DEN@Viterbi ORIENTATION
Aerospace and Mechanical Engineering

Brian Zimmerman
Assistant Director, AME Student Affairs
Agenda

• Welcome to DEN@Viterbi & USC
• Important Dates & Deadlines
• Degree Requirements
• Department Policies, Procedures & Tips
• Desire2Learn Login & Training
• Advisement: DEN D-clearance
• DEN Contact Information
• Q & A
Welcome to DEN@Viterbi and USC!

AME Advising

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<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>Jan 4</td>
<td>Last day to register and pay without late fee</td>
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<tr>
<td>Jan 7</td>
<td>Spring semester classes begin</td>
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<tr>
<td>Jan 7-11</td>
<td>Late registration and change of program</td>
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<td>Jan 21</td>
<td>MLK Day, University Holiday</td>
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<td>Jan 25</td>
<td>Deadline to purchase or show proof of health insurance</td>
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<td>Jan 25</td>
<td>Last day to drop a class without a mark of &quot;W,&quot; except for Monday-only classes, and receive a 100% refund</td>
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<tr>
<td>Jan 25</td>
<td>Last day to register and add classes</td>
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<td>Jan 25</td>
<td>Last day to purchase or waive tuition refund insurance</td>
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<td>Date</td>
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<tr>
<td>Jan 29</td>
<td>Last day to drop a Monday-only class without a mark of “W” and receive a 100% refund or change to Pass/No Pass or Audit</td>
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<td>Feb 22</td>
<td>Last day to drop a course without a mark of “W” (no refund)</td>
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<td>Mar 10-17</td>
<td>Spring recess</td>
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<td>Apr 5</td>
<td>Last day to drop a class with a mark of “W”</td>
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<td>Apr 26</td>
<td>Spring semester classes end</td>
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<tr>
<td>May 1-8</td>
<td>Final examinations</td>
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Program Review

- Master of Science in Mechanical Engineering (MSME)
- Master of Science in Aerospace Engineering (MSAE)

- Master of Science in Mechanical Engineering – Energy Conversion (MSMEEC)
- Master of Science in AME – Dynamics and Control (MSAMDC)
- Master of Science in AME – Computational Fluid and Solid Mechanics (MSAMFS)
- Master of Science in Product Development Engineering – Technology Track (MSPDE)

- Dual Degrees
  - MS in Mechanical Engineering/MS Engineering Management (MSMEMT)
  - MS in Aerospace Engineering/MS Engineering Management (MSAEMT)
Master of Science in Mechanical Engineering (MSME)  
Master of Science in Aerospace Engineering (MSAE)

Requirements for Graduation Without Thesis, 27 units total with 3.0 GPA overall:

- AME 525 and AME 526 (6 units)
- 12 units of 500-level courses in AME
  - Cross-listed courses count as AME
- 9 units of approved 400- or 500-level elective courses
  - no more than three classes from outside AME
  - no more than three classes (9 units) at 400-level

List of recommended classes by areas of interest are here:

https://ame.usc.edu/academics/master-science-mechanical-engineering/
https://ame.usc.edu/academics/master-science-aerospace-engineering/
Master of Science in Mechanical Engineering (MSME)

Courses by specialization

Thermal and Fluid Sciences
- AME 513 Principles of Combustion
- AME 515 Advanced Problems in Heat Conduction
- AME 530a Dynamics of Incompressible

Dynamics and Controls
- AME 521 Engineering Vibrations II
- AME 522 Nonlinear Vibrations
- AME 524 Advanced Engineering Dynamics
Master of Science in Mechanical Engineering (MSME)

Courses by specialization

Design
• AME 541 Linear Control Systems II
• SAE 549 System Architecting ↔
• AME 451 Linear Controls Systems I (ELECTIVE)

Mechanics and Materials
• MASC 551 Mechanical Behavior of Engineering Materials ↔
• MASC 560 Fatigue and Fracture ↔

Energy
• AME 514 Applications of Combustion and Reacting Flows
• AME 581 Intro to Nuclear Engineering
Master of Science in Aerospace Engineering (MSAE)

Courses by specialization

Aerospace Control
- AME 541 Linear Control Systems II
- AME 544 Computer Control of Mechanical Systems
- AME 545 Modeling and Control of Distributed Dynamic Systems
- AME 451 Linear Controls Systems I (ELECTIVE)

Aerospace Design
- AME 527 – Elements of Vehicle and Energy Systems Design
- AME 408 (ELECTIVE) – AME 204 or CE 225, formal class in SolidWorks, SolidEdge, or Unigraphics
Master of Science in Aerospace Engineering (MSAE)

Courses by specialization

Aerospace Structures
- AME 521 Engineering Vibrations II
- CE 507 Mechanics of Solids I ↔
- AME 403 (ELECTIVE) – prereq AME 204
- AME 420 (ELECTIVE) – prereq MATH 245
Master of Science in Aerospace Engineering (MSAE)

Courses by specialization

Computational Fluid Dynamics
• AME 511

Aerodynamics/Fluid Dynamics
• AME 511
• AME 516 – prereq AME 457

Propulsion
• AME 511
• AME 514 – rec prep AME 513
• AME 436 (ELECTIVE) – prereq AME 310 and (CE 309 or AME 309)
Master of Science in Mechanical Engineering – Advanced Manufacturing Track

Requirements for Graduation Without Thesis, minimum of 27 units total, with a passing grade of C or higher for the MS in Mechanical Engineering – Advanced Manufacturing Track

- Required Courses: 21 units
- Elective Courses: 6 units
- 6 Units of Math
  - AME 525 Engineering Analysis
  - AME 526 Engineering Analytical Methods
- 15 units of required coursework listed below:
  - AME 547: Manufacturing Automation
  - AME 599: Additive Manufacturing Technologies
  - ISE 511L: Mechatronics Systems Engineering
  - AME 546: Design for Manufacturing and Assembly
  - ISE 510: Computational Design and Manufacturing
- 6 units 400 or 500 level elective courses:
  - Elective courses may be from AME, ISE, SAE, or CS
  - 3 units of directed research, seminar, and/or internship may be taken as degree credit.
Master of Science in Mechanical Engineering – Energy Conversation (MSMEEC)

Requirements for Graduation Without Thesis, 27 units total with 3.0 GPA overall:
• AME 525 and AME 526 (6 units)
• Required core courses (15 units)
• Approved Energy Conversion electives (6 units)

Courses
• AME 525
• AME 526
• AME 577
• CE 501
• AME 514 (ELECTIVE)

Complete list of required courses can be found at: https://ame.usc.edu/academics/
Master of Science in Aerospace and Mechanical Engineering – Dynamics and Control (MSAMDC)

Requirements for Graduation Without Thesis, 27 units total with 3.0 GPA overall:
- AME 525 and AME 526 (6 units)
- Required core courses (15 units)
- Approved 400- or 500-level elective courses (6 units)

Courses
- AME 420 (ELECTIVE) – prereq MATH 245
- AME 451 (ELECTIVE) – prereq MATH 245 and AME 302
- AME 544 (ELECTIVE) – prereq AME 451
- EE 543a (ELECTIVE) – prereq EE 482
- EE 553 (ELECTIVE) – prereq EE 441
- EE 587 (ELECTIVE) – prereq EE 482 and EE 585

Complete list of required courses can be found at: https://ame.usc.edu/academics/
Master of Science in Aerospace and Mechanical Engineering – Computational Fluid and Solid Mechanics (MSAMFS)

Requirements for Graduation Without Thesis, 27 units total with 3.0 GPA overall:
- AME 525 and AME 526 (6 units)
- Required core courses (15 units)
- Required computational technical elective (3 units)
- Required technical elective (3 units)

Courses
- AME 525
- AME 526
- AME 511 (ELECTIVE)
- AME 516 (ELECTIVE) – rec prep AME 331 and AME 526

Complete list of required courses can be found at: https://ame.usc.edu/academics/
Master of Science in Product Development Engineering – Technology Track (MSPDE)

Requirements for Graduation Without Thesis, 27 units total with 3.0 GPA overall:
- AME 503 and ISE 545 (6 units)
- Required Technology Track courses (6 units)
- Required Technology Technical Elective courses (6 units)
- Approved 400- or 500-level electives (9 units)

Courses
- AME 503 – FULL, BUT PLANNED TO BE OFFERED IN FALL 2019
- AME 505 – TECHNOLOGY TRACK
- AME 525/526 (only one is required) – TECHNOLOGY TRACK
- AME 481 – TECHNOLOGY TECHNICAL ELECTIVE
- AME 544 – TECHNOLOGY TECHNICAL ELECTIVE
- ISE 576 - TECHNOLOGY TECHNICAL ELECTIVE
- SAE 549 – TECHNOLOGY TECHNICAL ELECTIVE

Complete list of required courses can be found at: https://ame.usc.edu/academics/
DUAL DEGREE:
MS Mechanical Engineering & MS Engineering Management
MS Aerospace Engineering & MS Engineering Management

Requirements for Graduation Without Thesis, 48 units total with 3.0 GPA overall:
• AME 525 and AME 526 (6 units)
• ISE 500, ISE 515, ISE 544, and ISE 561 (12 units)
• Approved AME graduate-level course work (12 units)
• Approved ISE graduate-level course work (6 units)
• Approved 400- or 500-level elective course work approved by AME/ISE (12 units)
• No more than 15 units at 400-level may be taken as degree credit

Spring 2019 Courses
• AME 525 and AME 526
• ISE 500, 515, 544, 561

Complete list of required courses can be found at: https://ame.usc.edu/academics/
AME Department Policies, Procedures & Tips

• Consider only taking one course in your first semester

• Department Worksheets
  • ame.usc.edu - Current Students - Graduate Student Resources

• Check and READ your USC email regularly!
  • Always include your USC ID number!

• Change of Majors
  • Must wait until after you complete your first semester.

• AME 525 and AME 526
  • Do not recommend taking both in the same semester.
  • Offered every semester
    • Summer offered as fast-paced six-week sessions
AME Department Policies, Procedures & Tips

• Refer to the Schedule of Classes for planning purposes
  • [http://classes.usc.edu](http://classes.usc.edu)

• Cross-listed courses
  • Count as AME courses, not outside the department

• Prerequisite Waivers
  • Email amegrad@usc.edu for AME courses

• Transfer Credit - up to 6 units
  • [https://arr.usc.edu/services/degree-progress/graduatetransfercredit.html](https://arr.usc.edu/services/degree-progress/graduatetransfercredit.html)

• Research as DEN student

• Linear Algebra Tutorial
  • [https://viterbigrad.usc.edu/workshops-tutorials/](https://viterbigrad.usc.edu/workshops-tutorials/)
1. Bookmark https://courses.uscden.net
2. Your D2L username is your full USC Email Address
3. If you do not remember your D2L password, click “Forgot your password?”

Sign up for an exclusive one-on-one training session inside a virtual classroom to learn all about Desire2Learn:
https://viterbigrad.usc.edu/technical-support/training-options/
HOW TO REQUEST D-CLEARANCE FROM DEN

All DEN courses require D-clearance.

1. Login to DEN Desire2Learn: http://courses.uscden.net
2. Select DEN@Viterbi Tools
3. Select Request D-Clearance and submit required information based on course chosen
4. Approval process takes 1-3 business days. To check status of D-Clearance go to DEN@Viterbi Tools> Check D-Clearance Status
5. You can register once your request has been processed. D-clearances expire 7 days from when it is issued so register as soon as you obtain it to secure a seat in a course.

For questions on D-Clearance status, contact masters@gapp.usc.edu
Welcome to DEN@Viterbi & USC

There are more than 40 staff working at the office of Graduate and Professional Programs in the area of administrative, academic, technical services to support DEN@Viterbi students!

<table>
<thead>
<tr>
<th>DEN@Viterbi Support</th>
<th>Contact Information</th>
<th>Staff</th>
</tr>
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<tbody>
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<td>Rebecca Lee</td>
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<td>213-740-9356</td>
<td>Bianca Richter</td>
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<td>Exams</td>
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<td>Shirley Schutt</td>
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<td>213-740-9356</td>
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<tr>
<td>GAPP Advisor for registration, d-clearance, policies and procedures</td>
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<td>Anna Cho</td>
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<td>213-740-0116</td>
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<td>Associate Dean</td>
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<td></td>
<td>213-821-1322</td>
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Questions?
THANK YOU!

HAVE A GREAT SEMESTER!

FIGHT ON!

A recording of this online orientation and presentation will be available for viewing and download on the GAPP website.