DUAL DEGREE PROGRAM WITH THE COLLEGE OF ENGINEERING AND THE COLLEGE OF SCIENCE

Coordinators:
College of Engineering: Michael Ryan, *Associate Dean*
College of Science: Holly Goodson, *Associate Dean*

Program of Studies

The five-year dual degree program between the College of Science and the College of Engineering enables the student to acquire degrees from both colleges—the Bachelor of Science from the College of Science and the Bachelor of Science degree in a chosen program of the College of Engineering.

This combination program, instituted in 2013, offers students the advantages of the liberal arts aspects of natural science and mathematics education, coupled with a strong technical education. Because a student may enter the program from either college, both colleges have agreed to a degree of flexibility that allows students to meet degree requirements.

The following guidelines apply to all students intending to pursue this dual degree program, regardless of the student's initial college:

1. Students must complete the degree requirements of both colleges, including University requirements (satisfied only once for both degrees), college requirements (with liberal appropriate substitutions for similar courses), and major requirements (with limited appropriate substitutions for similar content). Students may double-count more than one course between both degrees as appropriate to eliminate unnecessary duplication in course content.
2. Students must earn 30 usable (degree-appropriate) credits past engineering degree requirements. Usable credits are defined as credits — including AP, IB, credit-by-examination and course credits — that are of high enough level that they could be applied to degree requirements. For example, additional AP credits in economics could be used to satisfy a free elective credit in a degree program, but AP credit for statistics (ACMS 10145) cannot be used in either degree program because the class level is lower than the statistics requirements for any degree program in science or engineering.
3. Students must complete sequences of courses in mathematics, chemistry and physics, as described in the course sequences below and the corresponding table on the following page. This requirement ensures that all necessary material is covered through a sequence of classes, and that students do not duplicate content by taking classes from more than one approved sequence.
4. The exact set of courses a student must complete to earn both degrees will be determined by agreement between the appropriate associate/assistant deans of each college and will, naturally, depend on the pair of majors selected. Ordinarily, a student will present a plan of study that incorporates the above rules for approval.

Approved Math Sequences

1. *CE, CHEG, EE:* MATH 10550, MATH 10560, MATH 20550, MATH 20580, MATH 30650
   a. *AERO, CPEG, CS, EVEG, EVES, ME:* MATH 10550, MATH 10560, MATH 20550, MATH 20580
2. MATH 10550, MATH 10560, MATH 20550, MATH 20610, MATH 20750
3. ACMS 20550, ACMS 20750, ACMS 20620
4. MATH 10550, MATH 10560, MATH 20550, PHYS 20451, PHYS 20452

Approved Chemistry Sequences

1. *All EG (except CHEG):* CHEM 10171/CHEM 11171, CHEM 10122
2. *CHEG:* CHEM 10171/CHEM 11171, CHEM 10122, CHEM 10172/CHEM 11172, CHEM 20273
3. CHEM 10171/CHEM 11171, CHEM 10172/CHEM 11172
4. CHEM 10181/CHEM 11181, CHEM 10182/CHEM 11182, CHEM 20283/CHEM 21283, CHEM 20284/CHEM 21284

Approved Physics Sequences

1. PHYS 10310, PHYS 10320
2. PHYS 10411, PHYS 10422, PHYS 20433, PHYS 20444

Students	ACMS/ Statistics	Mathematic	Physics	Chemistry	Other Science
AERO ME	Math 3[1], Chem 1 or 3 Phys 1	Math 1 or 2[1], Chem 1 or 3, Phys 1	Math 1a, 2[1], 3[1] or 4, Chem 1 or 3 Phys 3	Math 1a, 2[1] or 3[1], Chem 4, Phys 1	Math 1a, 2[1] or 3[1], Chem 1 or 3, Phys 1
CE	Math 3, Chem 1 or 3 Phys 1	Math 1 or 2, Chem 1 or 3 Phys 1	Math 1, 2, 3 or 4, Chem 1 or 3 Phys 3	Math 1, 2 or 3, Chem 4, Phys 1	Math 1, 2 or 3, Chem 1 or 3, Phys 1
CHEG	Math 3, Chem 2 or 4, Phys 1	Math 1 or 2, Chem 2 or 4, Phys 1	Math 1, 2, 3 or 4, Chem 2 or 4, Phys 3	Math 1, 2 or 3, Chem 4, Phys 1	Math 1, 2 or 3, Chem 2 or 4, Phys 1
CPEG CS EVEG EVES	Math 3, Chem 1 or 3, Phys 1	Math 1 or 2, Chem 1 or 3, Phys 1	Math 1a, 2, 3 or 4, Chem 1 or 3, Phys 3	Math 1a, 2 or 3, Chem 4, Phys 1	Math 1a, 2 or 3, Chem 1 or 3, Phys 1
EE	Math 3, Chem 1 or 3, Phys 2	Math 1 or 2, Chem 1 or 3, Phys 2	Math 1, 2, 3 or 4, Chem 1 or 3, Phys 3	Math 1, 2 or 3, Chem 4, Phys 2	Math 1, 2 or 3, Chem 1 or 3, Phys 2

[1] AERO and ME students need not take AME 30314 Differential Equations, Vibrations, and Control I because it duplicates content of MATH 20750 Ordinary Differential Equations/ACMS 20750 Introduction to Applied Mathematical Methods II. However, they must take the 0-credit Vibrations and Controls make-up sequences through AME