New Graduate Student Orientation
August 15, 2013

Presenters:
Dr. David Thompson, Graduate Director (david.thompson@uc.edu)
Dr. Milind Jog (milind.jog@uc.edu)
Dr. Jay Kim, Department Head (jay.kim@uc.edu)
Graduate Studies – Research Thrust Areas

**Intelligent Manufacturing and Design** (Dr. Thompson)

**Thermal and Fluid Systems/Energy/Nuclear Eng.** (Dr. Jog)

**Solid Mechanics and Nano/Bio Mechanics** (Dr. Thompson)

**Structural Dynamics, Vibro-Acoustics & Controls** (Dr. Thompson)

**Master of Engineering** (Dr. Janak Dave)
Presentation Outline

• Recent Updates
• Registration, Program of Study, Administrative Details
• ME Degree Requirements
  – MS
  – PhD
  – Direct PhD
• Graduate Courses
• Important Links
Recent Updates

- Master of Science (MS) degree with UGS is thesis only.
- Master of Engineering (MEng) program (non-thesis) is administered separately; contact Eugene Rutz (E-mail: eugene.rutz@uc.edu) if you are in this program.
- All full-time students with UGS must register for 1 credit hour Grad Seminar (MECH-9022, F 11:15-12:10 a.m.). Seminar is optional for part-time, non-traditional, and GE students. Waiver request is available for time conflict or excused absence (see Important Links).
- UC converted to the semester system in Fall, 2012.
Registration and Program of Study

• Have your schedule approved by your advisor.
• Register at onestop.uc.edu
• Register for 15-18 credit hours (UGS recipients):
  – Typically three classroom courses (9 credit hours)
  – Research (minimum 5 credit hours), plus 1 hour Seminar
• Do not exceed 18 credits at any time.
• Minimum 3.0 GPA must be maintained.
• Courses outside of CEAS must be approved.
More on Advising

• Most students are assigned a temporary advisor.

• MS students should aim to identify a permanent, thesis advisor and a thesis topic, no later than Spring, 2014.

• Coursework should be planned appropriately. Students needing assistance should contact their temporary advisor, and/or Dr. Thompson, for advice.

• A Program of Study form should be approved and followed; any changes must be approved. Compliance will be checked as a condition of graduation.

• When appropriate, a thesis advisor outside of the department is possible; in this case, the student must retain an academic advisor from the ME program.
Research Credits

• MS and direct-admit PhD students should register for MECH-9020 Research during Fall Semester and then MECH-9010 Thesis beginning in Spring onward, unless you are advised otherwise.

• PhD students (who already have earned the MS degree) should register for MECH-9020 Research until passing the PhD Fundamentals Exam. After that, PhD students should register for Dissertation MECH-9030.

• Thesis and Research may be graded with in-progress grades “SP” or “UP”; these are normally changed once the defense is successfully completed.
UGS and Registration Policies

• Full-time MS students should normally finish classroom coursework by December of the second year of study. UGS awards for the MS will normally be limited to 3-4 semesters. UGS for PhD students will typically be for 6 semesters based on availability of funds. UGS support is not normally offered during the summer.

• You must reapply for renewal of the UGS award. Watch your e-mail for this notice in March or April. A current or revised Program of Study, approved by your advisor, must be submitted with the renewal application.

• Credit hour limit: No eligibility for UGA or UGS beyond 175 credit hours.
Other Registration Policies

- International students must normally register for at least one (1) credit hour per term (except summer) upon completion of credit hour requirements for the degree. (See Reduced Credit Hour Load.)

- **US Citizens and residents: one credit hour per year to maintain active student status.** Students who are on campus and using university facilities should also register for one credit hour per term (except summer).

- **Reinstatement required if status lapses.**

- **Time-to-degree limits also apply.**
Other Matters Affecting International Students

• Curricular Practical Training (CPT): Permits off-campus employment for a period of up to six (6) months. The job assignment must be integral to a thesis or dissertation.

• Reduced Credit Hour Load: Permits an international student to register at less than full-time. The student must have completed all credit hour requirements for the degree and be working on a thesis or dissertation.
Financial Aid Matters

- Full-time students are considered for all forms of aid from department and college sources (UGA/TA and RA) at the time of admission. The review process for UGA/TA awards in subsequent semesters is ongoing.

- Research assistantship (RA) awards are made by individual faculty, usually from their grant funds which they have raised from outside agencies. Acceptance of an RA position from a faculty member normally implies a commitment to complete a thesis or dissertation with that faculty.
Health Insurance Award

• Full-time students with qualifying appointments may be eligible for the Graduate Assistant/Fellow Health Insurance Award.

• Visit this link for more information:
  

• Application deadline: Aug. 20, 2013
Graduation Information

• You must apply for graduation by posted deadlines in order to graduate. This information is on-line at: http://grad.uc.edu/

• You must defend your thesis or dissertation in front of your advisory/examining committee, and the following forms must be signed by your advisor and/or the committee:
  – Final Program of Study
  – Oral Exam form
  – Committee Approval form
E-mail and Blackboard Sign Up

- Verify that you are registered for the appropriate mailing list at the following URL: listserv.uc.edu
  - CEAS-ME-MS (MS students)
  - CEAS-ME-PHD (PhD students)
- Obtain a Blackboard account at: blackboard.uc.edu
- Also provide your e-mail at the following:
  - www.onestop.uc.edu (Registrar)
  - blackboard.uc.edu (Blackboard)
- All departmental and university-level correspondence will be handled via e-mail.
- Correspondence will only be sent to your UC e-mail.
Graduate Seminar - Administration

• Seminar Schedule:  www.min.uc.edu/me/academics/school-seminar
  The seminar will generally meet 7-10 times per semester. Seminar announcements will normally be sent in advance via e-mail, as well as being posted on the course Blackboard site.

• Waiver Form:  www.min.uc.edu/me/academics/grad/forms

• Missing more than 50% of the scheduled speakers will lead to a grade of UP or I which must be remedied in order to graduate. Contact Dr. Thompson in the event of a need for excused absence.

• Attendance at any special graduate seminar within the program (Mechanical Engineering) may be substituted for attendance at a regularly-scheduled Friday meeting.

• Seminar does not carry degree credit; it is a registration requirement only.
ME MS Degree – Credit Hour Requirements

Total 30 Credit Hours (Semester system):

- **Thesis Option** (18 classroom course credits + 12 Research/Thesis credits). Classroom credits must have:
  - Minimum 12 ME credits (MECH, EGFD)
  - Minimum 3 math credits + 3 credits approved elective

- Approved course substitutions:
  - Most AEEM courses can be used for MECH credit.
  - Some MECH, AEEM, and EGFD courses can generally be used for math credit.
  - All substitutions are on an advisor-approval basis via the Program of Study approval.
ME PhD Degree Requirements (Quarter/Semester)

• Total 60 semester credit hours required beyond MS (MS degree required), equivalent of at least 90 total graduate credit hours including MS.
• Classroom courses: minimum 18 credit hours.
• Research/Dissertation: minimum 42 credit hours.
• PhD Fundamentals Exam (see next slide). First attempt required by Spring, 2014. Must pass in two attempts.
• PhD Candidacy Exam (Dissertation proposal).
• Dissertation Defense.
ME PhD Fundamentals Exam

Must pass three areas out of nine in two attempts:

- Fundamental Dynamics/Vibrations
- Fluid Mechanics
- Thermodynamics
- Manufacturing Processes
- Nuclear Engineering
- Strength of Materials
- Heat Transfer
- Engineering Statistics
- Measurement/Control

- Sign up for MECH-9031 (PhD Fundamentals Exam). First attempt required by Spring, 2014; must pass in second attempt (if needed) by Fall, 2014. Subjects passed on first attempt are not repeated.

- No exceptions to timing for part-time or non-traditional students.

- Contact Dr. Thompson (david.thompson@uc.edu) to ensure that you are a member of the PhD Exam Blackboard organization.

- Can only attempt five areas.

- Two-year grace period for direct-admit PhD students . . .
**Direct-Admit ME PhD Degree Requirements**

- Direct-Admit PhD = MS degree + PhD degree
- Students in this category are admitted to the PhD program with a bachelor’s degree only; required to complete the MS degree while enrolled in the PhD program.
- Credit requirements are equivalent to MS + PhD for a student entering with a bachelor’s degree only.
- Contact CEAS Graduate Studies Office for instructions when you are ready to defend the MS Thesis.
- PhD Fundamentals Exam Timing: Two-year grace period:
  - First attempt by Spring 2016
  - Must pass by Fall 2016
Other Rules and Degree Requirements

For more details see the ME Graduate Program

Student Guide:

www.min.uc.edu/me/academics/grad/mechanical/guide

Required forms may be found at:

www.ceas.uc.edu/Graduate_Studies/CurrentStudents/GraduateSchoolForms.html
## 2013-14 Graduate Courses: Solid Mechanics and Dynamics

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>Adv. Strength of Mat'l. (MECH-6010)</td>
<td>Finite Element Method (MECH-7052)</td>
</tr>
<tr>
<td>Continuum Mech. (MECH-7051)</td>
<td>Fracture Mechanics (MECH-7055)</td>
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<tr>
<td>Smart Structures (MECH-6013)</td>
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<tr>
<td>*Applied FFT (MECH-6060)</td>
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<tr>
<td>Acoustics (MECH-6066)</td>
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<tr>
<td>Analytical Dynamics (AEEM-6003)</td>
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<tr>
<td>*Modern Control (AEEM-6015)</td>
<td>Experimental Vibration (MECH-6062)</td>
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<tr>
<td>Rotordynamics (MECH-9021-028)**</td>
<td>Rotating System Vib. (MECH-6063)</td>
</tr>
<tr>
<td>Adv Imaging Tech (MECH-9021-020)**</td>
<td>Nonlinear Vibration (MECH-7065)</td>
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<td>Nano Materials (MTEN-6021)</td>
</tr>
</tbody>
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* denotes customary math substitution for MS degree
** offered as a special topic

(courses may be subject to change throughout the year)
## 2013-14 Graduate Courses: **Thermal-Fluids/Energy**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>Viscous Fluid Flow (MECH-7096)**</td>
<td>CFD/FEM in Heat Transfer and Fluid Flow (MECH-6043)</td>
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<tr>
<td>Combustion (AEEM-6011)**</td>
<td>Thermal Energy Storage (MECH-6095)</td>
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<tr>
<td>Bio-Fluid Mechanics (MECH-6046)</td>
<td>Convection Heat Transfer (MECH-7091)</td>
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<tr>
<td>Grid Generation Techniques (MECH-7041)</td>
<td>Boiling HT and Two-Phase Flow (MECH-7094)</td>
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<tr>
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<td>Thermal Process Engr. (MECH-8091)</td>
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<tr>
<td></td>
<td>Gas Turbine Combustion (AEEM-6012)</td>
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</tbody>
</table>

* denotes customary math substitution for MS degree; ** denotes prerequisite course
## 2013-14 Graduate Courses: **Design and Manufacturing**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>Intro. to Robotics (MECH-6031)</td>
<td>*Computational Design (MECH-6011)</td>
</tr>
<tr>
<td>Occupational Safety (MECH-6050)</td>
<td>CAD for Mfg. (MECH-6023)</td>
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<tr>
<td>Quality Control (MECH-6074)</td>
<td>Robot Control &amp; Design (MECH-6032)</td>
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<tr>
<td>Production Planning &amp; Control (MECH-6075)</td>
<td>Intelligent Systems Theory (MECH-6035)</td>
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<td>System Safety (MECH-6052)</td>
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<td>Mfg. Facilities Design (MECH-6072)</td>
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<td>Intro. to E-Mfg. (MECH-6073)</td>
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<td>Supply Chain Modeling (MECH-6076)</td>
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<td>Precision Eng. &amp; Computational Metrology (MECH-7072)</td>
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</tbody>
</table>

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# 2013-14 Graduate Courses: Nuclear Engineering

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>Intro. to Nuclear Engineering &amp; Health Physics (NUC-6003)</td>
<td>Nuclear Reactor Theory &amp; Eng. (MECH-6001)</td>
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<tr>
<td></td>
<td>Radiation Detection &amp; Measurement (MECH-6002)</td>
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<td>Monte Carlo Methods (MECH-6004)</td>
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Key Links:

• CEAS Graduate Studies Forms Page:
  ceas.uc.edu/Graduate_Studies/CurrentStudents.html
  – Program of Study
  – Oral Exam Form

• Departmental Forms Page:
  www.min.uc.edu/me/academics/grad/forms
  – Seminar Waiver
  – Request for Information (petition form)

• Faculty Web Pages: www.min.uc.edu/me/people
If you have questions

Academics – Your advisor
Registration – Barbara Carter (665 Baldwin)

Graduate Studies Committee
Dr. Jog – Thermal/Fluids/Energy
Dr. Thompson – All other areas

Chair of GSC – Dr. Thompson

Department Head – Dr. Kim