# B.S. in Mechanical Engineering and AFROTC Option 1 or 3
## Plan of Study - Math 108

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall</th>
<th>Spring</th>
<th>Summer/ J-Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ENGR 150 Introduction to Engineering (LAB)</td>
<td>MATH 108 Calculus with Review I</td>
<td>MATH 109 Calculus with Review II</td>
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<td></td>
<td>MATH 108 Calculus with Review I</td>
<td>ENGR 171 Engineering Graphics and Design</td>
<td>MATH 114 Calculus II</td>
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<td></td>
<td>PHIL 115 Philosophy of the Human Person</td>
<td>CISC 130 Introduction to Programming and Problem Solving in the Sciences (LAB)</td>
<td>Foreign Language 111*</td>
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<td>ENGL 121 Critical Thinking: Literature &amp; Writing</td>
<td>ENGL 20X Texts in Conversation</td>
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<td></td>
<td>AERO 111 Foundations of the United States Air Force I</td>
<td>AERO 112 Foundations of the United States Air Force II</td>
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<td>2</td>
<td>PHYS 111 Classical Physics I</td>
<td>MATH 200 Multi-Variable Calculus</td>
<td>ENGR 220 Statics (LAB)</td>
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<td>MATH 210 Introduction to Differential Equations and Systems</td>
<td>PHYS 112 Classical Physics II</td>
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<td>Foreign Language 112*</td>
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<td>AERO 211 Evolution of USAF Air and Space Power I</td>
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<td>3</td>
<td>ENGR 221 Mechanics of Materials (LAB)</td>
<td>ENGR 222 Dynamics (LAB)</td>
<td>ENGR 320 Machine Design &amp; Synthesis (LAB)</td>
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<td>ENGR 322 Dynamics (LAB)</td>
<td>ENGR 381 Thermodynamics (LAB)</td>
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<td>THEO 101 The Christian Theological Tradition</td>
<td>ENGR 371 Manufacturing Processes and Statistical Control (LAB)</td>
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<td>AERO 321 Air Force Leadership Studies I</td>
<td>AERO 322 Air Force Leadership Studies II</td>
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<td>4</td>
<td>ENGR 382 Heat Transfer (LAB)</td>
<td>ENGR 383 Fluid Mechanics (LAB)</td>
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<td>ENGR 350 Introduction to Electronics (LAB)</td>
<td>ENGR 410 Control Systems and Automation</td>
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<td>THEO 2XX or 3XX**</td>
<td>Social Sciences Elective **</td>
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<td>AERO 421 National Security Affairs I</td>
<td>AERO 422 National Security Affairs II</td>
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<td>5</td>
<td>ENGR 480 Engineering Design Clinic I</td>
<td>ENGR 481 Engineering Design Clinic II</td>
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<td>ENGR 361 Engineering Materials (LAB)</td>
<td>ENGR XXX Engineering Elective</td>
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<td>PHIL 214 Introductory Ethics</td>
<td>THEO 4XX</td>
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<td>HIST 1XX</td>
<td>Fine Arts Elective**</td>
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* May place out of one or more semesters if proficient at 3rd Level
** May satisfy human diversity requirement

[Denotes that the two courses can be interchanged]
Complete Course Listing:

**Engineering Courses:**
ENGR 150 – Introduction to Engineering (1 credit)
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 382 – Heat Transfer (4 credits)
ENGR 383 – Fluid Mechanics (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 108 – Calculus with Review I (4 credits)
MATH 109 – Calculus with Review II (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 111 – Classical Physics I (4 credits)
PHYS 112 – 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)
36 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: 169 (61 engineering credits + 108 non-engineering credits)