Bachelor of Science in Engineering Physics

2021-2022 Catalog

Student:_____ DATE: _____/_____/_____

ID#: _____

Advisor: _____

Overall Requirements to Graduate

- ☐ 120+ semester hours
- ☐ Completion of core curriculum
- ☐ Completion of a major
- ☐ 36 upper division credit hours
- ☐ GPA above 2.0
- ☐ Major GPA above 2.0
- ☐ Minor/Program complete (optional)

UNIVERSITY OF ST. THOMAS

Credit Hour Breakdown	
Hours completed	
Hours in progress	
Core hours needed	
Major hours needed	
(Minor hours needed)	
(Other hours needed)	
Elective hours needed	
TOTAL HOURS (120+)	

Core Curriculum (43 hours)

Adapted for the Engineering Program

	Students with 30-59 transfer hrs:	Students with 60+ transfer hrs:	Complete	Needed
Theology (9 credit hours) Must take in order. (Pre-req: Phil 1311 or 1315/3315) ☐ THEO 1301/3301 Intro to Sacred Scriptures ☐ THEO 2301/3311 Teachings of the Catholic Church ☐ THEO 3349 Christ and the Moral Life (Phil 2314 or 2316/3316)	6-9 hours THEO 6-9 hours PHIL 3 hours Synthesis *(18 hours total)*	6 hours THEO 6 hours PHIL NO synthesis (12 hours total)		
Philosophy (9 credit hours) Choose one sequence: Systematic Sequence (must take in order) ☐ PHIL 1311 Philosophy of the Human Person ☐ PHIL 2314 Ethics ☐ PHIL3333 Logic				
English (9 credit hours)* Must take in order. ☐ ENGL 1341 The Classical Tradition: Literature & Composition I ☐ ENGL 1342 The Middle Ages: Literature & Composition II ☐ ENGL 4393 Technical Writing ***Students with transfer credit:** 3 transfer credits: *Take 1341/4393* 6 transfer credits: *Take ENGL 4393*				
History (6 credit hours) U.S. History ☐ HIST 2333 U.S. History to 1877 ☐ HIST 2334 U.S. History since 1877				
Social and Behavioral Sciences (6 credit hours) Social and Behavioral Sciences Option ☐ POSC 2331- American Federal Government ☐ Choose one other course from the Social and Behavioral Sciences Core course list.				
Natural Sciences (8-10 credit hours) Choose **one** option: Natural Sciences Option (8 credit hours) Choose **two** lecture/laboratory courses from the Natural Sciences Core course list.			(Included in major)	
Mathematics (3 credit hours) ☐ Choose **one** course from the Mathematics Core Course list.			(Included in major)	
Fine Arts (3 credit hours) ☐ Choose **one** course from the Fine Arts Core Course list. Consult with advisor.				
Freshman Symposium (1 credit hour) Required for all incoming freshmen. ☐ UNIV 1111 Freshman Symposium				

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Major Requirements (78 credit hours)	Completed	Needed
ENGR/PHYS Coursework (49 credit hours)		
☐ ENGR 1300/1100 Introduction to Engineering w/lab ☐ ENGR 1314 – Fundamentals of Computer-Aided Design ☐ PHYS 2333/2111 – University Physics I w/ lab (MATH 1431 co-req or pre-req) ☐ PHYS 2334/2112 – University Physics II w/ lab (PHYS 2333/2111, MATH 1432 co-req or pre-req) ☐ ENGR 2100 Introduction to Engineering Design ☐ PHYS 3337/3137 – Modern Physics with Lab (PHYS 2334/2112) ☐ ENGR 3341 – Mechanics I [Statics] (MATH 2431, PHYS 2333) ☐ ENGR 3342 – Mechanics II [Dynamics] (PHYS 3341) ☐ ENGR/PHYS 3333/3133 – Electrical Circuits with Laboratory (PHYS 3343, PHYS 2334/2112) ☐ ENGR/PHYS 3343 – Mathematical Methods for Physics and Engineering (PHYS 2334, MATH 1432) ☐ ENGR/PHYS 3130 – Junior/Senior Seminar ☐ PHYS 3336/CHEM 4162 – Thermodynamics w/ Lab (CHEM 1342/1142; MATH 1432; PHYS 2334) ☐ ENGR/PHYS 3138 – Advanced Laboratory (PHYS 3137) ☐ PHYS 4333 – Electromagnetism (PHYS 3337, PHYS 3343 and either PHYS 3342 or PHYS 3338) ☐ PHYS 4334 – Quantum Mechanics (PHYS 3337, PHYS 3343 and either PHYS 3342 or PHYS 3338) ☐ ENGR 4320/4120 – Engineering Design Capstone w/ Lab (PHYS 1314, PHYS 4320 pre-req for 4120)		
ENGR/PHYS electives (9 credit hours)		
Complete 9 ENGR/PHYS elective hours. Consult with Academic Advisor for options.		
Chemistry (8 credit hours) Must take in order.		
☐ CHEM 1341/1141 – General Chemistry I and laboratory ☐ CHEM 1342/1142 – General Chemistry II and laboratory (CHEM 1341/1141)		
Mathematics (12 credit hours) Must take in order.		
☐ MATH 1431 – Calculus I (MATH 1331 with a C or better) ☐ MATH 1432 – Calculus II (MATH 1431 with a C or better) ☐ MATH 2431 – Calculus III (MATH 1432 with a C or better)		

Totals	Completed	Needed
Total undergraduate hours (120 minimum):		

MINIMUM TOTAL: 121+

Admission to all ENGR/PHYS courses with prerequisites require a “C” or better in those prerequisites