

# MATHEMATICS (BS) - APPLIED MATHEMATICS CONCENTRATION

## Actuarial Program Map

Course	Title	Credit Hours
<b>First Year</b>		
<b>Fall</b>		
MATH 1113	Pre-Calculus (minimum grade of C) (Apply 3 credits to Mathematics and Quantitative Skills and 1 credit to Program Requirements.)	4
ENGL 1101	English Composition I (minimum grade of C)	3
Technology, Mathematics, and Sciences	Lab Science	4
ACCT 2101	Principles of Accounting I (minimum grade of C)	3
Social Sciences	Behavioral Science, the following is recommended:	3
ECON 2105	Principles of Macroeconomics (minimum grade of C) <sup>1</sup>	
<b>Credit Hours</b>		<b>17</b>
<b>Spring</b>		
MATH 1131	Calculus with Analytic Geometry I (minimum grade of C) (Apply 3 credits to Technology, Mathematics, and Sciences and 1 credit to Field of Study Requirements.)	4
ENGL 1102	English Composition II (minimum grade of C)	3
CPSC 1301K	Computer Science I (minimum grade of C) (Apply 3 credits to Field of Study Requirements, 1 credit to Program Requirements.)	4
STAT 1401	Elementary Statistics (minimum grade of C)	3
ECON 2106	Principles of Microeconomics (minimum grade of C) <sup>1</sup>	3
Institutional Priorities	ITDS 1779 (2), LEAD 1705 (2), PERS 1506 (1; may be repeated with different topic), PERS 1507 (2)	1
<b>Credit Hours</b>		<b>18</b>
<b>Second Year</b>		
<b>Fall</b>		
MATH 1132	Calculus with Analytic Geometry II (minimum grade of C) (If MATH 1132 is used in Technology, Mathematics, and Sciences, the one extra hour will count in Field of Study Requirements.)	4
MATH 2125	Introduction to Discrete Mathematics (minimum grade of C)	3
MATH 2115	Introduction to Linear Algebra (minimum grade of C)	3

Arts, Humanities, and Ethics	Humanities Course (Recommend ITDS 2125 Historical Perspectives on the Philosophy of Science and Mathematics)	3
Social Sciences	World Cultures	3
<b>Credit Hours</b>		<b>16</b>
<b>Spring</b>		
MATH 2135	Calculus with Analytic Geometry 3 (minimum grade of C)	4
MATH 3154	minimum grade of C	3
MATH 3175	Introduction to Probability (minimum grade of C)	3
Institutional Priorities	COMM 1110 Public Speaking or Foreign Language	
Arts, Humanities, and Ethics	Fine Arts Course	3
<b>Credit Hours</b>		<b>13</b>
<b>Third Year</b>		
<b>Fall</b>		
MATH 5151U	Introduction to Real Analysis I (minimum grade of C)	3
MATH 5175U	Mathematical Statistics (minimum grade of C)	3
Take one of the following courses (minimum grade of C):		3
MATH 3108	Introduction to Actuarial Science	
MATH 5126U	Actuarial Regression and Time Series	
Technology, Mathematics, and Sciences	Lab Science	4
POLS 1101	American Government	3
<b>Credit Hours</b>		<b>16</b>
<b>Spring</b>		
MATH 3106	Mathematical Theory of Interest (minimum grade of C)	3
FINC 3105	Principles of Finance (minimum grade of C)	3
Program Electives	Upper Level General Elective	3
HIST 2111 or HIST 2112	U. S. History to 1865 or U. S. History since 1865	3
KINS 1106 or PHED 1205	Lifetime Wellness or Concepts of Fitness	2
Health and Wellness	PEDS course	1
<b>Credit Hours</b>		<b>15</b>
<b>Fourth Year</b>		
<b>Fall</b>		
MATH 4795	Senior Seminar in Mathematics (minimum grade of C)	3
FINC 3115	Corporate Financial Analysis (minimum grade of C)	3
Take one of the following courses (minimum grade of C):		3
MATH 3108	Introduction to Actuarial Science	
MATH 5126U	Actuarial Regression and Time Series	
Program Electives	Upper Level General Elective	3

Program Electives	General Elective	1
<b>Credit Hours</b>		<b>13</b>
<b>Spring</b>		
Program Elective	Upper Level General Elective	3
Program Elective	General Elective	3
Program Elective	General Elective	3
Program Elective	General Elective	3
Program Elective	General Elective	3
<b>Credit Hours</b>		<b>15</b>
<b>Total Credit Hours</b>		<b>123</b>

## Statistics Program Map

Course	Title	Credit Hours
<b>First Year</b>		
<b>Fall</b>		
MATH 1113	Pre-Calculus (minimum grade of C) (Apply 3 credits to Mathematics and Quantitative Skills, 1 credit to Program Requirements.)	4
ENGL 1101	English Composition I (minimum grade of C)	3
Technology, Mathematics, and Sciences	Lab Science	4
Social Sciences	Behavioral Science, the following is recommended:	3
ECON 2105	Principles of Macroeconomics (minimum grade of C) <sup>1</sup>	
<b>Credit Hours</b>		<b>14</b>
<b>Spring</b>		
MATH 1131	Calculus with Analytic Geometry I (minimum grade of C) (Apply 3 credits to Technology, Mathematics, and Sciences, 1 credit to Field of Study Requirements.)	4
ENGL 1102	English Composition II (minimum grade of C)	3
CPSC 1301K	Computer Science I (minimum grade of C) (Apply 3 credits to Field of Study Requirements, 1 credit to Program Requirements.)	4
STAT 1401	Elementary Statistics (minimum grade of C)	3
ECON 2106	Principles of Microeconomics (minimum grade of C)(Recommended Area F Guided Elective)	3
Institutional Priorities	ITDS 1779 (2), LEAD 1705 (2), PERS 1506 (1; may be repeated with different topic), PERS 1507 (2)	1
<b>Credit Hours</b>		<b>18</b>
<b>Second Year</b>		
<b>Fall</b>		
MATH 1132	Calculus with Analytic Geometry II (minimum grade of C) (If MATH 1132 is used in Technology, Mathematics, and Sciences, the 1 credit in Field of Study Requirements.)	4

MATH 2125	Introduction to Discrete Mathematics (minimum grade of C)	3
MATH 2115	Introduction to Linear Algebra (minimum grade of C)	3
Arts, Humanities, and Ethics	Humanities Course (Recommend ITDS 2125 Historical Perspectives on the Philosophy of Science and Mathematics)	3
Social Sciences	World Cultures	3
<b>Credit Hours</b>		<b>16</b>

<b>Spring</b>		
MATH 2135	Calculus with Analytic Geometry 3 (minimum grade of C)	4
MATH 3154	minimum grade of C	3
MATH 3175	Introduction to Probability (minimum grade of C)	3
Institutional Priorities	COMM 1110 Public Speaking or Foreign Language	
STAT 3127	Statistical Computing (minimum grade of C)	3
Arts, Humanities, and Ethics	Fine Arts Course	3
<b>Credit Hours</b>		<b>16</b>

<b>Third Year</b>		
<b>Fall</b>		
MATH 5151U	Introduction to Real Analysis I (minimum grade of C)	3
MATH 5175U	Mathematical Statistics (minimum grade of C)	3
STAT 5176U	Statistical Design and Analysis of Experiments (minimum grade of C)	3
Technology, Mathematics, and Sciences	Lab Science	4
POLS 1101	American Government	3
<b>Credit Hours</b>		<b>16</b>

<b>Spring</b>		
STAT 5177U	Applied Regression Analysis (minimum grade of C)	3
Program Electives	Upper Level General Elective (minimum grade of C)	3
Program Elective	General Elective	3
HIST 2111 or HIST 2112	U. S. History to 1865 or U. S. History since 1865	3
KINS 1106 or PHED 1205	Lifetime Wellness or Concepts of Fitness	2
Health and Wellness	PEDS course	1
<b>Credit Hours</b>		<b>15</b>

<b>Fourth Year</b>		
<b>Fall</b>		
MATH 4795	Senior Seminar in Mathematics (minimum grade of C)	3
Program Elective	General Elective	3
Take one of the following courses (minimum grade of C):		3
STAT 5117U	Applied Multivariate Analysis	

STAT 5118U	Applied Nonparametric Methods	
STAT 5119U	Applied Categorical Data Analysis	
Program Elective	Upper Level General Elective (minimum grade of C)	3
Program Elective	General Elective	1
<b>Credit Hours</b>		<b>13</b>
<b>Spring</b>		
Take one of the following courses (minimum grade of C):		3
STAT 5117U	Applied Multivariate Analysis	
STAT 5118U	Applied Nonparametric Methods	
STAT 5119U	Applied Categorical Data Analysis	
Program Elective	Upper Level General Elective (minimum grade of C)	3
Program Elective	General Elective	3
Program Elective	General Elective	3
Program Elective	General Elective	3
<b>Credit Hours</b>		<b>15</b>
<b>Total Credit Hours</b>		<b>123</b>

<sup>1</sup> If not taken as a Social Sciences course in the IMPACTS core, course must be added in another semester.

**The student needs to work with his/her advisor to choose appropriate elective courses to make sure that he/she meets the total hours 123 required for the program.**