1. REQUIRED GRADUATE LEVEL MATH OR STAT COURSE (CHOOSE 1 COURSE – 3 HRS)

☐ MEEN 602 - Modeling & Analysis of Mechanical Systems (MATH requirement)  ❄❄❄❄ Required

2. COURSES (CHOOSE AT LEAST 7 COURSES FROM THE FOLLOWING LIST)

☐ MEEN 601 – Advanced Product Design
☐ MEEN 603 – Theory of Elasticity
☐ MEEN 604 – Time Frequency Nonlinear Vibration and Control
☐ MEEN 611 – Advanced IC Engines
☐ MEEN 612 – Mechanics of Robot Manipulation
☐ MEEN 613 – Engineering Dynamics
☐ MEEN 615 – Advanced Engineering Thermodynamics
☐ MEEN 621 – Fluid Dynamics
☐ MEEN 625 – Mechanical Behavior of Materials
☒ MEEN 630 – Intermediate Heat Transfer
☐ MEEN 632 – Advanced Computer-Aided Engineering
☐ MEEN 633 – Combustion Science and Engineering
☐ MEEN 634 – Dynamics and Modeling of Mechatronics Systems
☐ MEEN 645 – Engineering Applications of Solid Mechanics
☐ MEEN 646 – Aerothermodynamics of Turbomachines
☐ MEEN 651 – Control System Design
☐ MEEN 657 – Viscoelasticity of Solids and Structures
☐ MEEN 659 – Vibration Measurement in Rotating Machinery and Machine Structures
☐ MEEN 662 – Energy Management in Industry
☐ MEEN 663 – Cogeneration Systems
☐ MEEN 667 - Mechatronics
☐ MEEN 669 – Alternative Energy Conversion
☐ MEEN 672 – Introduction to Finite Elements
☐ MEEN 686 – Composite Materials Processing and Performance
☐ MEEN 689 – Special Topic: Finite Elements in Mechanical Engineering
☐ MEEN 689 – Special Topic: Solar Engineering
☐ MEEN 689 – Special Topic: Bio-Inspired Design
☐ MEEN 689: Special Topic: Multidisciplinary System Analysis and Design Optimization

The Master of Engineering in Mechanical Engineering (M. Eng.) degree consists of 30 credit hours (10 courses) of graded coursework from the College of Engineering. A minimum of 27 MEEN graduate classroom hours is needed. Three hours of MEEN 684-Professional Internship or MEEN 685-Directed Studies (Independent Study) may be used if desired.

❄❄❄❄ Classoom courses must include MEEN 602 Modeling and Analysis of Mechanical Systems and at least 7 MEEN classes from the list above. Of the remaining 2 courses, students may select any other free electives from MEEN or other programs in The College of Engineering. ❄❄❄❄
3. SPECIALIZATION TRACK OPTIONS LISTED BELOW

Below are some example recommendations of how to create a specialization from the 7 courses requirement (students are not restricted to these recommendations)

**Design and Manufacturing**
- MEEN 601 Advanced Product Design
- MEEN 689 Bioinspired Design
- MEEN 689 Finite Element Analysis in Mechanical Engineering
- MEEN 632 Advanced Computer-Aided Engineering
- MEEN 625 Mechanical Behavior of Materials
- MEEN 689 Multidisciplinary System Analysis and Design Optimization
- One more elective from the list above, and two more electives of your choice to get to 10 electives total.
- Or two courses from Industrial Engineering (for more manufacturing focus) or two courses from Architecture (for more design focus), and one more elective of your choice to get to 10 electives (can include MEEN 684/MEEN 685).

**Thermal, Fluid and Combustion Sciences**
- MEEN 615 Advanced Engineering Thermodynamics
- MEEN 621 Fluid Dynamics
- MEEN 630 Intermediate Heat Transfer
- MEEN 689 Solar Energy Engineering
- MEEN 663 Cogeneration
- MEEN 662 Energy Management in Industry
- MEEN 633 Combustion Science and Engineering or MEEN 611 Advanced IC Engines
- Two other electives of your choice (can include MEEN 684/MEEN 685).

**Robotics and Control Systems**
- MEEN 612 Mechanics of Robot Manipulators
- MEEN 667 Mechatronics
- MEEN 634 Dynamics and Modeling of Mechatronic Systems
- MEEN 613 Engineering Dynamics
- MEEN 651 Control Systems Design
- MEEN 689 Multidisciplinary System Analysis and Design Optimization
- One more from the list above and two other electives of your choice (can include MEEN 684/MEEN 685).

**Dynamics and Turbomachinery**
- MEEN 646 Aerothermodynamics of Turbomachines
- MEEN 689 Finite Element Analysis in Mechanical Engineering
- MEEN 621 Fluid Mechanics
- MEEN 604 Time Frequency Nonlinear Vibration Control
- MEEN 613 Engineering Dynamics
- MEEN 659 Vibration Measurement in Rotating Machinery and Machine Structures
- One more from the list above and two other electives of your choice (can include MEEN 684/MEEN 685).

**Materials and Manufacturing**
- MEEN/MSEN 625 Mechanical Behavior of Materials
- MEEN 686/MSEN 618 Composite Materials Processing and Performance
- MSEN 601 Materials Science
- MEEN 632 Advanced Computer-Aided Engineering
- MEEN 689 Engineering Applications of Solid Mechanics
- Two more from the list above and two other electives of your choice (can include MEEN 684/MEEN 685).

**Structural and Computational Mechanics**
- MEEN 632 Advanced Computer-Aided Engineering
- MEEN 689 Finite Element Analysis in Mechanical Engineering
- MEEN 645 Engineering Applications of Solid Mechanics
- MEEN 672 Introduction to Finite Element Method
- MEEN 625/MSEN 625 Mechanical Behavior of Materials
- MEEN 657 Viscoelasticity of Solids and Structures
- MEEN 603 Theory of Elasticity
- Two more electives (can include MEEN 684/MEEN 685).

**TOTAL MINIMUM SEMESTER HOURS: 30**
All Graduate Student Forms & Information can be found on the Office of Graduate & Professional Studies website at [http://ogs.tamu.edu/incoming-students/student-forms-and-information/](http://ogs.tamu.edu/incoming-students/student-forms-and-information/)

## Steps to Fulfill Master’s Degree Requirements

**Note:** You must be continuously registered until all degree requirements have been met.

<table>
<thead>
<tr>
<th>Step</th>
<th>What to Do</th>
<th>When</th>
<th>Approved by</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Meet with departmental graduate advisor to plan course of study for first semester.</td>
<td>Before first semester registration</td>
<td>Graduate advisor</td>
</tr>
<tr>
<td>2</td>
<td>Graduate Program Director is your faculty advisor. Submit a degree plan through <a href="https://ogsdpss.tamu.edu/">https://ogsdpss.tamu.edu/</a></td>
<td>2nd Semester</td>
<td>Graduate Program Director</td>
</tr>
<tr>
<td>3</td>
<td>Apply for a degree online at the Howdy portal; pay graduation fee.</td>
<td>During the first week of final semester; pay graduation fee after graduate application is submitted; see OGAPS calendar</td>
<td></td>
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<tr>
<td>5</td>
<td>Submit Request for Exemption from Final Examination if GPA is 3.0 or above. Form available online at <a href="http://ogs.tamu.edu/incoming-students/student-forms-and-information/">http://ogs.tamu.edu/incoming-students/student-forms-and-information/</a></td>
<td>Must be received by OGAPS at least 10 working days before exam date (See OGAPS calendar for deadlines.)</td>
<td>Graduate Program Director/OGAPS</td>
</tr>
<tr>
<td>6</td>
<td>Graduation; arrange for cap and gown.</td>
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