# Integrated Engineering and Business Option

## September 2018 (for students who entered HBA in September 2016 or earlier)

### Year 2:

#### Term A
- AM 2270a  
  Applied Mathematics for Engineering II
- CEE 2202a  
  Mechanics of Materials
- ECE 2277a  
  Digital Logic Systems
- MSE 2214a  
  Thermodynamics I
- MME 2259a  
  Product Design and Development
- Bus 2257  
  Accounting and Business Analysis

#### Term B
- AM 2276b  
  Applied Mathematics for Electrical and Mechanical Engineering III
- CBE 2211b  
  Fluid Flow
- CBE 2291b  
  Computational Methods for Engineers
- ECE 2238b  
  Introduction to Electrical Engineering
- SS 2143b  
  Applied Statistics and Data Analysis for Engineers
- Bus 2257  
  Accounting and Business Analysis

### Year 3: HBA 1

### Year 4:

#### Term A
- ES 3331a  
  Engineering Innovation II: Managing the Innovation Process
- CBE 2200a  
  Chemical Process Calculations
- CBE 3322a  
  Heat Transfer Operations
- CEE 2220a  
  Structural Theory and Design I
- ECE 3374a  
  Introduction to Electronics for Mechanical Engineering
- Bus 4569  
  Ivey Field Project

#### Term B
- ES 3330b  
  Engineering Innovation I: New Venture Creation
- MSE 2213b  
  Engineering Dynamics
- MME 2285b  
  Engineering Experimentation
- MSE 3360b  
  Finite Element Methods for Mechanical Engineering
- ES 4498G  
  Engineering Ethics, Sustainable Development and the Law

### Year 5:

#### Term A
- ES 4499  
  Interdisciplinary Engineering Design Project
- ES 4480a  
  Engineering Innovation III: Leadership and Corporate Entrepreneurship
- 0.5 technical elective
- Bus 4505a  
  Global Macroeconomics for Managers
- Bus 4521a/b or 4522a/b or 4523a/b  
  0.5 Business electives chosen from 4000 level Business courses.

#### Term B
- ES 4499  
  Interdisciplinary Engineering Design Project
- 1.0 technical electives
- 1.5 Business electives chosen from 4000 level Business courses.

### NOTES:

#### Important:
- Students are responsible for ensuring they have the correct courses required for their degree. If you are unsure which courses you still need or if you see courses listed on the progression sheet that are no longer offered or are not offered in the term you see listed here, please contact your Academic Counsellor. For HBA related questions, please contact the Richard Ivey School of Business. For Engineering related questions, please contact your Academic Counsellor in Engineering.

#### Technical Elective List:

Some technical electives may not be offered in a given academic year. Consult the Department for accurate listing.

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<th>Chemical and Biochemical Engineering:</th>
<th>Civil and Environmental Engineering:</th>
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| CBE 2290a/b  
  Fundamentals of Biochemical and Environmental Engineering |
| CBE 3310a/b  
  Process Dynamics and Control |
| CBE 3324a/b  
  Mass Transfer Operations |
| CBE 4409a/b  
  Wastewater Treatment |
| CBE 4421a/b  
  Introduction to Biomaterials Engineering |
| CEE 3348a/b  
  Project Management and Engineering Cases |
| CEE 3362a/b  
  Drinking Water Quality and Treatment |
| CEE 4405a/b  
  Air Pollution |
| CEE 4418a/b  
  Systems Approach for Civil and Environmental Engineering |
| CEE 4458a/b  
  Risk Analysis and Decision Making in Engineering |
| CEE 4465a/b  
  Environmental Design for Waste Disposal |
| CEE 4477a/b  
  Environmental Applications of Nanotechnology |

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<th>Electrical and Computer Engineering:</th>
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| ECE 3349a/b  
  Introduction of VLSI |
| ECE 3375a/b  
  Microprocessors and Microcomputers |
| ECE 4436a/b  
  Networking: Principles, Protocols, and Architecture |
| ECE 4468a/b  
  Systems Optimization |
| SE 3314a/b  
  Computer Networks Applications |

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<th>Mechanical and Materials Engineering:</th>
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| MME 3379a/b  
  Materials Selection |
| MME 3381a/b  
  Kinematics and Dynamics of Machines |
| MME 4452a/b  
  Robotics and Manufacturing Automation |
| MME 4473a/b  
  Computer Integrated Manufacturing (CIM) |
| MME 4477a/b  
  Mechatronic System Design |
| MME 4492a/b  
  Production Management for Engineers |