

## Integrated Engineering and Business Option

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

<p><b>Year 2:</b></p> <p><b>Term A</b></p> <p>AM 2270a Applied Mathematics for Engineering II</p> <p>CEE 2202a Mechanics of Materials</p> <p>ECE 2277a Digital Logic Systems</p> <p>MSE 2214a Thermodynamics I</p> <p>MME 2259a Product Design and Development</p> <p>Bus 2257 Accounting and Business Analysis</p> <p><b>Term B</b></p> <p>AM 2276b Applied Mathematics for Electrical and Mechanical Engineering III</p> <p>CBE 2221b Fluid Flow</p> <p>CBE 2291b Computational Methods for Engineers</p> <p>ECE 2238b Introduction to Electrical Engineering</p> <p>SS 2143b Applied Statistics and Data Analysis for Engineers</p> <p>Bus 2257 Accounting and Business Analysis</p> <p><b>Year 3: HBA 1</b></p> <p><b>Year 4:</b></p> <p><b>Term A</b></p> <p>ES 3331a Engineering Innovation II: Managing the Innovation Process</p> <p>CBE 2220a Chemical Process Calculations</p> <p>CBE 3322a Heat Transfer Operations</p> <p>CEE 2220a Structural Theory and Design I</p> <p>ECE 3374a Introduction to Electronics for Mechanical Engineering</p> <p>Bus 4569 Ivey Field Project</p> <p><b>Term B</b></p> <p>ES 3330b Engineering Innovation I: New Venture Creation</p> <p>MSE 2213b Engineering Dynamics</p> <p>MME 2285b Engineering Experimentation</p> <p>MSE 3360b Finite Element Methods for Mechanical Engineering</p> <p>ES 4498G Engineering Ethics, Sustainable Development and the Law</p> <p><b>Year 5:</b></p> <p><b>Term A</b></p> <p>ES 4499 Interdisciplinary Engineering Design Project</p> <p>ES 4480a Engineering Innovation III: Leadership and Corporate Entrepreneurship</p> <p>0.5 technical elective</p> <p>Bus 4505a Global Macroeconomics for Managers</p> <p>Bus 4521a/b or 4522a/b or 4523a/b</p> <p>0.5 Business electives chosen from 4000 level Business courses.</p> <p><b>Term B</b></p> <p>ES 4499 Interdisciplinary Engineering Design Project</p> <p>1.0 technical electives</p> <p>1.5 Business electives chosen from 4000 level Business courses.</p>	<p><b>NOTES:</b></p> <p><b>Important:</b></p> <p>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.</p> <p><b>Technical Elective List:</b></p> <p>Some technical electives may not be offered in a given academic year. Consult the Department for accurate listing.</p> <table border="1" style="width: 100%;"> <tr> <th colspan="2" style="text-align: center;"><b>Chemical and Biochemical Engineering :</b></th> </tr> <tr> <td>CBE 2290a/b</td> <td>Fundamentals of Biochemical and Environmental Engineering</td> </tr> <tr> <td>CBE 3310a/b</td> <td>Process Dynamics and Control</td> </tr> <tr> <td>CBE 3324a/b</td> <td>Mass Transfer Operations</td> </tr> <tr> <td>CBE 4409a/b</td> <td>Wastewater Treatment</td> </tr> <tr> <td>CBE 4421a/b</td> <td>Introduction to Biomaterials Engineering</td> </tr> <tr> <th colspan="2" style="text-align: center;"><b>Civil and Environmental Engineering:</b></th> </tr> <tr> <td>CEE 3348a/b</td> <td>Project Management and Engineering Cases</td> </tr> <tr> <td>CEE 3362a/b</td> <td>Drinking Water Quality and Treatment</td> </tr> <tr> <td>CEE 4405a/b</td> <td>Air Pollution</td> </tr> <tr> <td>CEE 4418a/b</td> <td>Systems Approach for Civil and Environmental Engineering</td> </tr> <tr> <td>CEE 4458a/b</td> <td>Risk Analysis and Decision Making in Engineering</td> </tr> <tr> <td>CEE 4465a/b</td> <td>Environmental Design for Waste Disposal</td> </tr> <tr> <td>CEE 4477a/b</td> <td>Environmental Applications of Nanotechnology</td> </tr> <tr> <th colspan="2" style="text-align: center;"><b>Electrical and Computer Engineering:</b></th> </tr> <tr> <td>ECE 3349a/b</td> <td>Introduction of VLSI</td> </tr> <tr> <td>ECE 3375a/b</td> <td>Microprocessors and Microcomputers</td> </tr> <tr> <td>ECE 4436a/b</td> <td>Networking: Principles, Protocols, and Architecture</td> </tr> <tr> <td>ECE 4468a/b</td> <td>Systems Optimization</td> </tr> <tr> <td>SE 3314a/b</td> <td>Computer Networks Applications</td> </tr> <tr> <th colspan="2" style="text-align: center;"><b>Mechanical and Materials Engineering:</b></th> </tr> <tr> <td>MME 3379a/b</td> <td>Materials Selection</td> </tr> <tr> <td>MME 3381a/b</td> <td>Kinematics and Dynamics of Machines</td> </tr> <tr> <td>MME 4452a/b</td> <td>Robotics and Manufacturing Automation</td> </tr> <tr> <td>MME 4473a/b</td> <td>Computer Integrated Manufacturing (CIM)</td> </tr> <tr> <td>MME 4487a/b</td> <td>Mechatronic System Design</td> </tr> <tr> <td>MME 4492a/b</td> <td>Production Management for Engineers</td> </tr> </table>	<b>Chemical and Biochemical Engineering :</b>		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	<b>Civil and Environmental Engineering:</b>		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	<b>Electrical and Computer Engineering:</b>		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	<b>Mechanical and Materials Engineering:</b>		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 4487a/b	Mechatronic System Design	MME 4492a/b	Production Management for Engineers
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