

BIOENGINEERING, MENG

for the degree of Master of Engineering in Bioengineering (on campus & online)

The MEng in Bioengineering is a professionally-oriented degree designed to bridge the skills gap by developing students with advanced technical know-how, a better understanding of the medical healthcare industry and more business acumen through coursework and project work, which provides students exposure to real world industry issues.

Students pursuing this major must select one of three concentrations: Bioinstrumentation (<http://catalog.illinois.edu/graduate/engineering/bioengineering-meng/bioinstrumentation/>) Computational Genomics (<http://catalog.illinois.edu/graduate/engineering/bioengineering-meng/computational-genomics/>) General Bioengineering (<http://catalog.illinois.edu/graduate/engineering/bioengineering-meng/general-bioengineering/>)

Department Research

Bioengineering faculty perform research in the areas of Bio-Imaging at Multi-Scale; Molecular, Cellular and Tissue Engineering; Bio-Micro and Nanotechnology; Computational and Systems Bioengineering; and Synthetic Bioengineering. MEng students are able to do independent study research projects with Bioengineering faculty and affiliate faculty (<https://bioengineering.illinois.edu/directory/>) for class credit.

The Department of Bioengineering offers studies leading to the Master of Engineering in Bioengineering (MEng), the Master of Science in Bioengineering (MS), the Master of Science in Biomedical Image Computing (MS in BIC), and the Doctor of Philosophy (PhD) in Bioengineering. The Bioengineering Graduate Program provides students with educational and research experiences that integrate the sciences of biology and medicine with the practices and principles of engineering. For the MS and PhD programs, areas of focus include Bio-imaging, Cell & Tissue Engineering, Micro and Molecular Technologies, and Computational Biology.

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Bioinstrumentation (<http://catalog.illinois.edu/graduate/engineering/bioengineering-meng/bioinstrumentation/>)

Computational Genomics (<http://catalog.illinois.edu/graduate/engineering/bioengineering-meng/computational-genomics/>)

General Bioengineering (<http://catalog.illinois.edu/graduate/engineering/bioengineering-meng/general-bioengineering/>)

For additional details and requirements for all degrees, please refer to the department's Graduate Studies Web site (<https://bioengineering.illinois.edu/academics/graduate/>) and the Graduate College Handbook (<http://grad.illinois.edu/gradhandbook/>).

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1. Ability to apply quantitative skills and engineering principles to propose novel and practical solutions to medical/human health problems
2. Prepare students for professional careers
3. Ability to gain basic understanding of business, finances, intellectual property and regulatory matters
4. Understanding of professional and ethical responsibilities
5. Ability to communicate real-world scientific problems with bigger vision and offer solutions, as well as their impact, effectively to a diverse audience and stakeholders, both orally and in writing
6. Demonstrate moderate to high technical mastery in chosen research area, shown by the ability to identify an important scientific problem, formulate a hypothesis, and design experiments to conduct research and data analysis to test the hypothesis. The student should also be able to formulate alternatives.
7. Develop effective leadership skills in order to foster the ability to conduct collaborative research and work with a diverse team

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Admission Requirements

Students must select one of the concentrations under the MEng in Bioengineering program to apply to and will not be able to complete multiple concentrations. Students should have an undergraduate degree in an engineering or a science related field or must have taken engineering or science related coursework. Applicants should have a minimum grade point average of 3.00 (A = 4.00) or equivalent for the last two years of undergraduate study and show evidence of strong quantitative skills and of serious interest in the life sciences through their personal statement. Students with less than a 3.0 GPA may be considered for a limited status admission. Students in the program do not have automatic admission to the PhD program in any engineering department.

All applicants whose native language is not English are required to submit TOEFL (<http://www.toefl.org/>) or International English Language Testing System (IELTS) (<http://www.ielts.org/>) scores as evidence of English proficiency. Minimum admission requirements (<https://grad.illinois.edu/admissions/instructions/04c/>) are set by the Graduate College. Students applying to the online program must satisfy the full status admissions requirement.

All applicants whose native language is not English must submit a minimum TOEFL (<http://www.toefl.org/>) score of 103 (iBT), 257 (CBT), or 613 (PBT); or minimum International English Language Testing System (IELTS) (<http://www.ielts.org/>) academic exam scores of 7.0 overall and 6.0 in all subsections for full admission into the program. Applicants may be exempt from the TOEFL if certain criteria (<http://grad.illinois.edu/admissions/instructions/04c/>) are met. Applicants with lesser scores may still apply. Limited status (<http://grad.illinois.edu/admissions/instructions/04c/>) is granted for lesser scores and requires enrollment in English as a Second Language (ESL) courses (<http://linguistics.illinois.edu/students/esl/guidelines/>) based on an ESL Placement Test (EPT) taken upon arrival to campus.

Financial Aid

For tuition information and external funding resources, please visit the program's tuition and fees Web site (<https://bioemeng.illinois.edu/tuition-fees/>). Students in the MEng in Bioengineering program are not eligible for Board of Trustees (BOT) tuition-waiver generating assistantships at the University of Illinois.

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Graduate Programs in Bioengineering

- Majors
 - Bioengineering, MEng (p. 1)
 - concentrations
 - Bioinstrumentation (<http://catalog.illinois.edu/graduate/engineering/bioengineering-meng/bioinstrumentation/>)
 - Computational Genomics (<http://catalog.illinois.edu/graduate/engineering/bioengineering-meng/computational-genomics/>)
 - General Bioengineering (<http://catalog.illinois.edu/graduate/engineering/bioengineering-meng/general-bioengineering/>)
 - Bioengineering, MS (<http://catalog.illinois.edu/graduate/engineering/bioengineering-ms/>)
 - optional concentrations
 - Biomechanics (<http://catalog.illinois.edu/graduate/engineering/concentration/biomechanics/>)
 - Cancer Nanotechnology (<http://catalog.illinois.edu/graduate/engineering/concentration/cancer-nanotechnology/>)
 - Bioengineering, PhD (<http://catalog.illinois.edu/graduate/engineering/bioengineering-phd/>)
 - optional concentrations
 - Biomechanics (<http://catalog.illinois.edu/graduate/engineering/concentration/biomechanics/>)
 - Cancer Nanotechnology (<http://catalog.illinois.edu/graduate/engineering/concentration/cancer-nanotechnology/>)
 - Computational Science and Engineering (<http://catalog.illinois.edu/graduate/engineering/concentration/computational-science-engineering/>)
 - Biomedical Image Computing, MS (<http://catalog.illinois.edu/graduate/engineering/biomedical-image-computing-ms/>)
 - Concentrations
 - Bioinstrumentation (<http://catalog.illinois.edu/graduate/engineering/bioengineering-meng/bioinstrumentation/>)
 - available for:
 - Bioengineering, MEng (p. 1)
 - Biomechanics (<http://catalog.illinois.edu/graduate/engineering/concentration/biomechanics/>)
 - available for:
 - Electrical & Computer Engineering, MS (<http://catalog.illinois.edu/graduate/engineering/electrical-computer-engineering-ms/>)
 - Electrical & Computer Engineering, PhD (<http://catalog.illinois.edu/graduate/engineering/electrical-computer-engineering-phd/>)
 - Materials Engineering, MEng (<http://catalog.illinois.edu/graduate/engineering/materials-science-engineering-ms/>)
- Materials Science & Engineering, MS (<http://catalog.illinois.edu/graduate/engineering/materials-science-engineering-ms/>)
- Materials Science & Engineering, PhD (<http://catalog.illinois.edu/graduate/engineering/materials-science-engineering-phd/>)
- Mechanical Engineering, MS (<http://catalog.illinois.edu/graduate/engineering/mechanical-engineering-ms/>)
- Mechanical Engineering, MEng (<http://catalog.illinois.edu/graduate/engineering/mechanical-engineering-meng/>)
- Mechanical Engineering, PhD (<http://catalog.illinois.edu/graduate/engineering/mechanical-engineering-phd/>)
- Computational Science and Engineering (<http://catalog.illinois.edu/graduate/engineering/concentration/computational-science-engineering/>)
- Theoretical & Applied Mechanics, MS (<http://catalog.illinois.edu/graduate/engineering/theoretical-applied-mechanics-ms/>)
- Theoretical & Applied Mechanics, PhD (<http://catalog.illinois.edu/graduate/engineering/theoretical-applied-mechanics-phd/>)
- Cancer Nanotechnology (<http://catalog.illinois.edu/graduate/engineering/concentration/cancer-nanotechnology/>)
 - available for:
 - Electrical & Computer Engineering, MS (<http://catalog.illinois.edu/graduate/engineering/electrical-computer-engineering-ms/>)
 - Electrical & Computer Engineering, PhD (<http://catalog.illinois.edu/graduate/engineering/electrical-computer-engineering-phd/>)
 - Materials Engineering, MEng (<http://catalog.illinois.edu/graduate/engineering/materials-science-engineering-ms/>)
 - Materials Science & Engineering, MS (<http://catalog.illinois.edu/graduate/engineering/materials-science-engineering-ms/>)
 - Materials Science & Engineering, PhD (<http://catalog.illinois.edu/graduate/engineering/materials-science-engineering-phd/>)
 - Mechanical Engineering, MS (<http://catalog.illinois.edu/graduate/engineering/mechanical-engineering-ms/>)
 - Mechanical Engineering, MEng (<http://catalog.illinois.edu/graduate/engineering/mechanical-engineering-meng/>)
 - Mechanical Engineering, PhD (<http://catalog.illinois.edu/graduate/engineering/mechanical-engineering-phd/>)
 - Theoretical & Applied Mechanics, MS (<http://catalog.illinois.edu/graduate/engineering/theoretical-applied-mechanics-ms/>)
 - Theoretical & Applied Mechanics, PhD (<http://catalog.illinois.edu/graduate/engineering/theoretical-applied-mechanics-phd/>)

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Department of Bioengineering

Department Head: Mark Anastasio (maa@illinois.edu)

Director of Graduate Studies: Wawrzyniec Dobrucki (dobrucki@illinois.edu)

Director of MEng Program: Jennifer Amos (Jamos@illinois.edu)

Bioengineering website (<https://bioengineering.illinois.edu>)

Program website (<https://bioemeng.illinois.edu>)

1240 Everitt Laboratory, 1406 W Green St, Urbana, IL 61801
(217) 300-8066

Bioengineering email (bioe-meng@illinois.edu)

Grainger College of Engineering

Grainger College of Engineering website (<https://grainger.illinois.edu/>)

Admissions

Graduate Contact: Liezl Bowman (liezlb@illinois.edu)

Department Admissions & Requirements (<https://bioemeng.illinois.edu/admissions/>)

Graduate College Admissions & Requirements (<https://grad.illinois.edu/admissions/apply/>)