

### Universal General Education Transfer Component (UGETC)

English Composition (6 SCH)		The following two English composition courses are required.						
Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Required or 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		
<b>Total Credit Hours Required</b>		<b>6</b>				<b>6</b>		
Humanities/Fine Arts (6 SCH)		Students will select two courses from at least two different disciplines:						
Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Required or 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 2105	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			
<b>Total Credit Hours Required</b>		<b>6</b>				<b>9</b>		
Social /Behavioral Science (6 SCH)		Students will select two courses from at least two different disciplines:						
Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Required or 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			
<b>Total Credit Hours Required</b>		<b>6</b>				<b>6</b>		
Mathematics (8 SCH)		Students will select two course from the following:						
Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Required or 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 1030	4			
NAT 271	Calculus I	4	MAT 172	MAT 1110	4	Required		
MAT 272	Calculus II	4	MAT 271	MAY 1120	4	Required		
<b>Total Credit Hours Required</b>		<b>8</b>				<b>8</b>		
Natural Sciences (8 SCH)		Students will select 8 SCH from the following courses:						
Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Required or 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	
<b>Total Credit Hours Required</b>		<b>8</b>				<b>8</b>		

**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
PHY 251	General Physics I	4	MAT 271	PHY 1150	4	UGETC	Required for major
BIO 111	General Biology I	4		BIO 1801	4	UGETC/GEC	Required for major
UGETC/GEC		3			3	UGETC/GEC	
UGETC/GEC		3			3	UGETC/GEC	
<b>Total Credit Hours Required</b>		14			14		

**Total General Education Hours Required** 47 47

**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
PHY 252	General Physics II	4	MAT 272 and PHY 251	PHY 1151	4	UGETC	Required for major
BIO 275	Microbiology	4	BIO 111	BIO 3308	4	Pre-Major	Required for major
Pre-Major/GEC/Elective		3			3	Pre-Major/GEC/Elective	
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**

- Degree requires both Physics and Chemistry sequences and will serve as prerequisites for future coursework.

**3rd - 4th Year Plan: BS, Chemistry, Fermentation Sciences**

Semester	Course	Hours	Notes	
5	CHE 2201 & 2203 Organic Chemistry I	4	Major Requirement	12
5	FER 2000 Social Implications of Fermented Beverages	1	Offered fall semester only	
5	BIO 2600 Cell Biology	4	Major Requirement	
5	Free Elective	3		
6	CHE 2202 & 2204 Organic Chemistry II	4	Major Requirement	17
6	CHE 2210 & 2211 Quantitative Analysis	4	Major Requirement	
6	FER 3200 Facility Design and Operation	3	Offered spring semester only - Writing in the Discipline (FER)	
6	BIO 3308 Microbiology	3	If taken at the community college, take Free Elective	
6	Free Elective	3		14
7	CHE 3301 & 3303 Physical Chemistry I	3	Major Requirement	
7	CHE 3404 Inorganic Chemistry	3	Offered fall semester only	
7	CHE 3000 Introduction to Chemical Research	1	Major Requirement	
7	FER 4100 Wine Production & Analysis	4	Offered fall semester only - FER/CHE 4200 may be taken next semester in lieu of this course	18
7	FER Concentration Course	3	If taking FER 4200, take Free elective See POS for course options	
8	CHE 3560 & 3561 Instrumental Methods of Analysis	4	Offered spring semester only	
8	CHE 4000 Chemistry Seminar	1	CAPSTONE	
8	CHE 4580 & 4581 Biochemistry I	4	Major Requirement	61
8	FER Concentration Course	3	See POS for course options	
8	Free Elective	5	Take enough Free Electives to reach 122 hours	
				61 transfer hours
				122 hours for graduation

**Residency Requirements:**

- 31 hours overall 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)