22.514 -- FINITE ELEMENT ANALYSIS of COMPOSITES

Text:	Finite Element Analysis of Composite Materials : using Abaqus Ever J. Barbero, CRC Press, 2013, ISBN: 978-1-46-651661-8
Course Website: http://m-5.eng.uml.edu/22.514	

Week	Lecture Topic	Online Lecture Time (min:sec)
1	Introduction	---
2	Chapter 1 -- Mechanics of Orthotropic Materials	90:00
3	Addendum 1-- Ply Definition, Manufacturing and Failure Theories	73:34
4	Addendum 2 -- Multiple Plies and Composite Laminate Theory	50:10
5	Chapter 3 -- Elasticity and Strength of Laminates – Part 1	
6	Chapter 3 -- Elasticity and Strength of Laminates – Part 2	
7	Chapter 3 -- Elasticity and Strength of Laminates – Part 3	
8	Chapter 3 -- Elasticity and Strength of Laminates – Part 4	
9	Chapter 3 -- Elasticity and Strength of Laminates – Part 5	
10	Chapter 4 -- Buckling	18:54
11	Chapter 5 -- Free Edge Effects	
12	Chapter 6 -- Micromechanics	
13	Thanksgiving	
14	Mixed Modeling with Shells	
14	Analysis of Stiffened Composite Panels	
16	Final Exam – Final Project Presentation	

No.	Value	Project Title	Due Date
P1	20	Classical Lamination Theory	Week 3
P2	20	Significance of Ply Orientation	Week 4
P3	40	Effect of Ply Stacking Order on Composite Deformation	Week 5
P4	40	Tutorials 3.03 and 3.04	Week 7
P5	40	Tutorials 3.05, 3.06 and 3.07	Week 8
P6	100	Modeling of a T-Joint	Week 9
P7	40	Buckling	Week 11
P8	40	Free Edge Effects	Week 12
P9	40	Micromechanics	Week 13
Final Project	40	Custom Selection Proposal Due Week 10 Accepted by Week 12	Day of Final Exam

Grading

Projects	75%
Class Participation	5%
Final Project	20%
TOTAL	100%

Academic Dishonesty will not be tolerated.

- PLAGIARISM
  Any work submitted that is a copy of the work of another, e.g. copy of answer from Solution Manual for a project or copying of a report by another student (past or present), will be considered plagiarism, which is an act of academic dishonesty. Such an offense will result in a score of zero on that assignment and potentially further disciplinary action that may include a grade of “XF” and possibly expulsion from the University.

- PROFESSIONAL INTEGRITY
  The University policy regarding academic integrity is posted online at: https://www.uml.edu/Catalog/graduate/Policies/Academic-Integrity.aspx . It is each student’s responsibility to become familiar with this policy. University policies will be strictly enforced. If necessary contact your instructor or academic advisor for clarification of these policies. Engineers are professionals obligated to practice by a code of ethics. It is your responsibility to uphold the respect and dignity of your chosen profession.