Texas A&M University  
Departmental Request for a New Course  
Undergraduate • Graduate • Professional  
Submit original form and 25 copies. Attach a course syllabus to each.*

1. This request is submitted by the Department of Mechanical Engineering.
2. Course prefix, number and complete title: MEEN 635 Flow and Fracture of Polymeric Solids.
3. Course description (not more than 50 words): Relationship of molecular structure to flow and fracture in polymeric materials; introduction of viscoelastic fracture mechanics; micromechanisms of fracture including crazing; fatigue behavior of polymeric materials.
4. Prerequisite(s): Cross-listed with MEMA 607. Cross-listed courses require the signatures of both department heads.
5. Is this a variable credit course? □ Yes □ No  If yes, from _______ to _______.
6. Is this a repeatable course? □ Yes □ No  If yes, this course may be taken _______ times. Will the course be repeated within the same semester/term? □ Yes □ No
7. Has this course been taught as a 489/689? □ Yes □ No  If yes, how many times? _______ Indicate the number of students enrolled for each academic period it was taught. 
8. This course will be:
   a. required for students enrolled in the following degree program(s) (e.g., B.A. in history)
   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)
9. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.
10. Prefix  Course #  Title (exclude punctuation): MEEN 635 Flow & Fracture of Polymeric Solids

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<thead>
<tr>
<th>Lect.</th>
<th>Lab</th>
<th>SCH</th>
<th>Subject Matter Content Code</th>
<th>Admin. Unit</th>
<th>Acad. Year</th>
<th>FICE Code</th>
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   Do not complete shaded area.

Approval recommended by:  
Signatures: 11/7/2007  
Head of Department  
Date  
Chair, College Review Committee  Date  
Head of Department (if cross-listed course)  
Date  
Dean of College  Date

Submitted to Coordinating Board by:  
Signatures:  
Date  
Dean of College  Date

Director of Academic Support Services  
Date  
Effective Date  
* Attach a syllabus according to the guidelines on the Internet site www.tamu.edu/admissions/oaras. To have this form reviewed, please send to Linda F. Lacey, Mail Stop 1265 or fax to 847-8737.
SPRING 2008

MEEN 635 (Flow and Fracture in Polymers)

Course Objectives: (1) To provide both fundamental and practical knowledge relating to mechanical and fracture behaviors of polymers and composites, (2) to facilitate discussions and critiques on related research activities in the literature, (3) to better prepare students for the industry.

Instructor: H.-J. Sue
Class Meeting Period:
Location:
Office Hours:
Textbook: To be given via website

Grade:

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<tr>
<th>Component</th>
<th>Percentage</th>
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<tr>
<td>Homework</td>
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<tr>
<td>Participation in Class Discussion</td>
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<tr>
<td>Mid-Term Exam.</td>
<td>25%</td>
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<tr>
<td>Term Paper</td>
<td>20%</td>
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<td>Final Exam.</td>
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Week of

1/17  Polymer Structure & Morphology
1/24  Rubber-Like Elasticity/Linear Viscoelasticity
      Dynamic Mechanical Behavior
1/31  $T_g$, WLF Equation, Time-Temperature Superposition
2/7   Stress-Strain Behavior/Mechanics on Two-Phase Systems
2/14  Fracture Mechanics
2/21  Fracture Mechanisms/Toughening Principles
2/28  Mid-Term Exam. (Term-Paper Topic Determined)
3/2   Lab Demo: Impact Fracture, DN-4PB, Scratch Test
3/21  Polymer Nanocomposites
3/28  Fatigue/Environmental Effects
4/4   Surface Deformation and Damage
4/11  Design Considerations/Nanotechnology Related Issues
4/18  Term-Paper Presentations
4/27  Final Exam.
Americans with Disabilities Act (ADA) Policy Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities, in Room B118 of Cain Hall or call 845-1637.

Academic Integrity Statement

"An Aggie does not lie, cheat, or steal or tolerate those who do."

"The Aggie Code of Honor is an effort to unify the aims of all Texas A&M men and women toward a high code of ethics and personal dignity. For most, living under this code will be no problem, as it asks nothing of a person that is beyond reason. It only calls for honesty and integrity, characteristics that Aggies have always exemplified. The Aggie Code of Honor functions as a symbol to all Aggies, promoting understanding and loyalty to truth and confidence in each other."

http://student-rules.tamu.edu/aggiecode.htm