

**General Requirements for Graduation Without Thesis** – 27 units total with 3.0 GPA overall:  
(All classes must be passed with a grade of C or higher)

- **4 units** AME 525 *Engineering Analysis*
- **13-14 units** Required core courses (See below)
- **3-4 units** Required elective from Computational Technical Electives (See below)
- **3-5 units** Required elective from Technical Electives (See below)
- No more than 3 classes (9 units) at 400 level
- For official approvals of waivers, substitutions, etc., please contact the faculty advisor for this program- Prof. Andrzej Domaradzki (jad@usc.edu)

**Notes:** Term course typically offered is (F)=Fall (Sp)= Spring (Su)=Summer + Not Regularly Offered  
Ex: AME 436 Energy and Propulsion (Sp) is typically offered in the Spring.

### Computational Fluid and Solid Mechanics Core Courses

**Required Core Courses:**

AME 530a <i>Dynamics of Incompressible Fluids</i> (F)	AME 535a <i>introduction to Computational Fluid Mechanics</i> * (F)	CE 529a <i>Finite Element Analysis</i> (F)(Su)
AME 509 <i>Applied Elasticity</i> (Sp) (or CE 507)	CE 507 <i>Mechanics of Solids</i> (F) (or AME 509)	

\* AME 526 is recommended prep for AME 535a.

### Computational Technical Electives

**Recommended Electives:**

AME 535b <i>Introduction to Computational Fluid Mechanics</i> (Sp)+	AME 579 <i>Combustion Chemistry and Physics</i> (Sp)	ASTE 545 <i>Computational Techniques in Rarefied Gas Dynamics</i> +
CE 529b <i>Finite Element Analysis</i> (Sp)	CE 551 <i>Computer-Aided Engineering Project</i> +	Math 504ab <i>Numerical Solution of Ordinary and Partial Differential Equations</i> +
MASC 575 <i>Basics of Atomistic Simulation of Materials</i> (F)	MASC 576 <i>Molecular Dynamics Simulations of Materials and Processes</i> +	

### Technical Electives

**Recommended Electives:**

AME 511 <i>Compressible Gas Dynamics</i> (Sp)	AME 516 <i>Convection Processes</i> (Sp) +	CE 541a <i>Dynamics of Structures</i> (F)
AME 590 <i>Directed Research</i> (F)(Sp)(Su)	AME 506 <i>Continuum Mechanics and Thermodynamics</i> (F)	AME 513 <i>Principles of Combustion</i> (F)

### Program of Study Worksheet

Course	Semester	Notes
AME 525		
AME 530a		
AME 535a		
CE 507 or AME 509		
CE 529a		

\*To be approved to pursue the MSAMFS with Thesis, you must first discuss with an AME Academic Advisor during your first semester in program. An AME faculty thesis advisor must be secured by student and special planning of coursework and units must be discussed with AME Academic Advisor.