

## Program Pathway – *B.S. Mathematics: Actuarial Sciences Concentration*

The B.S. in Mathematics with an Actuarial Science Concentration offers students who wish to pursue a career as an actuary the opportunity to take classes which focus on the skills and knowledge needed to be successful on the professional exams. Due to the nature of the job, professionals pursuing a career in actuarial science must have specialized mathematical skills and knowledge, analytical problem-solving skills, business/finance skills and knowledge, and professional communication skills. This option offers students courses from across our curricula which will prepare them for the exams and the workforce.

This map is a term-by-term sample course schedule. Highlighted courses have been identified as "key courses." It is strongly advised that students make every effort to pass these courses on the first attempt with a "C" or higher to be successful in this program. The milestones listed below each year are designed to keep you on course to graduate in four years. Missing milestones could prevent you from being eligible for a particular program or could result in a delay in graduation. The Program Pathway serves as a general guideline to help you build a full schedule each term.

<b>First Year – Fall</b>			
<b>Course Number</b>	<b>Course Title</b>	<b>Credits</b>	<b>Pre-requisites</b>
ENGL 1101 *	English Composition I	3	Minimum SAT/ACT/Accuplacer scores
MATH 1113	Pre-calculus	3	MATH 1111 or Minimum SAT/ACT/Accuplacer scores
ACCT 2101	Principles of Accounting I	3	MATH 1101 or 1111 ('C' or higher)
CMPS 1301	Principles of Programming I	3	MATH 1111
COMM 1110	Fundamentals of Speech	3	Co-requisite ENGL 0999
PRSP 1050	Perspectives in STEM	1	
<b>Semester Total</b>		<b>16</b>	

<b>First Year – Spring</b>			
<b>Course Number</b>	<b>Course Title</b>	<b>Credits</b>	<b>Pre-requisites</b>
ENGL 1102 *	English Composition II	3	ENGL 1101 ('C' or higher)
MATH 2253	Calculus and Anl. Geo. I	4	MATH 1113
ACCT 2102	Principles of Accounting II	3	ACCT 2101 ('C' or higher)
ECON 2106	Principles of Microeconomics	3	MATH 1101 or 1111 ('C' or higher)
POLS 1101	American Government	3	ENGL 0999
<b>Semester Total</b>		<b>16</b>	

<b>First Year Milestones</b>
<ul style="list-style-type: none"> <li>• Complete ENGL 1102, MATH 1113, MATH 2253, ACCT 2101, &amp; CMPS 1301</li> <li>• Meet with your advisor</li> </ul>

\* denotes grade of 'C' or higher required

<b>Second Year – Fall</b>			
<b>Course Number</b>	<b>Course Title</b>	<b>Credits</b>	<b>Pre-requisites</b>
MATH 2254	Calculus and Anl. Geo. II	4	MATH 2253
MATH 2256	Introduction to Linear Algebra	3	MATH 2253; <b>Co-requisite:</b> MATH 2254
ECON 2105	Principles of Macroeconomics	3	MATH 1101 or 1111 ('C' or higher)
BUSA 2850	Business Statistics	3	MATH 2253 & CMPS 1301
English Elective	English Literature (ENGL 2xxx)	3	ENGL 1102 ('C' or higher)
<b>Semester Total</b>		<b>16</b>	

<b>Second Year – Spring</b>			
<b>Course Number</b>	<b>Course Title</b>	<b>Credits</b>	<b>Pre-requisites</b>
MATH 2255	Calculus and Anl. Geo. III	4	MATH 2254
MATH 2403	Differential Equations	4	MATH 2254, <b>Co-requisite:</b> MATH 2256
MATH 3101* (S)	Intro. to Advanced Math	3	MATH 2254
FINC 3056*	Principles of Finance	3	ENGL 1102, COMM 1110, ACCT 2102, ECON 2105, ECON 2106. Co-req BUSA 2850
<b>Semester Total</b>		<b>14</b>	

<b>Second Year Milestones</b>
<ul style="list-style-type: none"> <li>• Complete MATH 3101 and FINC 3056</li> <li>• Meet with your advisor</li> <li>• Consider joining the Math Club</li> <li>• Become familiar with actuary professional exam process</li> </ul>

<b>Third Year – Fall</b>			
<b>Course Number</b>	<b>Course Title</b>	<b>Credits</b>	<b>Pre-requisites</b>
MATH 4701* (F)	Probability and Stats. I	3	MATH 2255
HIST 2111 or 2112	United States History	3	ENGL 0999 unless exempt
Lab science	Lab Science Sequence I (BIOL, CHEM, or PHYS)	4	varies
FINC 3201* (F)	Investments	3	FINC 3056 ('C' or higher)
<b>Semester Total</b>		<b>13</b>	

\* denotes grade of 'C' or higher required

<b>Third Year – Spring</b>			
<b>Course Number</b>	<b>Course Title</b>	<b>Credits</b>	<b>Pre-requisites</b>
MATH 4702* (S)	Probability and Stats. II	3	MATH 4701 ('C' or higher)
MATH 3511 (S) odd yrs.	Intro to Numerical Analysis	3	Math 2254, CMPS 1301, or CMPS 1371 co-req Math 2256
FINC 4301* (S)	Risk Management	3	FINC 3201 ('C' or higher)
Lab Science	Lab Science Sequence II (BIOL, CHEM, or PHYS)	4	Lab science I
English and Humanities Elective	Subject options: ENGL, ARTS, HUMN, MUSC, THEA	3	varies
<b>Semester Total</b>		<b>16</b>	

<b>Third Year Milestones</b>
<ul style="list-style-type: none"> <li>• Meet with your advisor</li> <li>• Discuss possible actuary Internships with advisor</li> <li>• Begin preparing for preliminary actuary exams</li> <li>• Have completed resume and submit on Handshake</li> <li>• Attend a career fair</li> <li>• Meet with Career and Professional Development as needed</li> </ul>

<b>Fourth Year – Fall</b>			
<b>Course Number</b>	<b>Course Title</b>	<b>Credits</b>	<b>Pre-requisites</b>
MATH 4601* (F)	Real Analysis I	4	MATH 3101 & MATH 2255
MATH 4860	Internship in Mathematics	4	Permission of Department Chair
MATH 4502* (F) (Odd years)	Statistics for Process Control	3	MATH 2181 or 2253, & 1401 or 4701 or BUSA 2850
FINC 3101* (F)	Intermediate Corporate Finance	3	FINC 3056 ('C' or higher)
<b>Semester Total</b>		<b>14</b>	

<b>Fourth Year – Spring</b>			
<b>Course Number</b>	<b>Course Title</b>	<b>Credits</b>	<b>Pre-requisites</b>
ECON 3109* (S)	Managerial Economics	3	ECON 2105 and 2106 ('C' or higher). Co-req: FINC 3056
MATH 4401* (S)	Operations Research	3	MATH 2256
ECON 4101* (S)	Applied Econometrics	3	BUSA 2850, 3050, or MATH 2200/1401 ('C' or higher)
MATH 4602* (S)	Real Analysis II	4	MATH 4601
MATH 4850* (S) odd yrs.	Financial Mathematics	3	MATH 4701 ('C' or higher)
<b>Semester Total</b>		<b>16</b>	

\* denotes grade of 'C' or higher required



<b>Fourth Year Milestones</b>
<ul style="list-style-type: none"><li>• Meet with your advisor</li><li>• Check and polish resume with Career and Professional Development</li><li>• Complete two preliminary actuary exams</li><li>• Submit Graduation Application to Office of Enrollment Services the semester before you intend to graduate</li></ul>



Notes: Courses with (F) designates fall only courses, (S) designates spring only

*The Program Pathway is not a contract, neither expressed or implied, between the student and Dalton State College, but represents a flexible program of the current catalog's curriculum which may be altered at any time to carry out the academic objectives of the College.*

\* denotes grade of 'C' or higher required