BS, Mathematics, Life Sciences, 260F
Appalachian State University
College of Arts and Sciences
Department of Mathematical Sciences
Program of Study
2016-2017

Associate in Science

Universal General Education Transfer Component (UGETC)

English Composition (6 SCH)

The following <u>two</u> English composition courses are required.

Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Required <u>or</u> Preferred by Major	Notes
ENG 111	Expository Writing	3	None	RC 1000	3	Required	
ENG 112	Argument-Based Research	3	ENG 111	RC 2001	3	Required	
Total Credit Hours Required		**6**			**6**		

Humanities/Fine Arts (6 SCH)

Students will select <u>two</u> courses from at least two different disciplines:

Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Required <u>or</u> Preferred by Major	Notes
ART 111	Art Appreciation	3	None	ART 2011	3		
ART 114	Art History Survey I	3	None	ART 2030	3		
ART 115	Art History Survey II	3	None	ART 2130	3		
COM 231	Public Speaking	3	None	COM 2101	3		
ENG 231	American Literature I	3	ENG 112, 113 or 114	ENG 2350	3		
ENG 232	American Literature II	3	ENG 112, 113 or 114	ENG 2350	3		
ENG 241	British Literature I	3	ENG 112, 113 or 114	ENG 2050	3		
ENG 242	British Literature II	3	ENG 112, 113 or 114	ENG 2050	3		
MUS 110	Music Appreciation	3	None	MUS 2011	3		
MUS 112	Introduction to Jazz	3	None	MUS 2014	3		
PHI 215	Philosophical Issues	3	ENG 111	PHL Elective	3		
PHI 240	Introduction to Ethics	3	ENG 111	PHL 2000	3		
Total Credit Hours Required		**6**			**9**		

Social /Behavioral Science (6 SCH)

Students will select <u>two</u> courses from at least two different disciplines:

Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Required <u>or</u> Preferred by Major	Notes
ECO 251	Principles of Microeconomics	3	None	ECO 2030	3		
ECO 252	Principles of Macroeconomics	3	None	ECO 2040	3		
HIS 111	World Civilizations I	3	None	His 1101	3		
HIS 112	World Civilizations II	3	None	HIS 1102	3		
HIS 131	American History I	3	None	HIS 1200	3		
HIS 132	American History II	3	None	HIS 1200	3		
PSY 150	General Psychology	3	None	PSY 1200	3		
POL 120	American Government	3	None	P S 1100	3		
SOC 210	Introduction to Sociology	3	None	SOC 1000	3		
Total Credit Hours Required		**6**			**6**		

Mathematics (8 SCH)

Students will select <u>two</u> course from the following:

Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Required <u>or</u> Preferred by Major	Notes
MAT 171	Precalculus Algebra	4	None	MAT 1020	4		
MAT 172	Precalculus Trigonometry	4	MAT 171	MAT 1025	4		
MAT 263	Brief Calculus	4	MAT 171	MAT 1035	4		
MAT 271	Calculus I	4	MAT 172	MAT 1110	4	Required	
MAT 272	Calculus II	4	MAT 271	MAT 1120	4	Required	
Total Credit Hours Required		**8**			**8**		

Natural Sciences (8 SCH)

Students will select <u>8 SCH</u> from the following courses:

Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Required <u>or</u> Preferred by Major	Notes
AST 151/151A	General Astronomy I and lab I	4	None	AST 1001	4		
BIO 110	Principles of Biology	4	None	BIO 1201/BIO 1204	4		
BIO 111	General Biology I	4	None	BIO 1201/BIO 1204	4		must take both BIO 111 and BIO 112
BIO 112	General Biology II	4	BIO 111	BIO 1202/BIO 1205	4		must take both BIO 111 and BIO 112
CHM 151	General Chemistry I	4	None	CHE 1101/CHE 1110	4	Required	must take both CHM 151 and CHM 152
CHM 152	General Chemistry II	4	CHM 151	CHE 1102/CHE 1120	4	Required	must take both CHM 151 and CHM 152
GEL 111	Introduction Geology	4	None	GLY 1101	4		
PHY 110/110A	Conceptual Physics and Lab	4	None	PHY 1100	4		must take course with lab
PHY 151	College Physics I	4	MAT 171	PHY 1103	4		must take PHY 151 and PHY 152
PHY 152	College Physics II	4	PHY 151	PHY 1104	4		must take PHY 151 and PHY 152
PHY 251	General Physics I	4	MAT 271	PHY 1150	4		must take PHY 251 and PHY 252
PHY 252	General Physics II	4	MAT 272 *and* PHY 251	PHY 1151	4		must take PHY 251 and PHY 252
Total Credit Hours Required		**8**			**8**		

Total UGETC Hours 34 34

Additional General Education Courses (11-12 SHC) : These courses must be classified as UGETC or general education within the CAA.

Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Category	Notes
BIO 111	General Biology I	4		BIO 1801	4	UGETC	Required by major
CHM 251	Organic Chemistry I	4	CHM 151/152	CHE 2201/2203	4	GEC	Required by major
UGETC/GEC		3			3	UGETC/GEC	
UGETC/GEC		3			3	UGETC/GEC	
Total Credit Hours Required		14			14		

Total General Education Hours Required   48   48

Other REQUIRED HOURS (14-15 SHC): These courses must be classified as pre-major, elective or general education within the CAA.

Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Category	Notes
ACA 122	College Transfer Success	1	None		1	GEC	required by CAA
MAT 273	Calculus III	4	MAT 272	MAT 2130	4	GEC	Required by major
MAT 280	Linear Algebra	3	MAT 271	MAT 2240	3	Pre-Major	Required by major
MAT 285	Differential equations	3	MAT 272	MAT 3130	3	Pre-Major	Required by major
Pre-Major/GEC/Elective		1			1	Pre-Major/GEC/Elective	

Other Required Hours (15-16 SCH)   12   12

Total Semester Credit Hours in Program: 60

3rd - 4th Year Plan: Mathematics, Life Sciences

Semester	Course	Hours	Notes	
SU	MAT 2130 Calculus III	4	If taken at community college, start coursework in the fall	
SU	MAT 2240 Linear Algebra	3	If taken at community college, start coursework in the fall	
SU	MAT 3130 Differential Equations	3	If taken at community college, start coursework in the fall	10
5	MAT 2110 Techniques of Proofs	3	Major Requirement	
5	BIO 1802 Biology II	4	Major Requirement	
5	STT 3850 Wstatistical Data Analysis	3	Major Requirement	
5	CHE 2201/2203 Organic Chemistry I & Lab	4	If taken at commuity college, take Free Elective	
5	Free Elective	3		17
6	MAT 3350 Intro to Mathematical Biology	3	Writing in the Discipline	
6	MAT 4310 OR STT 3851	3	Major Requirement	
6	MAT Approved Elective 1	3	Major Requirement	
6	Fre Elective	3		
6	Free Elective	3		14
7	MAT Approved Elective 2	3	Major Requirement	
7	MAT Approved Elective 3	3	Major Requirement	
6	MAT 3220 Intro to Real Analysis	3	Major Requirement	
7	Major Elective in MAT or STT	3	Major Requirement	
7	Free Elective	3		16
8	CAPSTONE Course	4	CAPSTONE	
8	MAT Approved Elective 4 or Free Elective	3	Major Requirement	
8	MAT 4420	3	Major Requirement	
8	Free Elective	3	Major Requirement	
8	Free Elective	3	Take enough free electives to reach 122 hours required for graduation	16
				63-73
				60 transfer hours
				123-133 hours for graduation

- If Calculus II (MAT 272) is not offered at the community college attending, it is recommended that students transfer after completing 30 hours of coursework.
- Many summer courses are offered. Students are encouraged to take summer classes, when available, to ensure completion of degree in a timely manner and so not to overload semesters.

Residency Requirements:
- 31 hours must be from ASU
- 18 hours in the major must be from ASU
- 9 hours in the minor must be from ASU
- Final 30 hours must be courses taken through ASU (includes internships, study abroad taken through ASU)