

BACHELOR OF SCIENCE- Mechanical Engineering

2019-2020 Degree Plans

University Core Requirements (42 Hours):	UHCL Course Title	TCCNS*	CODE
Communications (6 hours):	WRIT 1301—Composition I (<i>Grade must be “C-” or better</i>)	ENGL 1301	010
	WRIT 1302—Composition II (<i>Grade must be “C-” or better</i>)	ENGL 1302	010
Mathematics (4* hours):	MATH 2413—Calculus I (<i>Grade must be “C-” or better</i>)	MATH 2413	020
*Three (3) hours of Calculus will count toward the University Core and one (1) hour will count toward the Major			
Life and Physical Sciences (6 hours):	PHYS 2325—University Physics (<i>lecture, Grade must be “C-” or better</i>)	PHYS 2325	030
	PHYS 2326—University Physics (<i>lecture, Grade must be “C-” or better</i>)	PHYS 2326	030
Language, Philosophy, and Culture (3 hours):	Choose ONE course from the core approved list		040
Creative Arts (3 hours):	Choose ONE course from the core approved list		050
U.S. History (6 hours):	HIST 1301—U.S. History I	HIST 1301	060
	HIST 1302—U.S. History II	HIST 1302	060
Government/Political Science (6 hours):	POLS 2305—Federal Government	GOVT 2305	070
	POLS 2306—Texas Government	GOVT 2306	070
Social/Behavioral Science (3 hours):	Choose ONE course from the core approved list		080
Component Area Option (6 hours):	COMM 1315—Public Speaking (<i>Grade must be C- or better</i>)	SPCH 1315	090
	PSYC 1100—Learning Frameworks	PSYC 1100	090
	PHYS 2125—Lab for University Physics I (<i>Grade must be “C-” or better</i>)	PHYS 2125	090
	PHYS 2126—Lab for University Physics II (<i>Grade must be “C-” or better</i>)	PHYS 2126	090

Major Requirements (80 hours)	UHCL Course Title	TCCNS*	CODE
<i>Required minimum grade for all Major Requirements is “C”.</i>			
	WRIT 3315—Advanced Technical Writing		
	CHEM 1311/1111—General Chemistry and Lab	CHEM 1311/1111	030/090
	MATH 2414—Calculus II	MATH 2414	
	MATH 2315—Calculus III	MATH 2315	
	MATH 2318—Linear Algebra	MATH 2318	
	MATH 2320—Ordinary Differential Equations	MATH 2320	
	ENGR 1201—Introduction to Engineering	ENGR 1201	
	MENG 1204—Engineering Graphics for Mechanical Engineers	ENGR 1204/1304	
	ENGR 2301—Statics	ENGR 2301	
	ENGR 2302—Dynamics	ENGR 2302	
	ENGR 2304—Computing for Engineers	ENGR 2304	
	ENGR 2305—Electrical Circuits	ENGR 2305	
	MENG 2334—Thermodynamics I		
	MENG 3210—Experimental & Statistical Methods		
	MENG 3303—Solid Mechanics		
	MENG 3310—Introduction to Fluid Mechanics		
	MENG 3314—Design Methodology		
	MENG 3316—Heat Transfer		
	MENG 3324—Introduction to Material Science		
	MENG 3344—Introduction to Manufacturing Processes		
	MENG 4143—Thermal Fluids Lab		
	MENG 4310—Dynamics & Control of Mechanical Systems		

Major Requirements (80 hours, continued)

MENG 4331—Design of Machine Elements
MENG 4340—Mechanical Engineering Capstone I
MENG 4341—Mechanical Engineering Capstone II
MENG 4343—Thermal/Fluid Systems Design

Elective Requirements (9 hours)

Major Electives: MENG students may choose from MENG 4302, 4305, 4307, 4309, 4333, 4391.

MENG Elective 33xx or 43xx taken junior/senior year; requires faculty advisor approval

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Math/Science Elective: MENG students may choose from any MATH course numbered 3312 or above; any STAT course numbered 3334 or above; any BIOL course numbered 2301 or above (including requisite labs); any CHEM course numbered 2301 or above (including requisite labs); any PHYS course numbered 3303 or above (including requisite labs); and any GEOL course numbered 2309 or (including requisite

General Degree Requirements

- Students must complete at least 127 semester credit hours. A minimum of 45 hours of the 127 semester hours must be advanced (3000-4000 level) course work according to the requirements of the respective major.
- Students must complete the University Core Curriculum requirements (refer to Core Curriculum Requirements section of this catalog).
- Students must fulfill the statutory requirements of the Texas State Education Code, including the following:
 - Six hours of U.S. History (three hours may be Texas History).
 - Six hours of Constitutions of the United States and Texas.
- Students must demonstrate writing proficiency by completing nine hours of lower-level (1000-2000 level) and upper-level (3000-4000 level) English composition course credit with a minimum grade of "C-" or better. Some majors may require higher grades in English composition.
- Students must complete at least 25% of the credit hours required for the degree (i.e., 30 semester credit hours for a 120 credit hour program) through instruction offered by UHCL to fulfill the Southern Association of Colleges and Schools (SACS) residency requirements.
- Students must complete the final 30 semester hours of 3000 and 4000 level course work in residence at UHCL.
- Students must complete a minimum of 12 semester credit hours of upper-level (3000-4000 level) coursework in the major in residence at UHCL.
- Students must have a cumulative GPA of 2.000 on course work completed at UHCL with grades of "C" or better on at least 30 hours of resident upper-level work. Grades of "C-" or below cannot be applied toward the 30 hours of resident upper-level work.