MacEwan UNIVERSITY

FACULTY OF ARTS AND SCIENCE

Bachelor of Science Degree
Mathematical Sciences Major

2018/19 Academic Year

The Mathematical Sciences Major is comprised of three disciplines – computer science, mathematics, and statistics. Students select two of the three as primary disciplines. While students in this major are not required to complete a minor, if any of computer science, mathematics or statistics disciplines are chosen as a minor, all senior-level credits in that discipline will only count toward the minor. Please refer to Planning Note 4 for more information on the structure of the Mathematical Sciences Major.

This planning sheet combines the course work for the major as well as other elements of the Bachelor of Science program. The degree is 120 credits, or 40 courses. Thus there is a check box of every course required for the major and the degree.

Requirements for the Major include:

- ☐ 60-72 non-duplicative credits
- ☐ A minimum of 42 senior-level credits
- ☐ A minimum of 12 credits at the 300- or 400-level in the primary disciplines
- ☐ A minimum of 3 credits at the 300- or 400-level in each primary discipline

Specific Major Requirements* — 12 Credits

☐1 MATH 114 Elementary Calculus I

☐2 MATH 115 Elementary Calculus II

Choose 3 credits from the following Mathematics:

MATH 120 Basic Linear Algebra I — MATH 125 Linear Algebra I

☐3 _____

Choose 3 credits from the following Computer Sciences:

CMPT 101 Introduction to Computing I — CMPT 103 Introduction to Computing II

☐4 _____

Minimum General Major Requirements — 48 Credits

Primary Discipline I - 18 senior-level credits from the first primary discipline

☐5 _____ ☐6 _____ ☐7 _____

☐8 _____ ☐9 _____ ☐10 _____

Primary Discipline II - 18 senior-level credits from the second primary discipline

☐11 _____ ☐12 _____ ☐13 _____

☐14 _____ ☐15 _____ ☐16 _____

General Requirements – 6 credits of senior-level CMPT, MATH, and STAT

☐17 _____ ☐18 _____

General Requirements – 6 credits of junior- or senior-level CMPT, MATH, and STAT

☐19 _____ ☐20 _____

Other Major, Minor, Breadth, and Option Requirements — 60 Credits

May include 12 credits in CMPT, MATH, and STAT; Minor Requirements and Options

☐21 _____ ☐22 _____ ☐23 _____

☐24 _____ ☐25 _____ ☐26 _____

☐27 _____ ☐28 _____ ☐29 _____

☐30 _____

Breadth Exit Requirements

Breadth requirements cover a number of disciplines and are designed to broaden your horizons and extend your skills. Unless otherwise specified, these courses can be taken at any level and completed in any combination. Courses that count towards the major and options can also be used to fulfill the breadth requirements.

Chemistry or Physics - 6 credits (courses must include a laboratory component)

☐31 _____ ☐32 _____

Biological or Earth and Planetary Sciences - 6 credits (courses must include a laboratory component)

☐33 _____ ☐34 _____

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Mathematical Sciences - 6 credits (MATH 114, MATH 120, or MATH 125 are specific major requirements)

English - ENGL 102 and 3 credits in ENGL (not including ENGL 108 or 111)

☐$_{35}$ ENGL 102 ☐$_{36}$ ENGL _____

Humanities - 6 credits in CLAS, COMP, HIST, HUMN, PHIL, or a language other than English

☐$_{37}$ _____ ☐$_{38}$ _____

Social Sciences - 6 credits in ANTH, ECON, POLS, PSYC, SOCI

☐$_{39}$ _____ ☐$_{40}$ _____

Important Planning Notes

1. Courses required for the major may be used to satisfy the breadth requirements in the Bachelor of Science degree.
2. *Engineering students who have successfully completed MATH 100, MATH 101, MATH 102, ENCP 100 will have the equivalents of MATH 114, MATH 115, MATH 125 and CMPT 101. See an advisor for full details.
3. Students are required to consult the MacEwan University academic calendar to ensure they meet prerequisites for all courses they enrol in.
4. The structure of the Mathematical Sciences major is as follows:

   If a student chooses a Mathematical Sciences minor:

   a. Students must choose two primary disciplines from Computer Science, Mathematics, and Statistics, and may choose the third discipline as their minor.
   b. All senior credits in the third discipline will count only toward the minor.
   c. Student must take a minimum of 18 senior level credits from both of their primary disciplines to complete the major's requirements, with an additional six senior level credits taken in either of the primary disciplines.
   d. Students must have 12 credits at the 300- or 400-level in their primary disciplines, with at least three credits from each primary discipline.

   If a student chooses a minor other than Mathematical Sciences:

   a. Students must choose two primary disciplines from Computer Science, Mathematics, and Statistics.
   b. Student must take a minimum of 18 senior level credits from both of their primary disciplines to complete the major's requirements, with an additional six senior level credits taken in any of the three disciplines.
   c. Students must have 12 credits in their primary disciplines at the 300- or 400-level in their primary disciplines, with at least three credits from each primary discipline.

   If a student chooses no minor:

   a. Students must choose two primary disciplines from Computer Science, Mathematics, and Statistics.
   b. Student must take a minimum of 18 senior level credits from both of their primary disciplines to complete the major's requirements, with an additional six senior level credits taken in any of the three disciplines.
   c. Students must have 12 credits in their primary disciplines at the 300- or 400-level in their primary disciplines, with at least three credits from each primary discipline.
   d. The 18 credits normally assigned to a minor will be considered options. Therefore, a student must complete 30 credits of options to be eligible for graduation.
   e. Students must plan their options very carefully, as they can use a maximum of 12 credits in any Mathematical Sciences discipline within their options. Students also cannot exceed the 48 credit 100-level maximum, and they must complete 72 credits of Science courses.
5. **STAT 265 and STAT 266** can only be used once to fulfill *either* a MATH course requirement *or* a STAT course requirement.
6. Please keep in mind that course offerings will vary from academic year to academic year.

Degree Regulations

☐ A minimum 120 credits of non-duplicative coursework

☐ A minimum of 60 credits completed at MacEwan University

☐ A maximum of 48 credits at the 100-level

☐ A minimum of 72 credits in Science courses

☐ A maximum of 15 credits of out-of-faculty options with no more than 3 credits in PACT

☐ *The maximum number of credits for independent work (project, field placement, and/or individual study courses) excluding the honours thesis is 15 credits. Specific disciplines may have further restrictions.

Mathematical Sciences Course Offerings

Please refer to the academic calendar or MacEwan.ca/Science > Disciplines > Mathematical Sciences for further information regarding course offerings.