

BME:3995 Undergraduate Research in Biomedical Engineering Mentorship Agreement

Name of Undergraduate Researcher: _____

Please print

Name of Faculty Mentor: _____

Please print

Mentored research and creative projects are opportunities for teaching and learning. A successful mentee-mentor relationship requires conscious commitment and communication on the part of both partners. The following agreement is intended to provide a framework for your partnership, allowing both parties to set and discuss goals and expectations for their work together.

Please read and discuss the following learning objectives and best practices. Then complete the goals section. This agreement will also form the basis of an end-of-project reflection. Both the student and mentor should keep a copy of this agreement.

- After completion, this form should be saved as a PDF or Word Document and submitted with the BME:3995 syllabus document as part of the BME:3995 focus area elective credit workflow form.
-
-

Mentors and mentees should consider the following topics when determining goals and outcomes:

1. What are the main responsibilities of the undergraduate student in this creative project (including working days/hours)? University policy states that 1 s.h. of academic credit represents a minimum of 3 hours of work each week or 45 hours over the full 15-week semester.
2. What are the main responsibilities of the mentor in this project? Consider frequency of direct work and contact with the undergraduate student. If applicable, highlight the responsibilities of and contact with any other project contributors with whom the student may work.
3. What professional qualities (work ethic, initiative, communication, etc.) will the undergraduate student demonstrate or learn, and how will they serve as an asset to the work?
4. If the mentee gets stuck on a facet of the project, what are the expectations on how the mentee should progress? What are the expectations for self-learning, independence, getting help, etc.?
5. In what format (i.e. face-to-face, Zoom, etc.) and how often will both the mentor and undergraduate student meet to report on the status of and share constructive feedback on the project?
6. What is the timeline for completing the key components of the project?

Goals – Faculty mentors and undergraduate researchers should each establish three goals for the student’s work. These goals could pertain to: the academic work, skill development, personal development, professional development, etc. Goals should be specific, measurable, attainable, relevant, and have a time frame.

Mentor’s Goals for the Student

- 1.
- 2.
- 3.

Student’s Goals for themselves

- 1.
- 2.
- 3.

Briefly describe the anticipated hours that the student will work, how often the student and mentor will meet, and the format of the meeting.

*By **signing and dating this form**, we acknowledge that we have read and discussed the components of this framework for a mentored research partnership and have established the goals listed above. *Electronic signatures are acceptable**

Undergraduate Researcher: _____ **Date:** _____

Faculty Mentor: _____ **Date:** _____

**Please save and submit completed agreement with the BME:3995 focus area elective credit form.
Note: Mentors cannot remove any information from this document but may add to it.**

Learning Objectives for Undergraduate Researchers¹

- Articulate a clear objective and/or research question for the project. Identify and demonstrate appropriate methodologies and know when to use them, including practicing scholarly ethics and responsible conduct.
- Know existing body of relevant research, literature, artwork, etc. to their topic and explain how their project fits.
- Know and apply problem solving skills to constructively address any challenges or setbacks.
- Work both autonomously and collaboratively with other researchers in an effective manner, using listening and communication skills.
- Reflect on your research or creative work, identifying lessons learned, strengths, and ways to improve. Work to synthesize your research, creative, academic, and/or professional interests and goals.
- Explain your work to others in the field and to broader audiences (informally and formally), articulating its relevance your studies and/or professional future.

Effective Practices for Undergraduate Researchers

- Approach the project as a learning experience, setting a goal of not only learning content, but also developing skills you can apply in the future. Take ownership of learning those skills.
- Communicate with your mentor about your expectations. Listen to their own expectations and goals for you (including work habits and time commitment).
- Where appropriate, ask your mentor questions and discuss your work to keep them in the loop and cultivate your academic communication skills. Think about connections between your research/creative work and courses.
- Even if you are working as part of a team or assisting your mentor, work with your mentor to carve out a niche over which you have responsibility and take intellectual ownership. And make sure that you produce work that is beneficial to your collaborators and mentor as well.
- Find opportunities to present your work and to deliver effective presentations. Take advantage of ICRU workshops and courses for these and other skills.
- Build a professional network— your mentor, their colleagues, other working professionals and students, etc. Meet with other undergraduate researchers to discuss effective practices, build a community of like-minded people, and share experiences of what it is like to be an undergraduate researcher at the University of Iowa.

¹ Adapted from: www.luc.edu/lurop/formentors/formentorsandresearchers/
Green, P. & Kaufman, K. (Undergraduate Research Program Manager). Center for Experiential Learning, Loyola University Chicago.

Effective Practices for Research Faculty Mentors

- Approach mentoring in part like teaching, training students in the skills they need to succeed in their work. Provide regular, constructive feedback, and expect regular communication from your undergraduate researcher.
- Set clear expectations for the student's role (work habits, time commitment, etc.), and your goals for them as a researcher. Listen to their own expectations and goals and formalize your working relationship through a learning agreement/research contract.
- Even if students are working as part of a collaborative team or assisting you with your project, work with your student to carve out a niche over which they have responsibility and take intellectual ownership.
- Let your undergraduate researcher know about opportunities to present their work and help them deliver effective research presentations to audiences inside and outside of their discipline.
- Assist your undergraduate researcher in building a professional network—introduce them to colleagues, other working professionals, and graduate students who may serve as additional mentors, consider taking them to professional development events. Discuss graduate/professional school and career options with your undergraduate researcher where appropriate, offer useful advice about their professional career.

This form was adapted from the UI Office of Undergraduate Research Mentorship Agreement form.

Please let us know if you have any questions.

biomedical-engineering@uiowa.edu | 319-335-5632 | 5601 Seamans Center | engineering.uiowa.edu/bme