ILLINOIS
Bioengineering
GRAINGER COLLEGE OF ENGINEERING

# BIOE 502: Professionalism

**Meeting time:** Fridays, 1:00-2:50 PM
**Location:** 2018 Campus Instructional Facility
**Course Website:** https://canvas.illinois.edu/courses/59421

**Credit hours:** 2
**Semester:** Fall 2025

## Instructor Information


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| **Name** | Shannon J. Sirk, Ph.D. |
| **Contact Info** | sirk@illinois.edu |
| **Office Location** | 2250 EL |
| **Office Hours** | By appointment |


## Course Description

This course is intended to support the transition to graduate school for all first-year students enrolled in the Bioengineering Ph.D. and M.S. programs. In this course, students will be introduced to topics critical for professional development and success in their graduate training and beyond. Students will practice scientific communication by drafting components of a fellowship proposal focused on their own work and preparing and delivering a research presentation to the class. Students will benefit from both peer and instructor feedback on their proposals and presentations. Students will learn about and practice standard professional behavior in the field of Bioengineering and be exposed to numerous resources on campus, online, and elsewhere that can support their growth and development as independent bioengineering professionals.

## Course Objectives

- Become familiar with:
  - the basics of major funding agencies in the United States
  - key criteria for obtaining research funding and strategies for crafting competitive proposals
- Explore fundamentals of effective communication of scientific results, including how to:
  - craft a logical, concise research story
  - organize, draft, and revise a manuscript (vs. a proposal)
  - generate clear and compelling visual representations of data
  - prepare and deliver engaging scholarly presentations
- Gain knowledge in:
  - navigating the peer review process for manuscripts and proposals
  - the responsible conduct of research and research ethics
  - strategies and resources for commercializing laboratory innovations and discoveries
  - pathways for obtaining positions in academia, industry, and alternative career opportunities
- Learn about services available on the University of Illinois campus for managing both research and personal well-being

## Course Policies

- **Attendance:** Students are required to attend every class. If you must miss a class meeting for personal, medical, or other reasons, ***inform the instructor via email prior to class*** or as soon as possible after the missed meeting. It is your responsibility to schedule any appointments, meetings, experiments, etc., at times that do not conflict with class meetings. See “Grading” section below for more details.
- **Course-related communications:** Course announcements will be sent out via the class roster on Canvas; check your email and/or Canvas regularly for updates. For general course questions and information, *first consult the syllabus and course website*. If your question/issue remains, then you may email me. I will make every effort to reply promptly.

- **Academic integrity:** *I take academic integrity, and ethical behavior in general, very seriously.* It is your responsibility to be familiar with the University of Illinois student code regarding cheating, plagiarism, fabrication, facilitating infractions, bribes/favors/threats, and academic interference. This includes signing in for friends who are not in class. In this course, all submitted work must be your own – you may discuss with your peers, advisors, other mentors, and the internet but you may not use material that you did not generate yourself (words or ideas, this includes AI/LLMs).
- **Laptops and mobile devices:** Mobile devices must be on silent and out of sight during class. Laptops or tablets may be used for course-related tasks, e.g., to take notes or investigate relevant topics. Part or all of some class meetings will be e-free to support a constructive and engaging learning environment. All students are expected to behave professionally toward each other, the instructor, and all guest speakers. This means paying attention and being respectful during lectures, guest presentations, and when fellow students are speaking. Unprofessional behavior will not be tolerated; if you choose to use class time to do anything that may be disruptive, distracting, or disrespectful to other students, guest speakers, or the instructor, you will be excused and your advisor and the graduate program will be informed.
    - *You must bring a laptop or tablet to class for peer review sessions – if this presents a problem, let me know as soon as possible so that I can prepare accommodations for you and your peer group.*
- **Diversity, equity, and inclusion statement:** The diversity of the participants in this course is a valuable source of ideas, problem solving strategies, and engineering creativity. I strive to create an inclusive and supportive environment for *all individuals.* If you feel that your or someone else's voice is not being valued for any reason, please speak with me privately or contact department leadership if you wish to remain anonymous. Every effort will be made to address your concerns.

## Grading

- **Attendance, participation, and professionalism:** *50%*
  You must attend every class and *arrive on time* for full credit. Participation in weekly course discussions and peer review sessions will be evaluated by instructor. Unprofessional behavior will result in a lower grade.
- **Assignments:** *50% (9 assignments)*
  See below for due dates.

## Schedule *(subject to change)*

| WEEK | DATE | TOPIC | GUEST SPEAKER | ASSIGNMENT DUE |
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| **1** | 8/29 | Introduction to Course<br><br>Expectations for Grad School | | |
| **2** | 9/5 | Scientific Writing: Manuscripts, Proposals, and Peer Review<br><br>Writing assignments overview | | **PRIOR TO CLASS:** Student Individual Data Page |
| **3** | 9/12 | **NO CLASS –** Prof. Sirk at CZ Biohub | | |
| **4** | 9/19 | Giving a Great Scholarly Presentation | | |
| **5** | 9/26 | Funding | | |

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| **6** | 10/3 | Personal Well-Being and Stress Management in Graduate School | | |
| **7** | 10/10 | Careers in Science: Pathways and Planning | | |
| **8** | 10/17 | Writing Workshop<br>**Specific Aims** | | **PRIOR TO CLASS:** Specific Aims page due via Canvas<br><br>**IN CLASS:** Peer review |
| **9** | 10/24 | Entrepreneurship and Commercialization of Research | **Craig Antonio**<br>Student Innovation Programs Coordinator (GCOE Technology Entrepreneur Center) | **PRIOR TO CLASS:** Question for guest speaker due via Canvas |
| **10** | 10/31 | Building and Navigating the Mentoring Relationship | **Dr. Alexis Thompson**<br>Associate Dean for Graduate Student Success (Graduate College) | **PRIOR TO CLASS:** Question for guest speaker due via Canvas<br><br>**PICTURE DAY!** |
| **11** | 11/7 | Responsible Conduct of Research and Research Ethics | **Dr. Chris Lehmann**<br>Research Integrity Officer | **PRIOR TO CLASS:** Question for guest speaker due via Canvas |
| **12** | 11/14 | Research Presentations I<br>**Lightning talks + Peer Eval** | | **NIGHT BEFORE CLASS:** Slides due via Canvas before midnight on Thursday<br><br>**IN CLASS:** Presentations and peer evaluations (online submission of peer evaluations due next week) |
| **13** | 11/21 | Research Presentations II<br>**Lightning talks + Peer Eval** | | **TWO NIGHTS BEFORE CLASS:** Slides due via Canvas before midnight on Thursday<br><br>**IN CLASS:** Presentations and peer evaluations (online submission of peer evaluations due next week) |
| **14** | 11/28 | **NO CLASS –** FALL BREAK | | |
| **15** | 12/5 | **Panel Discussion:** Advice from current BIOE graduate students | **BIOE Graduate Students** | |
| **16** | 12/12 | **NO CLASS –** FINALS WEEK<br>(no final for this class) | | **END OF FALL SEMESTER** |