

B.S. in Mechanical Engineering and AFROTC Option 1 or 3 Plan of Study

	Fall	Spring	Summer/ J-Term
Year 1	ENGR 150 Intro to Engineering		
	MATH 113 Calculus I	MATH 114 Calculus II	
	ENGR 171 Engineering Graphics and Design	↔ CISC 130 Introduction to Programming and Problem Solving in the Sciences (LAB)	
	PHIL 115 Philosophy of the Human Person	PHYS 211 Classical Physics I	
	ENGL 121 Critical Thinking: Literature & Writing	ENGL 20X Texts in Conversation	
	AERO 111 Foundations of the United States Air Force I	AERO 112 Foundations of the United States Air Force II	
Year 2	ENGR 220 Statics	ENGR 221 Mechanics of Materials (LAB)	
	MATH 200 Multi-Variable Calculus	↔ MATH 210 Introduction to Differential Equations and Systems	
	PHYS 212 Classical Physics II	CHEM 109 General Chemistry for Engineers (LAB)	
	Foreign Language 111*	Foreign Language 112*	
	AERO 211 Evolution of USAF Air and Space Power I	AERO 212 Evolution of USAF Air and Space Power II	
Year 3	ENGR 255 Fabrication Lab***		
	ENGR 371 Manufacturing Processes and Statistical Control	↔ ENGR 320 Machine Design & Synthesis (LAB)	
	ENGR 322 Dynamics (LAB)	↔ ENGR 381 Thermodynamics (LAB)	
	Foreign Language 211*	THEO 101 The Christian Theological Tradition	
	AERO 321 Air Force Leadership Studies I	AERO 322 Air Force Leadership Studies II	
Year 4	ENGR 383 Fluid Mechanics (LAB)	ENGR 384 Heat Transfer (LAB)	
	ENGR 350 Introduction to Electronics (LAB)	ENGR 410 Control Systems and Automation	
	THEO 2XX or 3XX**	Social Sciences Elective **	
	AERO 421 National Security Affairs I	AERO 422 National Security Affairs II	
Year 5	ENGR 480 Engineering Design Clinic I	ENGR 481 Engineering Design Clinic II	
	ENGR 361 Engineering Materials (LAB)	↔ ENGR XXX Engineering Elective	
	PHIL 214 Introductory Ethics	THEO 4XX	
	HIST 1XX	Fine Arts Elective**	

* May place out of one or more semesters if proficient at 3rd Level

** May satisfy human diversity requirement

*** Lab skills must be retained for ENGR 320. Recommended to be taken in semester immediately preceding or (with instructor permission) in first 1/2 of semester concurrent with ENGR 320. May be taken in earlier semesters if student maintains lab shop skills proficiency.

- denotes that the two courses can be interchanged

Complete Course Listing:

Engineering Courses:

ENGR 150 – Introduction to Engineering (1 credit)
ENGR 155 – Fabrication Lab (0 credits)
ENGR 171 – Engineering Graphics and Design (4 credits)
ENGR 220 – Statics (4 credits)
ENGR 221 – Mechanics of Materials (4 credits)
ENGR 320 – Machine Design and Synthesis (4 credits)
ENGR 322 – Dynamics (4 credits)
ENGR 350 – Introduction to Electronics (4 credits)
ENGR 361 – Engineering Materials (4 credits)
ENGR 371 – Manufacturing Processes and Statistical Control (4 credits)
ENGR 381 – Thermodynamics (4 credits)
ENGR 383 – Fluid Mechanics (4 credits)
ENGR 384 – Heat Transfer (4 credits)
ENGR 410 – Control Systems and Automation (4 credits)
ENGR 480 – Engineering Design Clinic I (4 credits)
ENGR 481 – Engineering Design Clinic II (4 credits)
4 Credits of Engineering Electives*

61 Engineering Credits

Allied Requirements:

MATH 113 – Calculus I (4 credits)
MATH 114 – Calculus II (4 credits)
MATH 200 – Multi-Variable Calculus (4 credits)
MATH 210 – Introduction to Differential Equations and Systems (4 credits)
PHYS 211 – Classical Physics I (4 credits)
PHYS 212 – Classical Physics II (4 credits)
CHEM 109 – General Chemistry for Engineers (4 credits)
CISC 130 – Introduction to Programming and Problem Solving in the Sciences (4 credits)

32 allied requirement credits

Minor in Aerospace Studies:

AERO 111 Foundations of the United States Air Force I (1 credit)
AERO 112 Foundations of the United States Air Force II (1 credit)
AERO 211 Evolution of USAF Air and Space Power I (1 credit)
AERO 212 Evolution of USAF Air and Space Power II (1 credit)
AERO 321 Air Force Leadership Studies I (4 credits)
AERO 322 Air Force Leadership Studies II (4 credits)
AERO 421 National Security Affairs I (4 credits)
AERO 422 National Security Affairs II (4 credits)
AERO 200 Leadership Laboratory (0 credits) (for option 3)

20 credits

Core Curriculum

Three courses in foreign language (12 credits)
Two courses in English (8 credits)
Three courses in Theology** (12 credits)
Two courses in Philosophy (8 credits)
One course in the Social Sciences** (4 credits)
One Fine Arts course** (4 credits)
One History course (4 credits)
**One of these courses must satisfy the human diversity requirement

52 core curriculum credits

Total Credit Count: 145 (61 engineering credits + 104 non-engineering credits)