane Puccinelli
Darilis Suarez-Gonzalez
Aaron Suminski

See also Biomedical Engineering Faculty Directory (http://directory.engr.wisc.edu/bme/).