UNIVERSITY OF ST. THOMAS HOUSTON

2023-2024 Catalog

Chemical Engineering

Bachelor of Science
Academic Department
Physics and Engineering

Note: Students earning this degree will follow the 31-hour core curriculum for Engineering/Physics BS students.

Total Credits 100

Major Course Work

	Item #	Course Title		Credits
☐	ENGR 1300	Introduction to Engineering		3
☐	ENGR 1100	Intro to Engineering Lab	ENGR 1100 Prerequisite: ENGR 1300	1
☐	ENGR 2100	Introduction to Engineering Design	ENGR 2100 Prerequisites: ENGR 1300, 1100	1
☐	ENGR 2302	Material and Energy Balances	ENGR 2302 Prerequisite: ENGR 1300	3
☐	PHYS 2333	University Physics I	PHYS 2333 Corequisites: PHYS 2111, MATH 1431	3
☐	PHYS 2111	University Physics I Laboratory	PHYS 2111 Corequisite: PHYS 2333	1
☐	PHYS 2334	University Physics II	PHYS 2334 Prerequisite: PHYS 2333; Pre/Corequisite: MATH 1432.	3
☐	PHYS 2112	University Physics II Lab	PHYS 2112 Corequisite: PHYS 2334	1
☐	PHYS 3337	Modern Physics	PHYS 3337 Prerequisites: PHYS 2334/2112; Corequisites: PHYS 3137.	3
☐	PHYS 3137	Modern Physics Laboratory	PHYS 3137 Prerequisites: PHYS 2334/2112; Corequisite: PHYS 3337	1
☐	ENGR 3343	Mathematical Methods for Physics and Engineering	ENGR 3343 Prerequisites: PHYS 2334, MATH 1432	3
☐	ENGR 3333	Electrical Circuits I	ENGR/PHYS 3333 Prerequisites: PHYS 2334 or Instructor Permission	3
☐	ENGR 3133	Electrical Circuits Lab	ENGR/PHYS 3133 Prerequisites: PHYS 2334, 2112. Corequisite: ENGR/PHYS 3333.	1
☐	ENGR 3335	Thermodynamics	PHYS/ENGR 3335 Prerequisites: CHEM 1342; MATH 1432; PHYS 2334	3
☐	ENGR 3337	Multicomponent Thermodynamics	ENGR 3337 Prerequisite: ENGR 3335	3
☐	ENGR 3130	Junior/Senior Seminar in Physics and Engineering	ENGR 3130 Prerequisites: PHYS 2334, 2112; Junior or Senior Standing.	1

☐	ENGR 3305	Heat Transfer	ENGR 3305 Prerequisites: PHYS 3336, ENGR 3348	3
☐	ENGR 3139	Units Operations Laboratory I	ENGR 3139 Corequisites: ENGR 3305. Prerequisites: ENGR 3335.	1
☐	ENGR 3140	Unit Operations Laboratory 2	ENGR 3140 Prerequisite: ENGR 3139	1
☐	ENGR 3348	Fluids	ENGR 3348 Prerequisites: ENGR 3343	3
☐	ENGR 3352	Transport Phenomena	ENGR 3352 Prerequisites: PHYS 3336, PHYS 4193	3
☐	ENGR 4354	Transport Processes	ENGR 4354 Prerequisites: ENGR 3352	3
☐	ENGR 4343	Computational Methods for Engineering	PHYS/ENGR 4343 Prerequisites: PHYS 3337, ENGR/PHYS 3343, or instructor permission.	3
☐	ENGR 4300	Chemical Reactors	ENGR 4300 Prerequisites: CHEM 2343, ENGR 3335	3
☐	ENGR 4303	Analysis and Design of Chemical Processes	ENGR 4303 Prerequisites: PHYS 3336; CHEM 2343; PHYS 2334	3
☐	ENGR 4304	Plant Design	ENGR 4304 Prerequisites: ENGR 2100, 3335	3
☐	ENGR 4312	Engineering Communications	ENGR 4312 Prerequisites: ENGR 3333, Junior or Senior Standing	3
☐	ENGR 4356	Chemical Engineering Capstone	ENGR 4356 Corequisites: ENGR 4354. Prerequisites: ENGR 2100, Senior Standing.	3
☐	ENGR 4156	Chemical Engineering Capstone Laboratory	ENGR 4156 Prerequisites: ENGR 4356, Senior Standing	1

PHYS/ENGR Electives

Complete 6hrs ENGR/PHYS elective hours. Consult with Academic Advisor regarding options.

Chemistry

Must take in order.

	Item #	Course Title		Credits
☐	CHEM 1341	General Chemistry I	CHEM 1341 Corequisite: CHEM 1141	3
☐	CHEM 1141	General Chemistry I Laboratory	CHEM 1141 Corequisite: CHEM 1341	1
☐	CHEM 1342	General Chemistry II	CHEM 1342 Prerequisite (C or better): CHEM 1341/1141. Corequisite: CHEM 1142	3
☐	CHEM 1142	General Chemistry II Laboratory	CHEM 1142 Corequisite: CHEM 1342	1
☐	CHEM 2343	Organic Chemistry I	CHEM 2343 Prerequisite: CHEM 1342/1142; Corequisite: CHEM 2143.	3
☐	CHEM 2143	Organic Chemistry I Laboratory	CHEM 2143 Corequisite: CHEM 2343	1

Mathematics

Must take in order.

Item #	Course Title		Credits
☐ MATH 1431	Calculus I	MATH 1431 Prerequisite: MATH 1430 or department consent.	4
☐ MATH 1432	Calculus II	MATH 1432 Prerequisite: Grade of 'C' or Better in MATH 1431	4
☐ MATH 2431	Calculus III	MATH 2431 Prerequisite: MATH 1432 with a grade of "C" or better	4