

Fundamentals of Engineering

EG31 and EG32

A two semester course

Fairfield University School of Engineering

Fundamentals of Engineering

- Career Path Interests
- Professionalism
- Engineering Skills
- Design
- Communications
- Rights, Responsibilities and Ethics

Studying Engineering

- Commitment
- Application
- Strategy
- Perseverance
- Associations

Commitment

- Decide to be successful
- Set appropriate goals
- Stay focused
- Be determined to succeed
- Remember the reasons you chose engineering

Application

- Be willing to work
- You are doing it for you, not for the professor
- Reviewing material is better than relearning material

Strategy

- Be certain that you know the prerequisite material at the start of a course
- Make the most of classroom time
- Study the text and reference materials to supplement before the lectures
- Ask questions
- Don't rely on cramming; Engineering is cumulative
- Learn by doing, not reading about it

Perseverance

- Learn from your mistakes
(and from the mistakes of others)
- Success comes from not giving up
- “That which does not kill us makes us stronger” - Friedrich Nietzsche
- “Invention is 1% inspiration and 99% perspiration” – Thomas Alva Edison

Associations

- Your fellow students are a resource
- Spend time with GOOD students; not just COOL ones
- Teaching material to others is a great way to solidify your understanding of that material

Rights, Responsibilities, and Ethics

- Responsibilities
 - Confidentiality: Don't disclose proprietary information to others
 - Proprietary Information:
 - Usually marked
 - Non-disclosure agreements
 - Conflicts of Interest: Identify and make known
 - Environmental Ethics: Try to “do no harm”, understand the trade-offs
 - Computer Ethics
 - A tool: can be used to do wrong
 - A target: viruses, worms, trojans, spam, phishing, pharming, ...
 - Human control: Rely on automated control with care
- Professional Rights
 - Your Professional Conscience
 - The Defense industry: a different world
 - “Whistle Blowing”: takes courage; protected by law (to some degree)

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