

## 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 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                       |       |
| 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 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 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            |                                |       |
| 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 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            |                                |       |
| 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 or Preferred by Major | Notes |
| MAT 171                     | Precalculus Algebra      | 4            | None                                                       | MAT 1020                     | 4            |                                |       |
| MAT 172                     | Precalculus Trigonometry | 4            | MAT 171                                                    | GEP MAT                      | 4            |                                |       |
| MATH 263                    | Brief Calculus           | 4            | MAT 171                                                    | MAT 1030                     | 4            |                                |       |
| MATH 271                    | Calculus I               | 4            | MAT 172                                                    | MAT 1110                     | 4            | Required                       |       |
| Total Credit Hours Required |                          | 8            |                                                            |                              | 8            |                                |       |

| 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 <u>and</u> 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 <u>or</u> 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 |
| MAT 272                                                                                                                                  | Calculus II              | 4            | MAT 271           | MAT 1120                     | 4            | GEC                    | Required for major |
| UGETC/GEC                                                                                                                                |                          | 3            |                   |                              | 3            | UGETC/GEC              |                    |
| UGETC/GEC                                                                                                                                |                          | 2            |                   |                              | 2            | UGETC/GEC              |                    |
| Total Credit Hours Required                                                                                                              |                          | 13           |                   | 13                           |              |                        |                    |
| Total General Education Hours Required                                                                                                   |                          |              | 47                |                              | 47           |                        |                    |
| Other REQUIRED HOURS (14-15 SHC): These courses must be classified as pre-major, elective <u>or</u> 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 & PHY 251 | PHY 1151                     | 4            | UGETC                  | Required for major |
| Pre-Major/GEC/Elective                                                                                                                   |                          | 3            |                   |                              | 4            | Pre-Major/GEC/Elective |                    |
| 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, Certified Chemist |                                                  |       |                                               |                          |
|-------------------------------------------------------|--------------------------------------------------|-------|-----------------------------------------------|--------------------------|
| Semester                                              | Course                                           | Hours | Notes                                         |                          |
| 5                                                     | CHE 2201 & 2203 Organic Chemistry I              | 4     | Major Requirement                             | 14                       |
| 5                                                     | CHE 2210 & 2211 Quantitative Analysis            | 4     | Major Requirement                             |                          |
| 5                                                     | CS 1445 Introduction to Programming              | 3     | Major Requirement                             |                          |
| 5                                                     | Free Elective                                    | 3     |                                               |                          |
| 6                                                     | CHE 2202 & 2204 Organic Chemistry II             | 4     | Major Requirement                             | 14                       |
| 6                                                     | CHE 3000 Introduction to Chemical research       | 1     | Major Requirement                             |                          |
| 6                                                     | Other Science Course 1                           | 3     | Major Requirement                             |                          |
| 6                                                     | Free Elective                                    | 3     | Major Requirement                             |                          |
| 6                                                     | Free Elective                                    | 3     |                                               |                          |
| 7                                                     | CHE 3301 & 3303 Physical Chemistry I             | 4     | Offered fall semester only                    | 16                       |
| 7                                                     | CHE 3404 & 3405 Inorganic Chemistry I            | 4     | Offered fall semester only                    |                          |
| 7                                                     | Other Science Course 2                           | 4     | Major Requirement                             |                          |
| 7                                                     | CHE 4000 Chemistry Seminar                       | 1     | Major Requirement                             |                          |
| 7                                                     | CHE 4580 Biochemistry                            | 3     | Major Requirement                             |                          |
| 8                                                     | CHE 3302 & 3305 Physical Chemistry II            | 4     | Offered spring semester only                  |                          |
| 8                                                     | CHE 3560 & 3561 Instrumental Methods of Analysis | 4     | Offered spring semester only                  | 17                       |
| 8                                                     | CHE 4400 Senior Research                         | 1     | Major Requirement                             |                          |
| 8                                                     | Free Elective                                    | 3     |                                               |                          |
| 8                                                     | Free Elective                                    | 5     | Take enough free electives to reach 122 hours |                          |
|                                                       |                                                  |       |                                               | 61                       |
|                                                       |                                                  |       |                                               | 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)