JOINT HONOURS BSOCSC IN MATHEMATICS AND ECONOMICS

Mathematics
Mathematics and statistics are not only powerful problem-solving tools, but also highly creative fields of study that combine imagination with logic, and precision with intuition.

Mathematics is much more than numbers! Its basic goal is to reveal and model general patterns to help explain our world, whether they be found in electrical impulses in the human nervous system, the evolution of animal populations in their habitats, fluctuations in stock-market prices, or electronic communications. Mathematics reaches far beyond science and engineering into medicine, business and the social sciences.

Advances in mathematics and statistics lie behind many discoveries that are now part of our daily lives, such as MRI scanners, digital compression of music and video, secure electronic communications, data mining, genomic algorithms, futures pricing, and many other innovations.

The Department of Mathematics and Statistics offers Honours, majors and minors both in mathematics and in statistics. Our Honours program in statistics is accredited by the Statistical Society of Canada, allowing graduates to earn the A.Stat. professional designation. Moreover, the Department offers a joint honours program in mathematics and economics, a joint honours program in mathematics and computer science, as well as a multidisciplinary program in financial mathematics and economics. All our honours programs also include the co-operative education option.

Economics
Ever wonder why some countries are richer than others? Ever question why income inequality has been growing? Ever wonder why Canadian politicians worry when other countries may be going bankrupt? Economics can answer all these questions.

Economics examines how individuals and society make choices in a world where resources are limited. It focuses on the production, distribution and consumption of goods and services. Two important themes are efficiency (the absence of waste in the use of resources) and fairness. Since making choices is central to all human activities, studying economics often helps explain why people and governments behave in certain ways.

This program is offered in English and in French.

Program Requirements
Co-operative education is available with this program.

Requirements for this program have been modified. Please consult the 2018-2019 calendars (http://catalogue.uottawa.ca/en/archives) for the previous requirements.

ENG 1100 Workshop in Essay Writing 3 Units
3 optional course units in English (ENG) from: 3 Units

ENG 1120 Literature and Composition I: Prose Fiction

ENG 1121 Literature and Composition II: Drama and Poetry

Mathematics (51 course units)
MAT 1320 Calculus I 3 Units
MAT 1322 Calculus II 3 Units
MAT 1341 Introduction to Linear Algebra 3 Units
MAT 1362 Mathematical Reasoning and Proofs 3 Units
MAT 2122 Multivariable Calculus 3 Units
MAT 2125 Elementary Real Analysis 3 Units
MAT 2371 Introduction to Probability 3 Units
MAT 2375 Introduction to Statistics 3 Units
3 course units from:
MAT 2141 Honours Linear Algebra 1 3 Units
MAT 2342 Introduction to Applied Linear Algebra 3 Units
6 course units from:
MAT 2143 Introduction to Group Theory 6 Units
MAT 2324 Ordinary Differential Equations and the Laplace Transform 3 Units
MAT 2348 Discrete Mathematics 3 Units
MAT 2355 Introduction to Geometry 3 Units
MAT 2362 Foundations of Mathematics 2 3 Units
12 optional course units in mathematics (MAT) at the 3000 or 4000 level 3, 4 12 Units
6 optional course units in mathematics (MAT) at the 4000 level 3, 4 6 Units

Economics (42 course units)
ECO 1102 Introduction to Macroeconomics 3 Units
ECO 1104 Introduction to Microeconomics 3 Units
ECO 2142 Macroeconomic Theory I 3 Units
ECO 2143 Macroeconomic Theory II 3 Units
ECO 2144 Microeconomic Theory I 3 Units
ECO 2145 Microeconomic Theory II 3 Units
ECO 3151 Introduction to Econometrics 3 Units
ECO 3152 Macroeconomic Theory III 3 Units
ECO 3153 Microeconomic Theory III 3 Units
9 optional course units in economics (ECO) at the 3000 or 4000 level 9 Units
6 optional course units in economics (ECO) at the 4000 level 6 Units
21 elective course units 21 Units
Total: 120 Units

Note(s)
1. Students interested in graduate studies in mathematics should choose MAT 2141.
2. MAT 2362 is strongly recommended and is required for further study of logic.
3. The course MAT 3153 cannot be counted for units if you have previously passed MAT 4153. You may however take MAT 3153 and then subsequently take MAT 4153, and count both for units.
4. Students planning to go to graduate school in Mathematics and Statistics must consult the Department of Mathematics and Statistics.