

## MARICOPA COMMUNITY COLLEGES TRANSFER PATHWAY

### BIOSYSTEMS ENGINEERING B.S.

Students in Biosystems Engineering may customize their academic plan to fit their career interest. Focus areas include controlled environment agriculture, water resources, biometry and biosystems informatics, along with food, bioproducts, and renewable energy.

#### Biosystems Engineering

Biosystems engineers use engineering, math, and life science to design systems to manage soil and water resources, produce food, develop biological products, and manage and analyze large data sets. They work on projects involving wise use of energy, materials, biochemicals, and recyclable wastes. They combine technical knowledge, computer techniques, and control systems for a deeper understanding of agriculture and biology— knowledge which someday may be used to design life support systems for colonies on other planets. Students may specialize in water resource engineering or biological engineering.

#### Pre-health

Students who wish to prepare for medical school or careers in medical research may choose the pre-health focus. Completion of Biosystems Engineering pre-health provides students with the necessary biological basics and helps them develop excellent problem solving skills. Students completing their study in Biosystems Engineering pre-health satisfy all of the requirements for acceptance into medical school at the University of Arizona and for the majority of medical schools in the United States. Additionally, Biosystems Engineering pre-health graduates have exceptionally high acceptance rates to medical school.

### TRANSFER EQUIVALENCIES

On the following page you will find course equivalencies for Biosystems Engineering. The information presented is a recommended outline of courses for students to take at Maricopa Community Colleges that will transfer as equivalent courses to the University of Arizona. Please consult with a transfer admissions counselor and academic advisor to review specific courses as transfer pathways are subject to change.

The course equivalencies on the following page are from the AZTransfer course equivalency guide. The student's successful completion of each course will be reviewed in the pre-admission evaluation. Please note that all course work will be officially evaluated once your official transcript is processed by the University of Arizona. Students must receive a grade of a C or higher for a course to transfer.



Biosystems Engineering students receive hands-on experience building design prototypes for their capstone projects.

## Biosystems Engineering

### 1st Semester

| Maricopa CC Transfer Course     | University of Arizona Course            |
|---------------------------------|---|
| MAT 220 or MAT 221              | MATH 122A/MATH 122 B Calculus I         |
| ENGL 101                        | ENG 101 First Year Composition          |
| ECE 102 (must complete ECE 103) | Satisfies ENGR 102 Intro to Engineering |
| CHM 151 & CHM 151LL             | CHEM 151 General Chemistry I            |
| AGEC-S                          | Tier 1 General Education                |

### 2nd Semester

| Maricopa CC Transfer Course     | University of Arizona Course            |
|---------------------------------|---|
| MAT 230 or MAT 231              | MATH 129 Calculus II                    |
| ENGL 102                        | ENG 102 First Year Composition          |
| ECE 103 (must complete ECE 102) | Satisfies ENGR 102 Intro to Engineering |
| PHY 121 or PHY 115              | PHYS 141 Introductory Mechanics         |
| CHM 152 & CHM 152LL             | CHEM 152 General Chemistry II           |

### 3rd Semester

| Maricopa CC Transfer Course | University of Arizona Course  |
|-----------------------------|---|
| MAT 240 or MAT 241          | MATH 223 Calculus III   |
| BIO 181 or AGS 164          | MCB 181R & MCB 181L: General Biology I<br>or PLS 240: Plant Biology |
| ECE 211                     | CE 214 Statistics   |
| AGEC-S                      | Tier 1 General Education  |
| AGEC-S                      | Tier 1 General Education  |

### 4th Semester

| Maricopa CC Transfer Course   | University of Arizona Course  |
|-------------------------------|---|
| MAT 276                       | MATH 254 Differential Equations   |
| BIO 182 or BIO 201 or BIO 205 | ECOL 182R & ECOL 182L General Biology II or PSIO 201<br>Human Anatomy & Physiology I or MIC 205A & MIC 205L<br>Microbiology |
| PHY 131 or PHY 116            | PHYS 241 Introductory Electricity & Magnetism   |
| AGEC-S                        | Tier 1 General Education  |
| AGEC-S                        | Tier 1 General Education  |