Physics

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http://www.slu.edu/x14154.xml

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The Department of Physics offers two undergraduate degrees in Physics: the Bachelor of Science (B. S.) degree for students enrolled in Parks College and the Bachelor of Arts (B. A.) degree for students in the College of Arts and Sciences. The department also offers a Bachelor of Science (B. S.) degree in Engineering Physics for students enrolled in Parks College. (See College of Arts and Sciences Section for the B. A. degree program.) In addition, the department offers Minors in Physics, useful primarily to students majoring in mathematics, computer science, engineering fields, and other sciences. Major-minor links between physics and other disciplines provide opportunities for students to acquire valuable analytical and problem-solving skills and to distinguish themselves from others pursuing similar career paths.

Physics (B. S.)

The Bachelor of Science degree stresses undergraduate research and applications of computers in physics, taking advantage of the unique facilities of Parks College within the University. A focused set of electives, the Allied Electives, allows a student to adapt the program to his or her own post-baccalaureate plans. For example, a student may use these electives to earn a minor in some other field, a double major in physics and mathematics or, in nine or ten semesters, to earn a double major in physics and engineering, or computer science. A student might use these electives to prepare for graduate school in physics or a related field, or for medical school.

The required courses listed below are accompanied by the Parks College core. This degree is conferred by Parks College. This curriculum also satisfies all requirements for a Minor in Engineering Mathematics.

Prerequisites (28 credits)

PHYS 1110	Introduction to Physics (as a career)	1
CHEM 1110/1115	General Chemistry I/Lab	4
PHYS 1610/1620	Engineering Physics I/Lab	4
PHYS 1630/1640	Engineering Physics II/Lab	4
MATH 1510	Calculus I	4
MATH 1520	Calculus II	4
MATH 2530	Calculus III	4
CSCI 1060	Intro.to CS: Scientific Programming	3

Required Physics & Mathematics Courses (39 credits)

PHYS 2610	Modern Physics	3
PHYS 2620	Modern Physics Lab	1
PHYS 3110	Classical Mechanics	3
PHYS 3610	Modern Physics II	3
PHYS 4210	Electricity & Magnetism I	3
PHYS 4610	Quantum Mechanics	3
PHYS 3310/3320	Optics/Lab	4
PHYS 3410	Thermodynamics& Statistical Mechanics	3
PHYS 3510	Analog & Digital Electronics/Lab	4
MATH 3550	Differential Equations I	3
MATH 3270	Advanced Mathematics for Engineers	3
MATH 3240	Numerical Analysis	3
MATH 3850	Foundations of Statistics	3

Additional Requirements (6 credits)

Two additional upper division physics courses (minimum 6 credits) selected from the list below.

PHYS 3120	Advanced Classical Mechanics	3
PHYS 4220	Electricity & Magnetism II	3
PHYS 4620	Application of Quantum Mechanics	3

Research Experience (3 credits)

PHYS 3860	Physics Research I	0
PHYS 4870	Physics Research II	0
PHYS 4880	Physics Research III	3

Allied Electives (21 credits)

Seven Courses Selected with Mentor		21

College Core (22 credits)

ENGL 1900	Adv. Rhet. & Research or 1920 Adv. Writing	3
CMM 2200	Small Group Presentation	1
THEO 1000	Theological Foundations	3
PHIL 2050	Ethics	3
Social/Behavioral Science Elective		3
Humanities Elective		3
General Elect (Soc./Behav. or Humanities)		3
Cultural Diversity Elective		3

Cultural Diversity, Humanities, and Social/Behavioral Science elective courses must be selected from an approved list. See the Parks College introduction in this catalog for more information.

Open Elective (3 credits)
One Course 3

Physics Minor

A **Parks College** student can earn a minor in physics by completing at least 22 credits of physics consisting of:

PHYS 1610/1620 Engineering Physics I/Lab	4
PHYS 1630/1640 Engineering Physics II/Lab	4
PHYS 2610/2620 Modern Physics/Lab	4
Three physics courses (one with lab) numbered PHYS3000 – PHYS 4930	10

A **College of Arts & Sciences** student can earn a minor in physics by completing at least 18 credits of physics consisting of:

PHYS 1610/1620 Engineering Physics I/Lab	4
PHYS 1630/1640 Engineering Physics II/Lab	4
PHYS 2610/2620 Modern Physics/Lab	4
Two physics courses numbered PHYS3000–PHYS4930	6

Engineering Physics (B. S.)

The Department of Physics, in collaboration with the Engineering Departments of Parks College offers a Bachelor of Science Degree in Engineering Physics that prepares students for a broad range of careers requiring scientific and technical knowledge. This program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org. This program is ideally suited for those students who have an interest in and aptitude for both physics and engineering. The curriculum satisfies the requirements for a minor in Engineering Mathematics and has essentially the same physics content as our traditional B. S. degree. Students may select a concentration in Aerospace, Biomedical, Computer, Electrical, or Mechanical Engineering, or choose the Interdisciplinary Option. Each student completes a senior design project, typically as a member of a multidisciplinary team.

Program Educational Objectives

The undergraduate program is designed to meet the following specific objectives in order to fulfill the departmental and institutional missions. By three to five years after graduation, graduates of the engineering physics program will be:

- Engaged in successful public or private sector careers in engineering physics or a related field or as students pursing advanced or professional degrees
- Collaborating effectively on multi-disciplinary teams and communicating effectively both within the team and with stakeholders
- Advancing in their professional careers through taking on increasing responsibilities, pursuing lifelong learning, continuing professional development, and seeking professional registration as appropriate for their employers
- Acting responsibly, ethically and in the service of humanity when making personal and professional decisions

Student Outcomes

a. an ability to apply knowledge of mathematics, science and engineering
b. an ability to design and conduct experiments, as well as to analyze and interpret data
c. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability
d. an ability to function on multi-disciplinary teams
e. an ability to identify, formulate, and solve engineering problems
f. an understanding of professional and ethical responsibility
g. an ability to communicate effectively
h. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and social context
i. a recognition of the need for, and an ability to engage in life-long learning
j. a knowledge of contemporary issues
k. an ability to use techniques, skills, and modern engineering tools necessary for engineering practice

The required courses listed below are accompanied by the Parks College core. This degree is conferred by Parks College. This curriculum also satisfies all requirements for a Minor in Engineering Mathematics.

Concentration in Aerospace Engineering

Professional Orientation (1 credit required)
Selected from the following:

PHYS 1110 Introduction to Physics (as a career)	1
AENG/MENG 1001 Introduction to AE & ME	1
BME 1000 Biomedical Engineering Orientation	1
ECE 1001 Introduction to ECE	1

(It is recommended that students in this concentration take PHYS 1110 & AENG 1001)

Basic Science & Mathematics (43 credits)

CHEM 1110/1115 General Chemistry I/Lab	4
MATH1510 Calculus I	4
MATH1520 Calculus II	4
MATH2530 Calculus III	4
MATH3550 Differential Equations I	3

MATH	3270	Advanced Mathematics for Engineers 3
MATH	3240	Numerical Analysis 3
MATH	3850	Foundations of Statistics 3
PHYS	1610/1620	Engineering Physics I/Lab 4
PHYS	1630/1640	Engineering Physics II/Lab 4
PHYS	2610/2620	Modern Physics/Lab 4
PHYS	4610	Quantum Mechanics 3

Engineering Physics &Engineering Topics (58 credits)

AENG	1002	Computer-Aided Engineering Design 1
CSCI	1060	Scientific Programming 3
ESCI	2100	Statics 3
ESCI	2150	Dynamics 3
ESCI	2300	Thermodynamics 3
ESCI	3200/3201	Fluid Dynamics/Lab 4
ESCI	3110	Linear Vibrations 3
PHYS	3310/3320	Optics/Lab 4
PHYS	3510	Analog & Digital Electronics/Lab 4
PHYS	4210	Electricity & Magnetism I 3

Two Engineering Physics Electives Selected From:

PHYS	3120	Advanced Classical Mechanics 3
PHYS	4010	Nanoscience and Nanofabrication Frontiers 3
PHYS	4020	Experimental Physics 3
PHYS	4220	Electricity & Magnetism II 3
PHYS	4620	Application of Quantum Mechanics 3
PHYS	4930	Special Topics (Selected with mentor) 3

One of the Two Following Tracks:

Track1 Aeronautics

AENG	2000	Intro.to Aeronautics& Astronautics 3
AENG	3000	Performance 3
AENG	4400	Stability & Control 3
Two Upper Division Courses (AENG/ESCI 3xxx, 4xxx) 6		

Track 2 Astronautics

AENG	2000	Intro.to Aeronautics and Astronautics 3
AENG	3150	Astrodynamics 3
AENG	4150	Orbital Mechanics 3
Two Upper Division Courses (AENG/ESCI 3xxx, 4xxx) 6		

Senior Design Project

AENG	4004	Flight Vehicle Analysis & Design I 3
AENG	4014	Flight Vehicle Analysis & Design II 3

College Core (22 credits)

ENGL	1900	Adv. Rhet. & Research or 1920 Adv. Writing 3
CMM	2200	Small Group Presentation 1
THEO	1000	Theological Foundations 3
PHIL	2050	Ethics 3
PHIL	3400	Ethics & Engineering 3
Social/Behavioral Science Elective 3		
Humanities Elective 3		
Cultural Diversity Elective 3		

Cultural Diversity, Humanities, and Social/Behavioral Science elective courses must be selected from an approved list. See the Parks College introduction in this catalog for more information.

Open Elective (3 credits)

One Course 3

Concentration in Biomedical Engineering

Professional Orientation (1creditrequired)

Selected from the following:

PHYS	1110	Introduction to Physics (as a career) 1
AENG/MENG	1001	Introduction to AE & ME 1
BME	1000	Biomedical Engineering Orientation 1
ECE	1001	Introduction to ECE 1

Basic Science & Mathematics (58 credits)

CHEM	1110/1115	General Chemistry I/Lab 4
CHEM	1120/1125	General Chemistry II/Lab 4
BIOL	1240/1245	Principles of Biology I/Lab 4
BIOL	1260/1265	Principles of Biology II/Lab 4
BIOL	2600	Human Physiology 3
MATH	1510	Calculus I 4
MATH	1520	Calculus II 4
MATH	2530	Calculus III 4
MATH	3550	Differential Equations I 3
MATH	3270	Advanced Mathematics for Engineers 3
MATH	3240	Numerical Analysis 3
MATH	3850	Foundations of Statistics 3
PHYS	1610/1620	Engineering Physics I/Lab 4
PHYS	1630/1640	Engineering Physics II/Lab 4
PHYS	2610/2620	Modern Physics/Lab 4
PHYS	4610	Quantum Mechanics 3

Engineering Physics &Engineering Topics (48 credits)

BME	1010	Biomedical Engineering Introduction 1
BME	2000	Biomedical Engineering Computing 3
BME	3200	Mechanics 3
BME	4200	Biomechanics 3
PHYS	3410	Thermodynamics& Statistical Mechanics 3
ECE	2001/2002	Intro. to Electrical Engineering/Lab 4
PHYS	3310/3320	Optics/Lab 4
PHYS	4210	Electricity & Magnetism I 3

Two Engineering Physics Electives Selected From:

PHYS	3120	Advanced Classical Mechanics 3
PHYS	4010	Nanoscience and Nanofabrication Frontiers 3
PHYS	4020	Experimental Physics 3
PHYS	4220	Electricity & Magnetism II 3
PHYS	4620	Application of Quantum Mechanics 3
PHYS	4930	Special Topics (Selected with mentor) 3

Complete Two of the Following Two-Course Sequences:

Transport

BME	3300	Transport Fundamentals 3

BME	4300 Biotransport	3

Materials Science

BME	3400 Materials Science	3
BME	4400 Biomaterials	3

Measurements

BME	3050 Measurements	3

And one of the following two courses:

BME	3150 Biomedical Instrumentation	3
BME	4600 Quantitative Physiology I	3

Signals & Systems

BME	3100 Signals	3
BME	4100 Biomedical Signals	3

Senior Design Project

BME	4950 Senior Project I	3
BME	4960 Senior Project II	3

College Core (22 credits)

ENGL	1900 Adv. Rhet. & Research or 1920 Adv. Writing	3
CMM	2200 Small Group Presentation	1
THEO	1000 Theological Foundations	3
PHIL	2050 Ethics	3
PHIL	3400 Ethics & Engineering	3
Social/Behavioral Science Elective		3
Humanities Elective		3
Cultural Diversity Elective		3

Cultural Diversity, Humanities, and Social/Behavioral Science elective courses must be selected from an approved list. See the Parks College introduction in this catalog for more information.

Concentration in Computer Engineering

Professional Orientation (1 credit required)
Selected from the following:

PHYS	1110 Introduction to Physics (as a career)	1
AENG/MENG	1001 Introduction to AE & ME	1
BME	1000 Biomedical Engineering Orientation	1
ECE	1001 Introduction to ECE	1

Basic Science & Mathematics (46 credits)

CHEM	1110/1115 General Chemistry I/Lab	4
MATH	1510 Calculus I	4
MATH	1520 Calculus II	4
MATH	2530 Calculus III	4
MATH	3550 Differential Equations I	3
MATH	3270 Advanced Mathematics for Engineers	3
MATH	3240 Numerical Analysis	3
MATH	3850 Foundations of Statistics	3
PHYS	1610/1620 Engineering Physics I/Lab	4
PHYS	1630/1640 Engineering Physics II/Lab	4
PHYS	2610/2620 Modern Physics/Lab	4
PHYS	3110 Classical Mechanics	3
PHYS	4610 Quantum Mechanics	3

Engineering Physics &Engineering Topics (53 credits)

CSCI	1060 Intro.to CS: Scientific Programming	3
ECE	2101 Engineering Circuits I	3
ECE	2102 Engineering Circuits II	3
ECE	2103 Electrical Science Lab	1
ECE	2205/2206 Digital Design/Lab	4
ECE	3130 Semiconductor Devices	3
ECE	3140 Electromagnetic Fields	3
ECE	3215/3216 Computer Systems Design/Lab	4
ECE	3225/3226 Microprocessors/Lab	4
Two Engineering Electives selected with mentor		6
PHYS	3310/3320 Optics/Lab	4
PHYS	3410 Thermodynamics& Statistical Mechanics	3

Two Engineering Physics Electives Selected From:

PHYS	3120 Advanced Classical Mechanics	3
PHYS	4010 Nanoscience and Nanofabrication Frontiers	3
PHYS	4020 Experimental Physics	3
PHYS	4220 Electricity & Magnetism II	3
PHYS	4620 Application of Quantum Mechanics	3
PHYS	4930 Special Topics (Selected with mentor)	3

Senior Design Project

ECE	4800 Electrical Engineering Design I	3
ECE	4810 Electrical Engineering Design II	3

College Core (22 credits)

ENGL	1900 Adv. Rhet. & Research or 1920 Adv. Writing	3
CMM	2200 Small Group Presentation	1
THEO	1000 Theological Foundations	3
PHIL	2050 Ethics	3
PHIL	3400 Ethics & Engineering	3
Social/Behavioral Science Elective		3
Humanities Elective		3
Cultural Diversity Elective		3

Cultural Diversity, Humanities, and Social/Behavioral Science elective courses must be selected from an approved list. See the Parks College introduction in this catalog for more information.

Open Electives (6 credits)

Two Courses	6

Concentration in Electrical Engineering

Professional Orientation (1 credit required)
Selected from the following:

PHYS	1110 Introduction to Physics (as a career)	1
AENG/MENG	1001 Introduction to AE & ME	1

BME	1000	Biomedical Engineering Orientation	1
ECE	1001	Introduction to ECE	1

Basic Science & Mathematics (46 credits)

CHEM	1110/1115	General Chemistry I/Lab	4
MATH	1510	Calculus I	4
MATH	1520	Calculus II	4
MATH	2530	Calculus III	4
MATH	3550	Differential Equations I	3
MATH	3270	Advanced Mathematics for Engineers	3
MATH	3240	Numerical Analysis	3
MATH	3850	Foundations of Statistics	3
PHYS	1610/1620	Engineering Physics I/Lab	4
PHYS	1630/1640	Engineering Physics II/Lab	4
PHYS	2610/2620	Modern Physics/Lab	4
PHYS	3110	Classical Mechanics	3
PHYS	4610	Quantum Mechanics	3

Engineering Physics & Engineering Topics (50-51 credits)

CSCI	1060	Intro. to CS: Scientific Programming	3
ECE	2101	Engineering Circuits I	3
ECE	2102	Engineering Circuits II	3
ECE	2103	Electrical Science Lab	1
ECE	3130	Semiconductor Devices	3
ECE	3140	Electromagnetic Fields	3
PHYS	3310/3320	Optics/Lab	4
PHYS	3410	Thermodynamics& Statistical Mechanics	3

Two Engineering Physics Electives Selected From:

PHYS	3120	Advanced Classical Mechanics	3
PHYS	4010	Nanoscience and Nanofabrication Frontiers	3
PHYS	4020	Experimental Physics	3
PHYS	4220	Electricity & Magnetism II	3
PHYS	4620	Application of Quantum Mechanics	3
PHYS	4930	Special Topics (Selected with mentor)	3

One of the Following Three Tracks:

Track 1 Electromagnetic Fields and Waves

ECE	3110	Electric Energy Conversion	3
ECE	4160	Communication Systems	3
ECE	4140	Electromagnetic Waves	3
Two Engineering Electives selected with advisor			6

Track 2 Analog Electronics

ECE	3150	Linear Systems	3
ECE	3131/3132	Electronic Circuit Design/Lab	4
ECE	4120	Automatic Control Systems	3
Two Engineering Electives selected with mentor			6

Track 3 Communications

ECE	2205/2206	Digital Design/Lab	4
ECE	3150	Linear Systems	3
ECE	4160	Communication Systems	3
Two Engineering Electives selected with mentor			6

Senior Design Project

ECE	4800	Electrical Engineering Design I	3
ECE	4810	Electrical Engineering Design II	3

College Core (22 credits)

ENGL	1900	Adv. Rhet. & Research or 1920 Adv. Writing	3
CMM	2200	Small Group Presentation	1
THEO	1000	Theological Foundations	3
PHIL	2050	Ethics	3
PHIL	3400	Ethics & Engineering	3
Social/Behavioral Science Elective			3
Humanities Elective			3
Cultural Diversity Elective			3

Cultural Diversity, Humanities, and Social/Behavioral Science elective courses must be selected from an approved list. See the Parks College introduction in this catalog for more information.

Open Electives (6 credits)

Two Courses	6

Concentration in Mechanical Engineering

Professional Orientation (1creditrequired)

Selected from the following:

PHYS	1110	Introduction to Physics (as a career)	1
AENG/MENG	1001	Introduction to AE & ME	1
BME	1000	Biomedical Engineering Orientation	1
ECE	1001	Introduction to ECE	1

(It is recommended that students in this concentration take PHYS 1110 & MENG 1001)

Basic Science & Mathematics (43 credits)

CHEM	1110/1115	General Chemistry I/Lab	4
MATH	1510	Calculus I	4
MATH	1520	Calculus II	4
MATH	2530	Calculus III	4
MATH	3550	Differential Equations I	3
MATH	3270	Advanced Mathematics for Engineers	3
MATH	3240	Numerical Analysis	3
MATH	3850	Foundations of Statistics	3
PHYS	1610/1620	Engineering Physics I/Lab	4
PHYS	1630/1640	Engineering Physics II/Lab	4
PHYS	2610/2620	Modern Physics/Lab	4
PHYS	4610	Quantum Mechanics	3

Engineering Physics &Engineering Topics (59 credits)

AENG	3100	Computer Aided Engineering	3
CSCI	1060	Intro.to CS: Scientific Programming	3
MENG	1002	Computer-Aided Engineering Design	1
ESCI	2100	Statics	3
ESCI	2150	Dynamics	3
ESCI	2300	Thermodynamics	3
ESCI	3100/3101	Mechanics of Solids/Lab	4
ESCI	3200/3201	Fluid Dynamics/Lab	4
ESCI	3110	Linear Vibrations	3

MENG	2000 Foundations of Engineering Design	3
MENG	3010 Machine Design	3
Upper Div. Engineering Course (MENG/ESCI 3xxx, 4xxx)		3
PHYS	3310/3320 Optics/Lab	4
PHYS	3510 Analog &Digital Electronics/Lab	4
PHYS	4210 Electricity & Magnetism I	3

Two Engineering Physics Electives Selected From:

PHYS	3120 Advanced Classical Mechanics	3
PHYS	4010 Nanoscience and Nanofabrication Frontiers	3
PHYS	4020 Experimental Physics	3
PHYS	4220 Electricity & Magnetism II	3
PHYS	4620 Application of Quantum Mechanics	3
PHYS	4930 Special Topics (Selected with mentor)	3

Senior Design Project

MENG	4004 Design I	3
MENG	4014 Design II	3

College Core (22 credits)

ENGL	1900 Adv. Rhet. & Research or 1920 Adv. Writing	3
CMM	2200 Small Group Presentation	1
THEO	1000 Theological Foundations	3
PHIL	2050 Ethics	3
PHIL	3400 Ethics & Engineering	3
Social/Behavioral Science Elective		3
Humanities Elective		3
Cultural Diversity Elective		3

Cultural Diversity, Humanities, and Social/Behavioral Science elective courses must be selected from an approved list. See the Parks College introduction in this catalog for more information.

Open Elective (3 credits)

One course	3

Interdisciplinary Option

Professional Orientation (1 creditrequired)
Selected from the following:

PHYS	1110 Introduction to Physics (as a career)	1
AENG/MENG	1001 Introduction to AE & ME	1
BME	1000 Biomedical Engineering Orientation	1
ECE	1001 Introduction to ECE	1

Basic Science & Mathematics (55 credits)

CHEM	1110/1115 General Chemistry I/Lab	4
CHEM	1120/1125 General Chemistry II/Lab	4
BIOL	1240/1245 Principles of Biology I/Lab	4
BIOL	1260/1265 Principles of Biology II/Lab	4
MATH	1510 Calculus I	4
MATH	1520 Calculus II	4
MATH	2530 Calculus III	4
MATH	3550 Differential Equations I	3
MATH	3270 Advanced Mathematics for Engineers	3
MATH	3240 Numerical Analysis	3
MATH	3850 Foundations of Statistics	3
PHYS	1610/1620 Engineering Physics I/Lab	4
PHYS	1630/1640 Engineering Physics II/Lab	4
PHYS	2610/2620 Modern Physics/Lab	4
PHYS	4610 Quantum Mechanics	3

Engineering Physics &Engineering Topics (50 credits)

Engineering Breadth

Engineering Mechanics – One of the following options

BME	3200 Mechanics	3
BME	4200 Biomechanics	3
or		
ESCI	2100 Statics	3
ESCI	2150 Dynamics	3

Computation – One of the following options

BME	2000 Biomedical Engineering Computing	3
CSCI	1060 Intro.to CS: Scientific Programming	3

Thermodynamics – One of the following options

PHYS	3410 Thermodynamics& Statistical Mechanics	3
ESCI	2300 Thermodynamics	3

Electricity & Magnetism

PHYS	4210 Electricity & Magnetism I	3
And one of the following options:		
ECE	2001/2002 Intro. to ECE/Lab	4
PHYS	3510 Analog & Digital Electronics/Lab	4

Optics

PHYS	3310/3320 Optics/Lab	4

And two courses out of the following three Engineering Breadth Areas:

Materials Science – One of the following options

BME	3400 Materials Science	3
ESCI	3100 Mechanics of Solids	3

Transport/Fluids – One of the following options

BME	3300 Transport Fundamentals	3
ESCI	3200 Fluid Dynamics	3

Signals/Systems – One of the following options

BME	3100 Signals	3
ECE	3150 Linear Systems	3

Engineering Depth

Focus Area:		
Three Upper Division Engineering Courses		9

Two Engineering Physics Electives Selected From:

PHYS	3120 Advanced Classical Mechanics	3
PHYS	4010 Nanoscience and Nanofabrication Frontiers	3
PHYS	4020 Experimental Physics	3
PHYS	4220 Electricity & Magnetism II	3
PHYS	4620 Application of Quantum Mechanics	3
PHYS	4930 Special Topics (Selected with mentor)	3

Senior Design Project

Two Course Sequence	6

College Core (22 credits)

ENGL 1900 Adv. Rhet. & Research or 1920 Adv. Writing	3
CMM 2200 Small Group Presentation	1
THEO 1000 Theological Foundations	3
PHIL 2050 Ethics	3
PHIL 3400 Ethics & Engineering	3
Social/Behavioral Science Elective	3
Humanities Elective	3
Cultural Diversity Elective	3

Cultural Diversity, Humanities, and Social/Behavioral Science elective courses must be selected from an approved list. See the Parks College introduction in this catalog for more information.