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 two concentrations: Bioinstrumentation (http://catalog.illinois.edu/graduate/engineering/bioengineering-meng/bioinstrumentation/) or 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.

1. Apply quantitative skills and engineering principles to propose novel and practical solutions to medical/human health problems.
2. Foster collaboration with a diverse team.
3. Demonstrate a basic understanding of business operations, financial decision-making, intellectual property, and regulatory matters.
4. Employ the highest standards of academic, professional, and ethical responsibility from conscientious design to research and development processes and ethical decision-making processes.
5. Effectively communicate (both orally and in writing) real-world scientific problems with a bigger vision and offer solutions, as well as their impact, to a diverse audience and stakeholders.
6. Demonstrate mastery of the design process including defining the problem and implementing the solutions, while taking into consideration the needs of the user demographic at the core of concept development.
7. Explore factors of innovation and commercialization possibilities of solutions.
8. Develop practical client and project management skills, as well as effective leadership and other professional skills.

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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.

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/).

Financial Aid
For tuition information and external funding resources, please visit the program’s tuition and fees Web site (https://bioemeng.illinois.edu/tuition-
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/)
      - General Bioengineering (http://catalog.illinois.edu/graduate/engineering/bioengineering-meng/general-bioengineering/)
      - Bioengineering, MS (http://catalog.illinois.edu/graduate/engineering/bioengineering-ms/)
        - optional concentrations
          - Entrepreneurship & Innovation (http://catalog.illinois.edu/graduate/engineering/concentration/entrepreneurship-innovation/)
      - Bioengineering, PhD (http://catalog.illinois.edu/graduate/engineering/bioengineering-phd/)
        - optional concentrations
          - Computational Science and Engineering (http://catalog.illinois.edu/graduate/engineering/concentration/computational-science-engineering/)
          - Data Science & Engineering (http://catalog.illinois.edu/graduate/engineering/concentration/data-science-engineering/)
          - Entrepreneurship & Innovation (http://catalog.illinois.edu/graduate/engineering/concentration/entrepreneurship-innovation/)
      - Biomedical Image Computing, MS (http://catalog.illinois.edu/graduate/engineering/biomedical-image-computing-ms/)
        - optional concentrations
          - Entrepreneurship & Innovation (http://catalog.illinois.edu/graduate/engineering/concentration/entrepreneurship-innovation/)
  - Concentrations
    - Bioinstrumentation (http://catalog.illinois.edu/graduate/engineering/bioengineering-meng/bioinstrumentation/)
      - available for:
        - Bioengineering,MEng (p. 1)

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Information listed in this catalog is current as of 10/2023