The curriculum in biosystems engineering is administered jointly by the College of Engineering and the College of Agriculture, Food and Environment. Graduates earn the Bachelor of Science in Biosystems Engineering degree.

Biosystems engineering provides an essential link between the biological sciences and the engineering profession. This linkage is necessary for the development of production and processing systems involving biological materials that preserve our natural resource base. Students have the latitude to develop an area of specialization relating to environmental engineering, biotechnology, food processing, machine systems, or controlled environment biology. The curriculum is also ideal preparation for those students wanting to pursue a graduate or professional degree in biomedical engineering or veterinary medicine through the pre-biomedical and pre-veterinary medicine options.

Admission to the degree program is selective. Students should refer to the UK Bulletin for general information concerning admission and graduation requirements.

**Degree Requirements**

In addition to fulfilling UK Core and College of Engineering requirements, students must complete the biosystems engineering curriculum. The following curriculum meets the requirements for the B.S. degree.

**First Semester**
- **Hours**
- EGR 101 Engineering Exploration I $\Delta$ ......................................................... 1
- EGR 102 Fundamentals of Engineering Computing .............................................. 2
- CHE 105 General College Chemistry I $^*$ .......................................................... 4
- CIS/WRD 110 Composition and Communication I .............................................. 3
- MA 113 Calculus I ............................................................................................... 4

**Second Semester**
- **Hours**
- EGR 103 Engineering Exploration II $\Delta$ .......................................................... 2
- MA 114 Calculus II ............................................................................................... 4
- CIS/WRD 111 Composition and Communication II ............................................ 3
- PHY 231 General University Physics .................................................................... 4
- PHY 241 General University Physics Laboratory ‡ ............................................ 3
- UK Core .............................................................................................................. 3

**Sophomore Year**
- **Hours**
- BAE 200 Principles of Biosystems Engineering .................................................. 3
- BIO 148 Introductory Biology I ............................................................................ 3
- MA 213 Calculus III ............................................................................................. 4
- PHY 232 General University Physics ................................................................... 4
- PHY 242 General University Physics Laboratory ‡ ........................................... 1
- CE 160 Computer Graphics and Communication ................................................ 3

**Junior Year**
- **Hours**
- BAE 202 Statistical Inferences for Biosystems Engineering ............................... 3
- MA 214 Calculus IV ............................................................................................. 3
- ME 220 Engineering Thermodynamics I ............................................................. 3
- EM 221 Statics ..................................................................................................... 3
- CHE 107 General College Chemistry II .............................................................. 3

**Senior Year**
- **Hours**
- BAE 402 Biosystems Engineering Design I ....................................................... 2
- BAE 400 Senior Seminar ..................................................................................... 1
- Biosystems Core or Technical Elective** ............................................................. 3
- Biosystems Core or Technical Elective** ............................................................. 3
- Biosystems Core or Technical Elective** ............................................................. 3
- Biological Science Elective ................................................................................ 3

**Second Semester**
- **Hours**
- BAE 403 Biosystems Engineering Design II ..................................................... 2
- ME 340 Introduction to Mechanical Systems ..................................................... 3
- Biosystems Core or Technical Elective** ............................................................. 3
- Biosystems Core or Technical Elective** ............................................................. 3
- UK Core ............................................................................................................. 3
- Supporting Elective† ........................................................................................... 3
- § Transfer students who declare a major will take EGR 112, Engineering Exploration for Transfer Students, in place of EGR 101.

§ Students must complete both EGR 101 and EGR 103 to fulfill the UK Core Arts and Creativity requirement.

* Based on advisor consult.

‡ Only if enrolled in PHY 231.


*** A minimum of 9 hours are to be taken in addition to the 9 core hours selected by the student. The technical electives allow the student an opportunity to concentrate or gain depth in one or more of the various specialty areas of biosystems engineering. The technical electives must be selected from the courses listed below and approved by the student’s academic advisor. Other courses may be considered, each on its individual merit.


**Graduation Composition and Communication Requirement (GCCR) course.

† Supporting electives are any University course excluding more elementary versions of required courses such as pre-calculus math or PHY 211.