BS, Mathematics, Business, 260D Appalachian State University College of Arts and Sciences Department of Mathematical Sciences Program of Study 2017-2018

Universal General Education Transfer Component (UGETC)

Inglish Composition !!				ucation Transfer Component (UGETC)			
	6 SCH): Complete BOTH English courses						
Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Required or Preferred by Major	Notes
IG 111	Expository Writing		None Pre-requisites	RC 1000	Credit Hours	Required or Preferred by Major	Notes
G 112	Argument-Based Research		ENG 111	RC 2001	3	Required	
tal Credit Hours Red				RC 2001	6		
		`			•		
	(6 SCH): Select 2 classes from at least two different disciplines		•				
Prefix	Course Name	Credit Hours		University Course Equivalent	Credit Hours	Required or Preferred by Major	Notes
RT 111	Art Appreciation	3	None	ART 2011	3		
T 114	Art History Survey I	3	None	ART 2030	3		
T 115	Art History Survey II	3	None	ART 2130	3		
OM 231	Public Speaking	3	None	COM 2101	3		
IG 231	American Literature I	:	ENG 112, 113 or 114	ENG 2350	3		
IG 232	American Literature II		ENG 112, 113 or 114	ENG 2350	3		
IG 241	British Literature I	3	ENG 112, 113 or 114	ENG 2050	3		
g 242	British Literature II	3	ENG 112, 113 or 114	ENG 2050	3		
US 110	Music Appreciation		None	MUS 2011	3		
US 112	Introduction to Jazz	3	None	MUS 2014	3		
II 215	Philosophical Issues		ENG 111	PHL Elective	3		
HI 240	Introduction to Ethics		ENG 111	PHL 2000	3		
otal Credit Hours Red	quired	(i		9		
cial /Behavioral Scie	ence (6 SCH): Select 2 classes from at least two different disciplines						
Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Required or Preferred by Major	Notes
0 251	Principles of Microeconomics	3	None	ECO 2030	3		
CO 252	Principles of Macroeconomics	3	None	ECO 2040	3		
S 111	World Civilizations I	3	None	His 1101	3		
S 112	World Civilizations II	3	None	HIS 1102	3		
IS 131	American History I	3	None	HIS 1200	3		
IS 132	American History II	3	None	HIS 1200	3		
SY 150	General Psychology		None	PSY 1200	3		
OL 120	American Government		None	P S 1100	3		
OC 210	Introduction to Sociology		None	SOC 1000	3		
otal Credit Hours Red				1	6		
lathomatics (9 CCU).							
	Colort 2 courses						
	Select 2 courses Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Required or Preferred by Major	Notes
Prefix	Course Name	Credit Hours	Pre-requisites None	University Course Equivalent	Credit Hours	Required or Preferred by Major	Notes
Prefix AT 171	Course Name Precalculus Algebra	4	None	MAT 1020	Credit Hours	Required <u>or</u> Preferred by Major	Notes
Prefix AT 171 AT 172	Course Name Precalculus Algebra Precalculus Trigonometry	2	None MAT 171	MAT 1020 MAT 1025	Credit Hours 4 4	Required or Preferred by Major	Notes
Prefix AT 171 AT 172 AT 263	Course Name Precalculus Algebra Precalculus Trigonometry Brief Calculus		None MAT 171 MAT 171	MAT 1020 MAT 1025 MAT 1035	4 4		Notes
Prefix AT 171 AT 172 AT 263 AT 271	Course Name Precalculus Algebra Precalculus Trigonometry Brief Calculus Calculus 1		None MAT 171 MAT 171 MAT 172	MAT 1020 MAT 1025 MAT 1035 MAT 1110	4 4 4 4	Required	Notes
Prefix AT 171 AT 172 AT 263 AT 271 AT 272	Course Name Precalculus Algebra Precalculus Trigonometry Brief Calculus Calculus I Calculus I		None MAT 171 MAT 171 MAT 172 MAT 271	MAT 1020 MAT 1025 MAT 1035	4 4 4 4	Required Required	Notes
Prefix AT 171 AT 172 AT 263 AT 271 AT 272 otal Credit Hours Rec	Precalculus Algebra Precalculus Trigonometry Brief Calculus Calculus I Calculus II quired		None MAT 171 MAT 171 MAT 172 MAT 271	MAT 1020 MAT 1025 MAT 1035 MAT 1110	4 4 4 4	Required Required	Notes
Prefix IAT 171 IAT 172 IAT 263 IAT 271 IAT 272 otal Credit Hours Recatural Sciences (8 SC	Precalculus Algebra Precalculus Trigonometry Brief Calculus Calculus I Calculus II quired H): Select 2 courses	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	None MAT 171 MAT 171 MAT 172 MAT 271	MAT 1020 MAT 1025 MAT 1035 MAT 1110 MAT 1120	4 4 4 4 8	Required Required	
Prefix AT 171 AT 172 AT 273 AT 271 AT 271 AT 272 otal Credit Hours Recastural Sciences (8 SC) Prefix	Precalculus Algebra Precalculus Trigonometry Brief Calculus Calculus I Calculus II Quired H): Select 2 courses Course Name		None MAT 171 MAT 171 MAT 172 MAT 271 Pre-requisites	MAT 1020 MAT 1025 MAT 1035 MAT 1110 MAT 1120 University Course Equivalent	4 4 4 4	Required Required	Notes Notes
Prefix AT 171 AT 172 AT 263 AT 271 AT 272 AT 272 otal Credit Hours Rec atural Sciences (8 SC Prefix ST 151/151A	Precalculus Algebra Precalculus Trigonometry Brief Calculus Calculus I Calculus II quired H): Select 2 courses General Astronomy I and lab I	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	None MAT 171 MAT 171 MAT 172 MAT 271 Pre-requisites None	MAT 1020 MAT 1025 MAT 1035 MAT 1110 MAT 1120 University Course Equivalent AST 1001	4 4 4 4 8	Required Required	
Prefix AT 171 AT 171 AT 172 AT 263 AT 271 AT 272 otal Credit Hours Rec atural Sciences (8 SC Prefix ST 151/151A	Precalculus Algebra Precalculus Trigonometry Brief Calculus Calculus I Calculus II quired H): Select 2 courses Course Name General Astronomy I and lab I Principles of Biology	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	None MAT 171 MAT 171 MAT 172 MAT 271 Pre-requisites None None	MAT 1020 MAT 1025 MAT 1035 MAT 1110 MAT 1120 University Course Equivalent AST 1001 BIO 1201/BIO 1204	4 4 4 4 8	Required Required	Notes
Prefix AT 171 AT 172 AT 263 AT 271 AT 272 AT 263 AT 271 AT 272 AT 264 AT 272 AT 271 AT 272 AT 271 AT 272 AT 271 AT 272 AT 271 AT 272 AT	Precalculus Algebra Precalculus Trigonometry Brief Calculus Calculus I Calculus II Quired H): Select 2 courses General Astronomy I and lab I Principles of Biology General Biology I	Credit Hours	None MAT 171 MAT 171 MAT 172 MAT 271 Pre-requisites None None None	MAT 1020 MAT 1025 MAT 1025 MAT 1110 MAT 1120 University Course Equivalent AST 1001 BIO 1201/BIO 1204 BIO 1201/BIO 1204	4 4 4 8 8 Credit Hours 4 4 4 4 4 4 4	Required Required	Notes must take both BIO 111 and BIO 112
Prefix AT 171 AT 171 AT 172 AT 263 AT 271 AT 272 AT 272 AT 271 AT 272 Frefix T 151/151A 0 110 0 111	Precalculus Algebra Precalculus Trigonometry Brief Calculus Calculus I Calculus I Quired H): Select 2 courses Course Name General Astronomy I and lab I Principles of Biology General Biology I General Biology II	Credit Hours	None MAT 171 MAT 171 MAT 172 MAT 271 Pre-requisites None None None BiO 111	MAT 1020 MAT 1025 MAT 1025 MAT 1035 MAT 1110 MAT 1120 University Course Equivalent AST 1001 BIO 1201/BIO 1204 BIO 1202/BIO 1204 BIO 1202/BIO 1205	4 4 4 4 8 Credit Hours 4 4 4 4 4 4 4 4 4 4	Required Required	Notes must take both BIO 111 and BIO 112 must take both BIO 111 and BIO 112
Prefix AT 171 AT 172 AT 172 AT 263 AT 271 AT 272 otal Credit Hours Recatural Sciences (8 SC Prefix ST 151/151A O 110 O 111 O 111 HM 151	Course Name Precalculus Algebra Precalculus Trigonometry Brief Calculus Calculus I Calculus II quired H): Select 2 courses Course Name General Astronomy I and lab I Principles of Biology General Biology I General Biology II General Chemistry I	2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	None MAT 171 MAT 171 MAT 172 MAT 271 Pre-requisites None None None BIO 111 None	MAT 1020 MAT 1025 MAT 1025 MAT 1135 MAT 1110 MAT 1120 University Course Equivalent AST 1001 BIO 1201/BIO 1204 BIO 1201/BIO 1204 BIO 1202/BIO 1205 CHE 1101/CHE 1110	4 4 4 8 8 Credit Hours 4 4 4 4 4 4 4 4 4 4 4	Required Required	Notes must take both BIO 111 and BIO 112 must take both BIO 111 and BIO 112 must take both CHM 151 and CHM 1
Prefix Art 171 Art 171 Art 172 Art 263 Art 271 Art 272 Art 263 Art 271 Art 272 Art 264 Art 272 Art 3 Credit Hours Rec atural Sciences (8 SC Prefix 57 151/151A 0 110 0 111 0 112 HM 151	Course Name Precalculus Algebra Precalculus Trigonometry Brief Calculus Calculus I Calculus II Quired H): Select 2 courses Course Name General Astronomy I and lab I Principles of Biology General Biology II General Chemistry I General Chemistry II	Credit Hours	None MAT 171 MAT 171 MAT 172 MAT 271 Pre-requisites None None None BIO 111 None CHM 151	MAT 1020 MAT 1025 MAT 1025 MAT 1110 MAT 1120 University Course Equivalent AST 1001 BIO 1201/BIO 1204 BIO 1201/BIO 1204 BIO 1202/BIO 1205 CHE 1101/CHE 1110 CHE 1101/CHE 1110 CHE 1101/CHE 1110	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Required Required	
Prefix AT 171 AT 172 AT 172 AT 263 AT 271 AT 272 total Credit Hours Rec stural Sciences (8 SC Prefix ST 151/151A O 110 O 111 O 112 HM 151 HM 152 EL 111	Course Name Precalculus Algebra Precalculus Trigonometry Brief Calculus Calculus I Calculus II Quired H): Select 2 courses Course Name General Astronomy I and lab I Principles of Biology General Biology I General Biology II General Chemistry I General Chemistry II Introduction Geology	Credit Hours	None MAT 171 MAT 171 MAT 172 MAT 172 MAT 271 Pre-requisites None None None BIO 111 None CHM 151 None	MAT 1020 MAT 1025 MAT 1025 MAT 1100 MAT 1120 University Course Equivalent AST 1001 BIO 1201/BIO 1204 BIO 1201/BIO 1204 BIO 1202/BIO 1205 CHE 1101/CHE 1110 CHE 1102/CHE 1120 GLY 1101	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Required Required	Must take both BIO 111 and BIO 112 must take both BIO 111 and BIO 112 must take both CHM 151 and CHM 1 must take both CHM 151 and CHM 1
Prefix AT 171 AT 172 AT 263 AT 271 AT 272 otal Credit Hours Recently Strict Str	Course Name Precalculus Algebra Precalculus Trigonometry Brief Calculus Calculus I Calculus II quired H): Select 2 courses Course Name General Astronomy I and lab I Principles of Biology General Biology I General Biology II General Chemistry II General Chemistry II Introduction Geology Conceptual Physics and Lab	Credit Hours 4 4 4 4 4 4 4 4 4 4 4 4 4	None MAT 171 MAT 172 MAT 172 MAT 271 Pre-requisites None None None BIO 111 None CHM 151 None None None	MAT 1020 MAT 1025 MAT 1025 MAT 1035 MAT 1110 MAT 1120 University Course Equivalent AST 1001 BIO 1201/BIO 1204 BIO 1202/BIO 1204 BIO 1202/BIO 1205 CHE 1101/CHE 1110 CHE 1102/CHE 1120 GIV 1101 PHY 1100	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Required Required	Notes must take both BIO 111 and BIO 112 must take both BIO 111 and BIO 112 must take both CHM 151 and CHM 1 must take both CHM 151 and CHM 1 must take course with lab
Prefix AT 171 AT 171 AT 172 AT 263 AT 271 AT 272 AT 263 AT 271 AT 172 AT 151/151A O 110 O 111 O 112 MM 151 MM 152 E 111 W 110/110A W 151	Course Name Precalculus Algebra Precalculus Trigonometry Brief Calculus Calculus I Calculus I Calculus II Quired H): Select 2 courses Course Name General Astronomy I and lab I Principles of Biology General Biology I General Biology II General Chemistry I General Chemistry I Introduction Geology Conceptual Physics and Lab College Physics I	Credit Hours	None MAT 171 MAT 171 MAT 172 MAT 271 MAT 271	MAT 1020 MAT 1025 MAT 1025 MAT 1110 MAT 1120 University Course Equivalent AST 1001 BIO 1201/BIO 1204 BIO 1202/BIO 1204 BIO 1202/BIO 1205 CHE 1101/CHE 1110 CHE 1102/CHE 1110 CHE 1102/CHE 1110 CHY 1101 PHY 1100 PHY 1100 PHY 1103	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Required Required	Notes must take both BIO 111 and BIO 112 must take both BIO 111 and BIO 112 must take both CHM 151 and CHM 1 must take both CHM 151 and CHM 1 must take both CHM 151 and PHM 151 must take PHM 151 and PHM 152
Prefix AT 171 AT 172 AT 172 AT 263 AT 271 AT 272 AT 263 AT 271 AT 272 tal Credit Hours Rec tural Sciences (8 SC Prefix T 151/151A D 110 D 111 D 112 M 151 M 152 L 111 Y 110/110A Y 151	Course Name Precalculus Algebra Precalculus Trigonometry Brief Calculus Calculus I Calculus II Quired H): Select 2 courses Course Name General Astronomy I and lab I Principles of Biology General Biology I General Ghemistry I General Chemistry I I Introduction Geology Conceptual Physics and Lab College Physics I College Physics II	Credit Hours	None MAT 171 MAT 171 MAT 172 MAT 271 MAT 271	MAT 1020 MAT 1025 MAT 1025 MAT 1100 MAT 1110 MAT 1120 University Course Equivalent AST 1001 BIO 1201/BIO 1204 BIO 1201/BIO 1204 BIO 1202/BIO 1205 CHE 1101/CHE 1110 CHE 1102/CHE 1120 GLY 1101 PHY 1100 PHY 1103 PHY 1104	Credit Hours	Required Required	Must take both BIO 111 and BIO 112 must take both BIO 111 and BIO 112 must take both CHM 151 and CHM 1 must take both CHM 151 and CHM 1 must take both CHM 151 and CHM 1 must take PHY 151 and PHY 152 must take PHY 151 and PHY 152
Prefix AT 171 AT 172 AT 172 AT 172 AT 172 AT 273 AT 272 AT 273 AT 272 AT 275 AT	Course Name Precalculus Algebra Precalculus Trigonometry Brief Calculus Calculus I Calculus II quired H): Select 2 courses Course Name General Astronomy I and lab I Principles of Biology General Biology I General Biology I General Chemistry II General Chemistry II Introduction Geology Conceptual Physics and Lab College Physics I Cellege Physics II General Physics II General Principles II General Physics II	Credit Hours 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	None MAT 171 MAT 172 MAT 172 MAT 271 MAT 271 MAT 172 MAT 271 MAT 271	MAT 1020 MAT 1025 MAT 1025 MAT 1035 MAT 1110 MAT 1120 University Course Equivalent AST 1001 BIO 1201/BIO 1204 BIO 1201/BIO 1204 BIO 1202/BIO 1205 CHE 1101/CHE 1110 CHE 1102/CHE 1120 GIV 1101 PHY 1100 PHY 1100 PHY 1101 PHY 1104 PHY 1150	Credit Hours 4 4 4 4 8 8 Credit Hours 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Required Required Required or Preferred by Major	must take both BIO 111 and BIO 112 must take both BIO 111 and BIO 112 must take both CHM 151 and CHM 151 must take both CHM 151 and CHM 151 must take course with lab must take PHY 151 and PHY 152 must take PHY 151 and PHY 152 must take PHY 251 and PHY 252
Prefix AT 171 AT 172 AT 263 AT 271 AT 272 AT 272 Tal Credit Hours Rec tural Sciences (8 SC Prefix T 151/151A D 110 D 111 D 112 M 151 M 152 L 111 Y 110/110A Y 151 Y 151 Y 151	Precalculus Algebra Precalculus Trigonometry Brief Calculus Calculus I Calculus II Quired H): Select 2 courses Course Name General Astronomy I and lab I Principles of Biology General Biology I General Biology II General Chemistry I I Introduction Geology Conceptual Physics and Lab College Physics II General Physics II General Physics II General Physics II General Physics II	Credit Hours 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	None MAT 171 MAT 171 MAT 172 MAT 271 MAT 272 and PHY 251 MAT 272 and PHY	MAT 1020 MAT 1025 MAT 1025 MAT 1035 MAT 1110 MAT 1120 University Course Equivalent AST 1001 BIO 1201/BIO 1204 BIO 1201/BIO 1204 BIO 1202/BIO 1205 CHE 1101/CHE 1110 CHE 1102/CHE 1120 GIV 1101 PHY 1100 PHY 1100 PHY 1101 PHY 1104 PHY 1150	Credit Hours	Required Required Required or Preferred by Major	Must take both BIO 111 and BIO 112 must take both BIO 111 and BIO 112 must take both CHM 151 and CHM 1 must take both CHM 151 and CHM 1 must take both CHM 151 and CHM 1 must take PHY 151 and PHY 152 must take PHY 151 and PHY 152

Total UGETC Hours 34 34

Additional General Education Courses (13-14 SHC)							
Prefix	Course Name C	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Category	Notes
UGETC/GEC		3			3	UGETC/GEC	
UGETC/GEC		3			3	UGETC/GEC	
UGETC/GEC		3			3	UGETC/GEC	
UGETC/GEC		3			3	UGETC/GEC	
Total Credit Hours Require	ed.	12	•		12		

Total General Education Hours Required

47

47

Other REQUIRED HOURS (15-16 SHC)							
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		3			3	Pre-Major/GEC/Elective	

Other Required Hours (15-16 SCH)

14

14

Total Semester Credit Hours in Program: 61

3rd - 4th Yea	r Plan: Mathematics, Business			
Semester	Course	Hours	Notes	
SU	MAT 2130 Calculus III	A A	If taken at community college, start coursework in the fall	
SII	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	4	Major Requirement	-
5	MAT or STT Elective 1	3	Major Requirement	
5	Business Concentration course 1	3	Major Requirement	
5	Business Concentration course 2	3	Major Requirement	
5	Free Elective	3	major nequirement	16
6	STT 3850 Statistical Data Analysis	4	Major Requirement	₹
6	MAT 3220 Intro to Real Analysis	3	Writing in the Discipline	
6	Business Concentration course 3	3	Major Requirement	
6	MAT or Business Elective	3	Major Requirement	
6	MAT or STT Elective 2	3	Major Requirement	16
7	Business Concentration course 4	3	Major Requirement	
7	Business Concentration course 5	3	Major Requirement	
7	MAT or STT Elective 3	3	Major Requirement	
7	MAT or STT Elective 4	3	Major Requirement	
7	Free Elective	3		15
8	CAPSTONE Course	4	CAPSTONE	
8	Business Concentration course 6	3	Major Requirement	
8	Business Concentration course 7	3	Major Requirement	
8	Free Elective	3	Major Requirement	
8	Free Elective	3	Take enough free electives to reach 122 hours required for graduation	13
	<u> </u>			62-70
				61_transfer hours
				123-171 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)