

BME GRADUATE PROGRAM

Ph.D. PROGRAM REVIEW: Date: _____

Student Name: _____ Student ID#: _____

CANDIDACY COMPLETED: _____ THESIS PROPOSAL COMPLETED _____
(Required with 26-month of the start of the Ph.D.) (Required with 12-month of the start of the Ph.D.)

CORE COURSES COMPLETED

(No grade lower than "C+" is acceptable, however grades must also meet the University's Academic Guidelines minimum requirements.)

<p><b style="color: #0070C0;">LIFE SCIENCE BACKGROUND STUDENTS (must successfully complete 5-credit hour in the following Core Courses)</p> <p><input type="checkbox"/> BME 7022 – Biomedical Instrumentation / Devices</p> <p><input type="checkbox"/> BME 7024 – Basics of Electromagnetics</p> <p><input type="checkbox"/> BME 7026 – Basics of Biomedical Signal Analysis</p> <p><input type="checkbox"/> BME 7028 – Basics of Biomechanics</p>	<p><b style="color: #0070C0;">ENGINEERING BACKGROUND STUDENTS (must successfully complete 5-credit hour in the following Core Courses)</p> <p><input type="checkbox"/> BME 7012 – Foundation in Physiology</p> <p><input type="checkbox"/> ANAT 7014 – Functional Human Anatomy</p> <p><input type="checkbox"/> BME 7016 – Intro to Biochemistry</p>
<p><b style="color: #0070C0;">ALL STUDENTS (must successfully complete BME 7030 Ethics)</p> <p><input type="checkbox"/> BME 7030 – Ethics</p>	<p><b style="color: #0070C0;">ALL STUDENTS (must successfully complete BME 7030 Ethics)</p> <p><input type="checkbox"/> BME 7030 – Ethics</p>

Ph.D.: GRADUATION REQUIREMENTS

Detailed information, forms, and deadlines: https://umanitoba.ca/biomedical_engineering/current_students/phd.html

1. **SEMINAR:** (BME 7000)
 - a. Attendance
 - b. Presentation
2. **CREDIT HOURS**
 - a. Minimum Required: **12 credit hours** (7000-level courses)
Entrance from a recognized university and qualifying Master of Science program in Engineering, Science, and/or Medical
 - i. Research: 6 CHr Research
 - ii. Core Courses: 5 CHr Core
 - iii. Ethics: 1 CHr Ethics
 - b. Minimum Required: **18 credit hours** (7000-level courses)
Direct Entry from a Doctor of Medicine (M.D. or equivalent). Admissions Committee approval required.
 - i. Research: 12 CHr Research
 - ii. Core Courses: 5 CHr Core
 - iii. Ethics: 1 CHr Ethics
 - c. Minimum Required: **24 credit hours**
 BME MSc Students who do not hold an MSc and who have been recommended for transfer to the BME Ph.D. program by their Advisor.
 Research Courses taken must be at the **7000 level or higher** however, with permission of the student's Advisor and Advisory Committee up to **6-credit hours** of the 18 Research Credit Hours may be at the **4000 level**.
 - i. Research: 18 CHr Research
 - ii. Core Courses: 5 CHr Core
 - iii. Ethics: 1 CHr Ethics
3. **ADVISORY COMMITTEE** (formation required with 12-month of the start of the Ph.D.)
4. **THESIS PROPOSAL** (required with 12-month of the start of the Ph.D.)
5. **CANDIDACY EXAM** (required with 26-month of the start of the Ph.D.)
6. **EXAMINING COMMITTEE**
7. **FINAL ORAL (Defence)**