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IBEHS 5E15 Guidelines

Course Coordinator: Alex Drossos (drossos@mcmaster.ca)

This information is for iBioMed HESE students currently registered in level IV of the program, and who are enrolling in level V of the program for Fall 2021.

Undergraduate Student Research Thesis Guidelines

Undergraduate research is considered a vital component of learning by the Integrated Biomedical Engineering and Health Sciences Program. It is therefore a degree requirement for students enrolled in the Health, Engineering Science and Entrepreneurship (HESE) specialization. In their fifth year, students will have the opportunity to conduct original research under the supervision of a McMaster University faculty member. In some instances, students may be able to contribute to a research publication.

The following information will help in the selection of a supervisor(s) and research project.

Course Basics:

This course is worth 15 units and will require an average of 20 hours per week of work. This is equivalent to **five** regular 3 unit courses across the full academic year. Due to the independent nature of the course, students will be required take a large amount of responsibility and initiative.

Overall Evaluation will be based on assessments and final deliverable(s) as agreed upon with the course coordinator and your supervisor, and at a minimum will include a written thesis, and a presentation at an end of year symposium.

Your Final Deliverables should include three parts with the following elements:

- Entrepreneurship (business) component
- Biomedical engineering design component
- Health sciences component

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Of these components, one will be weighted 80% toward your final grade. This will be based on your primary supervisor's Faculty appointment. The other two components will be weighted 10% each.

For example, if your primary supervisor resides within the Faculty of Health Sciences, your thesis will be evaluated as follows:

- Entrepreneurship (business) component (10% evaluated by the 5E15 course coordinator)
- Biomedical engineering design component (10% evaluated by the 5E15 course coordinator)
- Health sciences component (80% evaluated by your primary supervisor)

Making Arrangements for a Research Supervisor and Topic:

In the winter term of their fourth year, students should begin to think about potential supervisors and research projects for IBEHS 5E15. The student's research topic should derive from their course experiences and interests. It is recommended that students review the research interests of faculty members, and schedule an interview with *one or more faculty members* to discuss the possibility of supervision, and possible research topics. **Supervisors may be from any Faculty on campus (Health Sciences, Engineering, Business, etc.), as long as the project has a relationship to biomedical engineering, health and entrepreneurship. You are encouraged to consider seeking out a co-supervisor from another Faculty to support your project.** Students must seek approval and permission from the iBioMed Program for the proposed supervisor and intended project prior to April 30, 2021 by completing the 'IBEHS 5E15 Permission Form' found on the IBEHS website:

<https://www.eng.mcmaster.ca/ibiomed/resources#forms>

If it is possible for students and supervisors to delineate the project before the April deadline, it may be feasible for the student to do some preliminary research and reading during the summer months.

Each Department in each faculty will have a faculty listing that you can review. Below are some listings that you might also find helpful to get started in your search for a supervisor:

- https://fhs.mcmaster.ca/medsci/faculty_research.html
- <https://www.eng.mcmaster.ca/msbe/people/faculty>