



School of  
Biomedical  
Engineering

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**BME 701 – Fall 2014**  
**Biomedical Engineering Core I**

**Course Objective:** An Introduction to biomedical engineering. The biological, chemical, electrical, and mechanical principles involved in the design and operation of medical devices and bioprocesses. The engineering research themes of the School of Biomedical Engineering are emphasized: mechanical engineering, biomedical imaging, bioinstrumentation, biomedical technology (e.g. biophotonics and medical robotics).

**Instructors:** Dr. Hubert deBruin (ITB A211, ext. 24171) [debruin@mail.ece.mcmaster.ca](mailto:debruin@mail.ece.mcmaster.ca)  
Dr. Qiyin Fang (ETB 403, ext. 24227) [qiyin.fang@mcmaster.ca](mailto:qiyin.fang@mcmaster.ca)  
Dr. Kathryn Grandfield (ETB 403, ext. 23573) [kgrandfield@mcmaster.ca](mailto:kgrandfield@mcmaster.ca)  
Dr. Alexander Jeremic (ITB A214, ext. 27894) [jeremic@mail.ece.mcmaster.ca](mailto:jeremic@mail.ece.mcmaster.ca)  
Dr. Michael Noseworthy (ETB 406, ext. 23727) [nosewor@mcmaster.ca](mailto:nosewor@mcmaster.ca)

**TA:** Conrad Rockel

**Lecture Hours:** Thursdays 1:00 – 4:00 pm  
(except for September 11, 18, 25 which will be from 1:30 – 4:30 pm)  
  
\*\*\*Presentation Day: December 11<sup>th</sup>\*\*\*

**Lecture Room:** ETB 534/presentations ETB TBD

**Assessment:** 5 quizzes (closed book – 30 minutes) 65 %  
(one quiz per segment, to be given at the start of class of the next segment)  
  
Project 35 %  
Oral PowerPoint presentation (12 min) followed by a Q and A session (8 min)

**Policy Reminder:**

The Faculty of Engineering is concerned with ensuring an environment that is free of all discrimination. If there is a problem, individuals are reminded that they should contact

the Department Chair, the Sexual Harassment Officer or the Human Rights Consultant, as the problem occurs.

### ***McMaster University Statement on Academic Dishonesty***

Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: “Grade of F assigned for academic dishonesty”), and/or suspension or expulsion from the university. It is your responsibility to understand what constitutes academic dishonesty. For information on the various kinds of academic dishonesty please refer to the Academic Integrity Policy, specifically Appendix 3, located at:

[http://www.mcmaster.ca/senate/academic/ac\\_integrity.htm](http://www.mcmaster.ca/senate/academic/ac_integrity.htm)

### **Lecture Schedule**

Dr. Hubert deBruin	3 weeks (Sept. 11, 18, 25#)
Dr. Alexander Jeremic	2 weeks (Oct. 2, 9)
Dr. Kathryn Grandfield	2 weeks (Oct. 16, 23)
Dr. Michael Noseworthy	3 weeks (Oct. 30, Nov 6, 14*)
Dr. Qiyin Fang	2 weeks (Nov 20, 27)

#These lectures will take place from 1:30 – 4:30 pm

\*This lecture will take place on a Friday from 9:00 am – 12:00 pm

Friday December 11<sup>th</sup>

Student presentations (full day) ETB TBD

The segments on photonics, imaging and robotics will include some exposure to research laboratories.