Curriculum Structure for the B.Sc. in Mathematics

Program Length

The Bachelor of Science in Mathematics includes a total of 120 credit hours. Students are expected to complete the program degree requirements in 4 academic years.

Overall Curriculum Structure

Curriculum Component	Total Number of	
	Course(s)	Credit Hours
General Education Requirements (Core Curriculum Courses)	11	33
Major Core Requirements	16	45
Focus Area Requirements	3	9
Major Electives	2	6
Minor	8	24
Free Electives	1	3
Total:	*41*	*120*

Major Core Requirements

Student must complete 45 CH from courses listed in the following table.

Course Id.	Course Title	Credit Hours
MATH 101	Calculus I	3
MATH 102	Calculus II	3
MATH 211	Calculus III	3
MATH 212	Calculus IV	3
MATH 213	Differential Equations	3
MATH 220	Foundations of Mathematics	3
MATH 222	Real Analysis	3
MATH 231	Linear Algebra	3
MATH 291	Financial Mathematics	3
MATH 365	Scientific Computation and Programming	3
MATH 366	Numerical Analysis I	3
STAT 101	Statistics I	3
STAT 102	Statistics II	3
STAT 211	Introduction to Probability	3
STAT 312	Stochastic Processes	3
MATH 496	Capstone Course	3
MATH 499	Internship	0

Focus Area Requirements

Students must complete 9 credit hours either from the Actuarial Mathematics focus area requirements or from the Applied Mathematics focus area requirements defined below.

Courses in the Actuarial Mathematics Focus Area Requirements		
Course Id.	**Course Title**	**Credit Hours**
MATH 292	Actuarial Sciences Problems Solving Lab	3
MATH 391	Life Contingencies I	3
MATH 392	Life Contingencies II	3

Courses in the Applied Mathematics Focus Area Requirements		
Course Id.	**Course Title**	**Credit Hours**
MATH 314	Partial Differential Equations	3
MATH 324	Complex Analysis	3
MATH 471	Mathematical Modelling	3

Major Electives

Student must complete 6 credit hours from courses listed in the following table.

Course Id.	**Course Title**	**Credit Hours**
MATH 233	Abstract Algebra	3
MATH 335	Number Theory	3
MATH 341	Modern Geometry	3
MATH 368	Operations Research I	3
MATH 371	Advanced Mathematical Methods	3
MATH 413	Theory of Differential Equations	3
MATH 443	Introduction to Differential Geometry	3
MATH 466	Numerical Analysis II	3
MATH 498	Special Topics	3
STAT 231	Applied Regression Analysis	3
STAT 333	Time Series	3
STAT 341	Actuarial Statistics I	3
STAT 442	Actuarial Statistics II	3

Minor Requirements

Students enrolled in the Mathematics program may take any of the minors offered within the university. If the minor the students enrolled in requires less than 24 CH, students must take additional courses outside their major as free electives to complete the 24 CH requirements.

Free Electives

Students enrolled in the Mathematics program must complete a minimum of 3 credit hours from courses outside the Mathematics major.

2 (b). Study Plan

FIRST YEAR ([30] credit hours)				SECOND YEAR ([30] credit hours)			
Fall Semester				**Fall Semester**			
Course	Course Title	Cr Hrs	New?	Course	Course Title	Cr Hrs	New?
	CCP Course	3	No		CCP Course	3	No
	CCP Course	3	No		CCP Course	3	No
UNIV 100	First Year Seminar	3	No	MATH 211	Calculus III	3	No
MATH 101	Calculus I	3	No	MATH 291	Financial Mathematics	3	yes
STAT 101	Statistics I	3	No	STAT 211	Introduction to Probability	3	No
Total Credit Hours in Semester [15]				Total Credit Hours in Semester [15]			
Spring Semester				**Spring Semester**			
Course	Course Title	Cr Hrs	New?	Course	Course Title	Cr Hrs	New?
	CCP Course	3	No		CCP Course	3	No
	CCP Course	3	No		CCP Course	3	No
	CCP Course	3	No		Focus Area Course	3	
MATH 102	Calculus II	3	No	MATH 213	Differential Equations	3	No
STAT 102	Statistics II	3	No	MATH 220	Foundations of Mathematics	3	No
Total Credit Hours in Semester [15]				Total Credit Hours in Semester [15]			

THIRD YEAR ([30] credit hours)				FOURTH YEAR ([30] credit hours)			
Fall Semester				**Fall Semester**			
Course	Course Title	Cr Hrs	New?	Course	Course Title	Cr Hrs	New?
	Minor Course	3	No		Minor Course	3	No
	Minor Course	3	No		Minor Course	3	No
MATH 212	Calculus IV	3	yes		Elective Course	3	
MATH 231	Linear Algebra	3	No	STAT 312	Stochastic Processes	3	No
	Focus Area Course	3		MATH 366	Numerical Analysis I	3	No
Total Credit Hours in Semester [15]				Total Credit Hours in Semester [15]			
Spring Semester				**Spring Semester**			
Course	Course Title	Cr Hrs	New?	Course	Course Title	Cr Hrs	New?
	Minor Course	3	No		Minor Course	3	No
	Minor Course	3	No		Elective Course	3	
MATH 222	Real Analysis	3	No		Free Elective Course	3	No
	Focus Area Course	3			Minor Course	3	No
MATH 365	Scientific Computation and Programming	3	yes	MATH 496	Capstone Course	3	yes
MATH 499	Internship	0	yes				
Total Credit Hours in Semester [15]				Total Credit Hours in Semester [15]			

3. Alignment with SOA

Actuaries achieve internationally recognized professional status by passing a set of examinations and other requirements set forth by the Society of Actuaries (SOA).
We have aligned our program to international professional actuarial qualifications so that the graduates should at least be able to

- pass 3 exams of SOA
- get all VEE credits from SOA

Alignment with professional exams of SOA

Our actuarial Courses	Prepare for which professional exam of SOA
Math291, Math292	exam FM
Stat211, Math292	exam P
Math 391, Math392	exam MLC

Further with the choice of electives Stat341, Stat442 can prepare for the 4th exam C.

4. Contact

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