ME599 – ADVANCED MECHANICS OF COMPOSITE MATERIALS
SPRING QUARTER 2003

Instructor: Prof. M. E. Tuttle
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Office hours: MWF: 12:30-1:20 PM (or by appointment)

Course URL: http://courses.washington.edu/mengr599/mt/

Course Textbook: None

Course Notes (Required): ME599MT Packet #1, "Advanced Mechanics of Composite Materials", by M.E. Tuttle, available from the Communications Copy Center

Grading Policy:

Homework Assignments:	30%
Midterm Exam:	35%
Final Exam:	35%

Date of Midterm Exam: To be determined

Time/date of Final Exam: 2:30-4:20PM, Wednesday 11 June 2002

Topics (note: this list may expand/contract, depending on time available):

- Brief Review:
  - Hooke's Law for anisotropic materials (e.g., the $[S]$, $[\overline{S}]$, $[Q]$, and $[\overline{Q}]$ matrices)
  - Classical lamination theory (e.g., the $[ABD]$ and $[abd]$ matrices)
- Composite beams:
  - Effective axial & bending stiffnesses of composite beams w/various cross-sections
  - Statically determinate beams
  - Statically indeterminate beams
- Transverse deflections of orthotropic plates:
  - Governing equations of thin plates
  - Exact solutions for specially orthotropic plate
  - Approximate solutions for generally orthotropic plates
- Buckling
  - Thermal buckling
  - Mechanical buckling
- Creep and Aging Effects