University of
Lethbridge

FIAT LUX

Program Planning Guide

Department: Mathematics and Computer Science

Calendar Year: 2015/2016

Name:_____

ID: _____

Major in Mathematics:
   www.uleth.ca/artsci/math-computer-science

Academic Calendar:
   www.uleth.ca/ross/academic-calendar

High School Prerequisites by Course:
   www.uleth.ca/ross/hs_prereqs/course

Current and Past Program Planning Guides:
   www.uleth.ca/ross/ppgs

Faculty of Arts and Science Student Program Services:
   www.uleth.ca/artsci/advising
   artsci.advising@uleth.ca
   (403) 329-5106
   SU060

Co-operative Education:
   www.uleth.ca/artsci/coop

Bachelor of Science - Mathematics

N a m e : _____ **I D :** _____

B.Sc. Mathematics

Completion of at least 40 courses (120.0 credit hours) with a grade point average of at least 2.00.

Major Requirements (18 courses)

_____	1.	Computer Science 1620 - Fundamentals of Programming I
_____	2.	Computer Science 2620 - Fundamentals of Programming II
_____	3.	Mathematics 1410 - Elementary Linear Algebra
_____	4.	Mathematics 1560 - Calculus I
_____	5.	Mathematics 2000 - Mathematical Concepts
_____	6.	Mathematics 2560 - Calculus II
_____	7.	Mathematics 2570 - Calculus III
_____	8.	Mathematics 2580 - Calculus IV
_____	9.	Mathematics 3400 - Group and Ring Theory
_____	10.	Mathematics 3410 - Linear Algebra
_____	11.	Mathematics 3500 - Analysis I
_____	12.	Statistics 1770 - Introduction to Probability and Statistics
_____	13.	Statistics 3500 - Mathematical Probability

[1]Three additional courses (9.0 credit hours) in Mathematics or Statistics at the 3000/4000 level

14. _____ 16. _____

15. _____

Two courses (6.0 credit hours) in Mathematics or Statistics at the 4000 level, excluding Mathematics 4980 and Statistics 4980 (Applied Studies), and Mathematics 4990 and Statistics 4990 (Independent Study)

17. _____ 18. _____

Other Courses (minimum 22 courses)

1. _____	12. _____
2. _____	13. _____
3. _____	14. _____
4. _____	15. _____
5. _____	16. _____
6. _____	17. _____
7. _____	18. _____
8. _____	19. _____
9. _____	20. _____
10. _____	21. _____
11. _____	22. _____

Notes

[1]*One of the additional 3000/4000-level courses may be replaced by a course from the following list:*

> *Computer Science 3630 - Theoretical Foundations of Computing*
> *Physics 3200 - Mechanics*

Students who intend to take Physics 3200 as a course contributing to the Mathematics major should carefully plan their program to include the required prerequisites.

It is strongly recommended that a student attain a grade of 'C' or higher in any course used to satisfy prerequisites for courses in Computer Science, Mathematics, and Statistics.

See also:

- Bachelor of Science/Bachelor of Education - Mathematics/Mathematics Education
- Bachelor of Science/Bachelor of Management - Mathematics

Bachelor of Science - Mathematics

Completion of the General Liberal Education Requirement (GLER).
Only four courses (12.0 credit hours) in total may be counted from all courses offered by a single department. See the 2015/2016 Calendar, p. 83, for more information.

LIST I: Fine Arts and Humanities Courses

1. _____   3. _____

2. _____   4. _____

LIST II: Social Science Courses

1. _____   3. _____

2. _____   4. _____

LIST III: Science Courses

1. _____   3. _____

2. _____   4. _____

Not more than 12 courses (36.0 credit hours) may be completed at the 1000 level (or lower) [0500 - 1999] for credit towards the degree, excluding Activity courses (labelled PHAC and MUSE).

1. _____   7. _____

2. _____   8. _____

3. _____   9. _____

4. _____   10. _____

5. _____   11. _____

6. _____   12. _____ (max.)

Completion of at least 15 courses (45.0 credit hours) from disciplines offered by the Faculty of Arts and Science or the Faculty of Fine Arts at the 3000/4000 level, excluding Activity courses (labelled PHAC and MUSE).

1. _____   9. _____

2. _____   10. _____

3. _____   11. _____

4. _____   12. _____

5. _____   13. _____

6. _____   14. _____

7. _____   15. _____ (min.)

8. _____

____ Not more than five Independent Study courses (15.0 credit hours) may be completed for credit towards the degree.

____ Not more than five Disciplinary Credit Applied Studies courses (15.0 credit hours) may be completed for credit towards the degree. Students may, in addition, complete Applied Studies 2000, 2001, 2010, and 2011.

____ Not more than 24 courses (72.0 credit hours) may be completed from any one discipline for credit towards the degree.
Note: *Disciplines are identified by a specific course label (e.g. KNES, ASTR, and HIST are separate disciplines).*

____ Not more than six credit hours in Activity courses (i.e. courses labelled PHAC and MUSE) may be completed for credit towards the degree, except for Kinesiology majors (not more than 15.0 credit hours) and Music majors (not more than 12.0 credit hours).

____ Not more than four courses (12.0 credit hours) from disciplines offered outside the Faculty of Arts and Science or the Faculty of Fine Arts may be completed for credit towards the degree (i.e. labelled ADCS, CDEV, CRED, EDUC, HLSC, MGT, NURS, and PUBH). Courses cross-listed between the Faculty of Arts and Science and another Faculty do not count towards this limit.

____ Residence requirement:

Degree: at least 20 courses (60.0 credit hours) must be completed at the University of Lethbridge, including the last 10 courses (30.0 credit hours) completed for credit towards the degree.

Major: at least half of the courses required in the major must be completed at the University of Lethbridge.

Minor (Optional): _____
See the 2015/2016 Calendar, p. 137, for eligible minors.

1. _____   4. _____

2. _____   5. _____

3. _____   6. _____

Sample Sequencing Plan

Shown below is a sample sequence of courses for your degree. If you follow this plan, you should be able to graduate in four years, provided you complete five courses per semester. This is just one example of how you could complete your major and degree requirements; you may find that a different sequence works as well as this one.

Year 1, Fall	*Year 1, Spring*
Mathematics 1410	Mathematics 2000
Mathematics 1560 [1]	Mathematics 2560
GLER course	GLER course
GLER course	GLER course
GLER course	GLER course
Year 2, Fall	*Year 2, Spring*
Computer Science 1620	Computer Science 2620
Mathematics 2570	Mathematics 2580
Statistics 1770	GLER course
GLER course	Elective
Elective	Elective
Year 3, Fall	*Year 3, Spring*
Mathematics 3400	Mathematics 3410
Mathematics 3500	Mathematics or Statistics 3000/ 4000 level
Statistics 3500	Elective 3000/4000 level
Elective	Elective 3000/4000 level
Elective	Elective
Year 4, Fall	*Year 4, Spring*
Mathematics 4000 level	Mathematics 4000 level
Mathematics or Statistics 3000/ 4000 level	Mathematics or Statistics 3000/ 4000 level
Elective 3000/4000 level	Elective 3000/4000 level
Elective 3000/4000 level	Elective 3000/4000 level
Elective	Elective

[1] *Students with less than 75% in Mathematics 30-1 or without Mathematics 31 must complete MATH 1010 as a prerequisite.*

Terms Used

GLER course: A course that could count toward the General Liberal Education Requirement. You may use courses in your major towards this 12-course requirement. See the 2015/2016 University of Lethbridge Calendar, Part 4 - Academic Regulations (p. 83) for complete information.

The Faculty of Arts and Science offers Liberal Education 1000 and 2000, specifically designed to introduce first-year students to the wide scope of human knowledge and teach essential university success skills, critical thinking, and integrative thinking (see the 2015/2016 University of Lethbridge Calendar, Part 14 - Courses, p. 301). LBED 1000 and 2000 may be used toward satisfying the GLER.

Elective: A course that you may choose freely from all those available and applicable to your program. Use courses inside or outside your major, bearing in mind any restrictions that may apply (e.g., a maximum of 24 courses from any one discipline).