

	<p style="text-align: center;"><b>ASSOCIATE OF SCIENCE</b></p> <p style="text-align: center;"><b>MATHEMATICS – PRE-ACTUARIAL</b></p> <p style="text-align: center;"><b>MATHEMATICS MAJOR</b></p> <p style="text-align: center;"><i>The catalog in force is assigned to students based on the academic year they first applied to the college, and changes only when students change their major or request the change in writing. Refer to Policy No. 3357:15-13-28.</i></p>	<b>2023-24 Catalog</b> Effective Summer 2023
		<b>7501</b>

*Arts and Sciences Division*

*Mathematics Department*

Course Number	Course Title	Credits	Pre- and Co-Requisites	Completed Sem./Year
<b>FRESHMAN EXPERIENCE</b>				
SSC101	Student Success Seminar^^	1	<i>Take first semester</i>	
<b>ENGLISH COMPOSITION AND ORAL COMMUNICATION: 6 credit hours minimum</b>				
ENG124	College Composition^ (required)	3	Co-ENG024 <b>or</b> Co-ENG011 <b>or</b> Proficiency	
ENG221	Technical Report Writing	3	ENG124	
ENG230	Business Communication	3	ENG124	
ENG231	College Composition II	3	ENG124	
COM122	Interpersonal Communication	3		
COM123	Small Group Communication	3	IDS102 <b>or</b> Proficiency	
COM125	Introduction to Communication Theory^▲-	3	IDS102 <b>or</b> Proficiency	
COM121	Effective Speaking	3		
<b>SOCIAL AND BEHAVIORAL SCIENCES: 9 credit hours required</b>				
SOC225	Diversity in American Society	3	IDS102 <b>or</b> Proficiency	
BUS221	Microeconomics^	3	IDS102 <b>or</b> Proficiency	
BUS222	Macroeconomics^	3	IDS102 <b>or</b> Proficiency	
<b>ARTS AND HUMANITIES: 6 credit hours minimum</b>				
ENG233	British Literature: Med to 1785	3	ENG124	
ENG234	British Literature: 1785 to Present	3	ENG124	
ENG236	American Literature: Colonial to 1865	3	ENG124	
ENG237	American Literature: 1865 to Present	3	ENG124	
HIS121	U.S. History I to 1877	3		
HIS122	U.S. History II from 1877	3		
HIS221	World Civilization to 17th Century	3		
HIS222	World Civilization from 17th Century	3		
PHL122	Ethics	3		
<b>NATURAL SCIENCES: 7 credit hours minimum (1 lab course required)</b>				
BIO121	Anatomy and Physiology I (lab)^▲	4	BIO101 <b>or</b> Proficiency	
BIO122	Anatomy and Physiology II (lab)	4	BIO121 <b>or</b> BIO123	
BIO124	Human Diseases	3	BIO122 <b>or</b> BIO123	
BIO126	Science, Energy, and the Environment (lab)	4		
BIO127	Human Biology (lab)	4		
BIO129	Meteorology (lab)	3		
BIO141	General Biology I (lab)	4		

^Based on SSC placement scores.

^^To promote student success, this course should be taken in the first semester.

▲ Because of the strong emphasis on science in this major, applicants must have successfully completed chemistry and biology in high school. Students who did not complete the courses in high school, and those who prefer to refresh their knowledge of the material, should complete the listed pre-requisites.

▲-Fall only courses. Please see your academic advisor for availability.

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Course Number	Course Title	Credits	Pre- and Co-Requisites	Completed Sem./Year
<b>NATURAL SCIENCES, continued: 7 credit hours minimum (1 lab course required)</b>				
BIO142	General Biology II (lab) ▲+	4		
BIO221	Principles of Microbiology (lab)	4	BIO122 or BIO123 or BIO127 or BIO141	
CHM101	Introduction to Chemistry^▲	4	(MTH022 or MTH023 or Proficiency) or MTH105 or MTH107 or Proficiency	
CHM123	General, Organic, and Biological Chemistry (lab)	4	(MTH024 or MTH025 or Proficiency) or MTH105 or MTH107 or (CHM101 or Proficiency)	
CHM141	General Chemistry I (lab)^▲	5	(CHM101 or Proficiency) or (MTH024 or MTH025 or Proficiency)	
CHM142	General Chemistry II (lab) ▲+	5	CHM141	
PHY101	Principles of Physics (lab)^	4	(MTH024 or MTH025 or Proficiency) or MTH105 or MTH107 and (IDS102 or Proficiency)	
PHY121	College Physics I with Algebra^ (lab)	4	MTH135 or (MTH125 and MTH130) or Proficiency	
PHY122	College Physics II with Algebra (lab)	4	PHY121	
PHY105	Astronomy (lab)	4		
PHY221	General Physics I with Calculus (lab) ▲-	5	MTH223 and Co-MTH224	
PHY222	General Physics II with Calculus (lab) ▲+	5	PHY221 and MTH224 and Co-MTH225	
<b>MATHEMATICS, STATISTICS, AND LOGIC CORE: 32 credit hours required</b>				
BUS124	Business Analysis with Algebra	3	(MTH022 or MTH023 or Proficiency) and (IDS102 or Proficiency)	
ACC132	Financial Accounting	4	Pre-Co BUS124	
AOT226	Spreadsheets Microsoft Excel^	3	ITD100 or Proficiency	
MTH124	Statistics^ (required)	3	MTH022 or Pre-Co-MTH024 or Proficiency	
MTH135	Precalculus^ – A student may take MTH125 (College Algebra) and MTH130 (Trigonometry) over two semesters to satisfy this requirement.	5	MTH025 or Proficiency	
MTH214	Discrete Mathematics^	3	MTH125 or MTH135 or Proficiency	
MTH223	Analytic Geometry and Calculus I^	4	MTH135 or (MTH125 and MTH130) or Proficiency	
MTH224	Analytic Geometry and Calculus II	4	MTH223	
MTH225	Analytic Geometry and Calculus III	4	MTH224	
MTH226	Linear Algebra ▲-	3	MTH224	
MTH227	Ordinary Differential Equations ▲+	3	MTH224	
<b>TOTAL CREDIT HOURS</b>		<b>60-65</b>		

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▲+Spring only courses. Please see your academic advisor for availability.

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### PART-TIME STUDENT ADVISING NOTES

#### Academic Advising

Students should make an appointment to see their advisor before registering for classes each semester. They should have prepared a completed registration form, including courses they wish to take, prior to this meeting.

#### Course Sequence

The semester-by-semester listing below provides the normal scheduling option for part-time associate degree students who plan to finish in eight semesters.

<u>First Semester</u>		<u>Credit Hours</u>	<u>Pre- and Co-requisites</u>
SSC101	Student Success Seminar <sup>^^</sup>	1	<i>Take first semester</i>
MTH135	Precalculus <sup>^</sup> – <i>A student may take MTH125 (College Algebra) and MTH130 (Trigonometry) over two semesters to satisfy this requirement.</i>	5	MTH025 <b>or</b> Proficiency
ENG124	College Composition <sup>^</sup> ( <b>required</b> )	<u>3</u> <b>9</b>	Co-ENG024 <b>or</b> Co-ENG011 <b>or</b> Proficiency
<u>Second Semester</u>			
MTH223	Analytic Geometry and Calculus I <sup>^</sup>	4	MTH135 <b>or</b> (MTH125 and MTH130) <b>or</b> Proficiency
ACC132	Financial Accounting	<u>4</u> <b>8</b>	BUS124
<u>Third Semester</u>			
MTH224	Analytic Geometry and Calculus II	4	MTH223
BUS124	Business Analysis with Algebra	<u>3</u> <b>7</b>	(MTH022 <b>or</b> MTH023 <b>or</b> Proficiency) <b>and</b> (IDS102 <b>or</b> Proficiency)
<u>Fourth Semester</u>			
MTH214	Discrete Mathematics <sup>^</sup>	3	MTH125 <b>or</b> MTH135 <b>or</b> Proficiency
MTH226	Linear Algebra <sup>▲</sup> -	<u>3</u> <b>6</b>	MTH224
<u>Fifth Semester</u>			
SOC225	Diversity in American Society	3	IDS102 <b>or</b> Proficiency
<i>Mathematics, Statistics, and Logic Core Elective</i> <sup>3</sup>		3-4	<i>Check for prerequisites</i>
<i>Natural Science Elective</i> <sup>▲ 1</sup>		<u>3-5</u> <b>9-12</b>	<i>Check for prerequisites</i>
<u>Sixth Semester</u>			
<i>English Composition and Oral Communication Elective</i> <sup>2</sup>		3	<i>Check for prerequisites</i>
MTH124	Statistics ( <b>required</b> )	3	MTH 022 <b>or</b> Pre-Co-MTH024 <b>or</b> Proficiency
BUS221	Microeconomics <sup>^</sup>	<u>3</u> <b>9</b>	IDS102 <b>or</b> Proficiency
<u>Seventh Semester</u>			
BUS222	Macroeconomics <sup>^</sup>	3	IDS102 <b>or</b> Proficiency
<i>Arts and Humanities Elective</i> <sup>4</sup>		<u>3</u> <b>6</b>	<i>Check for prerequisites</i>
<u>Eighth Semester</u>			
<i>Natural Science Elective</i> <sup>▲ 1</sup>		3-5	<i>Check for prerequisites</i>
<i>Arts and Humanities Elective</i> <sup>4</sup>		<u>3</u> <b>6-8</b>	<i>Check for prerequisites</i>
<b>TOTAL CREDITS</b>		<b>60-65</b>	

<sup>^</sup>Based upon SSC placement scores.

<sup>^^</sup>To promote student success, this course should be taken in the first semester.

<sup>▲</sup>Because of the strong emphasis on science in this major, applicants must have successfully completed chemistry and biology in high school. Students who did not complete the courses in high school, and those who prefer to refresh their knowledge of the material, should complete the listed pre-requisites.

<sup>1</sup>Natural Sciences Electives: BIO121, BIO122, BIO124, BIO126, BIO127, BIO129, BIO141, BIO142, BIO221, CHM101, CHM123, CHM141, CHM142, PHY101, PHY105, PHY121, PHY122, PHY221, PHY222

<sup>2</sup>English Composition and Oral Communication Electives: COM121, COM122, COM123, COM125, ENG221, ENG230, ENG231

<sup>3</sup>Mathematics, Statistics and Logic Core Electives: AOT226, MTH225, MTH227

<sup>4</sup>Arts and Humanities Electives: ENG233, ENG234, ENG236, ENG237, HIS121, HIS122, HIS221, HIS222, PHL122

<sup>▲</sup>Fall only courses. Please see your academic advisor for availability