Program: Engineering Physics
Major: Engineering Physics - Mechanical Systems
Degree: Bachelor of Science (B.S.)

University Core (Total Listed 42-44)

Specific courses within the University Core are listed on pages 90-91.
• Courses from the major may apply to the areas marked in the University Core.

Written and Oral Communication ........................................... 9

Quantitative Reasoning/Scientific Method ............................ 10-11
• Math ................................................................. 3
  Life Science ....................................................... 4
• Physical Science .................................................. 3-4

Critical Inquiry and Aesthetic Analysis ............................... 6
  Aesthetic Analysis ................................................ 3
• Critical Inquiry ..................................................... 3

Support Courses ................................................................ 9-19

PHIL  1123  Contemporary Moral Problems
ECON  1103  Introduction to Economics
FMKT  2323  Global Protocol and Diversity
  (or Foreign Language)

Students majoring in the Engineering Physics program are encouraged to complete the following courses in high school.

One year of High School Algebra II and Trigonometry OR
MATH  1513  College Algebra AND
MATH  1593  Plane Trigonometry OR
MATH  1555  College Algebra and Trigonometry

One year of high school physics OR
PHY  1003  Introduction to Physics

Major Requirements

Engineering Physics - Mechanical Systems ...92-94

Physics ........................................................................ 14
Required courses:
PHY  2014  Physics for Scientists and Engineers I and Lab
PHY  2114  Physics for Scientists and Engineers II and Lab
PHY  3103  Modern Physics
PHY  3883  Mathematical Physics I

Engineering ................................................................. 54
Required courses:
ENGR  1112  Introduction to Engineering and Laboratory
ENGR  1213  Engineering Computing and Laboratory
ENGR  2033  Statics
ENGR  2043  Dynamics
ENGR  2143  Strength of Materials
ENGR  2151  Strength of Materials Lab
ENGR  2303  Electrical Science
ENGR  2311  Electrical Science Laboratory
ENGR  3203  Thermodynamics
ENGR  3302  Engineering Statics and Experimentation
ENGR  3323  Signals and Systems & Laboratory
ENGR  3363  Mechanical Engineering Design
ENGR  3413  Materials Science

American Historical and Political Analysis ........................... 6
American National Government .......................................... 3
American History ........................................................ 3

• Cultural and Language Analysis ................................. 3-4
  Second Language .................................................. 4
  OR
  Cultural Analysis .................................................. 3

• Social and Behavioral Analysis ..................................... 3

Life Skills .................................................................... 5
Required Health Course .................................................. 2
• Elective Life Skills .................................................... 3

ENGR  3443  Fluid Mechanics
ENGR  3451  Fluid Mechanics Lab
ENGR  3703  Computational Methods in Engineering
ENGR  4123  Heat Transfer
ENGR  4141  Heat Transfer Lab
*ENGR  4533  Thermal Systems Design
*ENGR  4803  Electromechanical Systems and Applied
  Mechatronics & Laboratory
ENGR  4882  Senior Engineering Design I
ENGR  4892  Senior Engineering Design II

Mathematics ............................................................... 14-15
Required courses:
MATH  2305  Accelerated Calculus 1 and 2 OR
MATH  2313  Calculus 1 AND
MATH  2323  Calculus 2
MATH  2333  Calculus 3
MATH  2434  Calculus 4
MATH  3103  Differential Equations

Chemistry .................................................................. 5
Required courses:
CHEM  1315  Chemistry for Engineering and Lab

Physics or Engineering Electives ....................................... 5-6
Selected from the following:
ENGR  3222  Digital Logic Design and Laboratory
ENGR  4103  Finite Element Analysis
ENGR  4303  Control Systems
*ENGR  4313  Fluid Dynamics
*ENGR  4834  Biomechanics
PHY  4163  Analytical Mechanics

*Students in the Accelerated BS/MS program in Engineering Physics must enroll in the graduate level versions of this course, and must choose the 5000 level of either Fluid Dynamics or Biomechanics as one of the engineering electives. Students need only three 5000-level courses as part of the accelerated program.

- CONTINUED ON NEXT PAGE -
The number of credits needed to meet degree requirements exceeds 124 hours and will vary according to course selection.

Minimum Grade Requirements

1. Average in (a) all college course work, and (b) course work at UCO .......................................................... 2.00

2. A minimum grade of “C” must be earned in all courses in the major to count toward meeting degree requirements.

For other regulations pertaining to graduation, see pages 62-63 of the 2011-2012 catalog.