Topics for Today:

• Announcements
  • EE5200-L@mtu.edu is up and working. Use it.
  • Web page: http://www.ece.mtu.edu/faculty/bamork/ee5200/
  • Bring calculator to lectures, for in-class sample calculations.
  • Buy a 3-ring binder for course materials.
  • Office hrs: initially set for M,W,F 2-3pm Eastern Time
  • Office: EERC 614. Phone: 906.487.2857
  • Ch.1 Solutions posted on web page, finish review Sept. 6th.
  • First set of graded exercises will be posted, due Fri Sept 9th.
  • Ch.2 material - aggressively review it, Ch.2 solutions posted.

• Coverage for Review:
  • Chapter 1 problems (solutions posted)
  • Click on Pre-Req Mat’ls - Euler’s Identity, EE3120 Review
  • Matlab quickstart tutorial, will be using Matlab starting Week 3.
  • Plan on initiating a survey to get a handle on your skill levels.
Prerequisite Material, Useful References (see course web page)

• Euler's Identity - The foundation of phasor analysis, as well as hyperbolic functions (used for long transmission lines)
• Basic Circuit Analysis, Thevenizing, Phasor Analysis, Impedance, P,Q,S, etc.: EE3120 pre-req practice problems | Solutions
• Basic 3-Phase Phasor Analysis - Review problem from EE3120
• Magnetic Circuits - quick review and introduction of how a transformer works
• Mutual Inductance - concept handout from EE3120 (refer to Section 2.2 of your text)
• Transformers 101 - Everything you wanted (or suddenly need to know) about transformers but were afraid to ask...
• Delta-Wye Transformer - detailed example with solution from EE3120
• EE 4221 Pre-Req Course Description
• EE 4222 Pre-Req Course Description
• Pre-Req Review Videos with Notes (from 2003 Archives)
  • Basic Circuit Analysis, Phasors, Three Phase Phasors: Lect 1 (skip first 12 mins) | Lect 1 Notes
  • Phasor Diagrams, Ideal Transformers, Nodal Analysis: Lect 2 (skip first 6:20) | Lect 2 Notes
  • Nodal Analysis, 3-phase circuits, Deltas and Wyes, Per Unit System: Lect 3 (skip first 3 mins) | Lect 3 Notes
  • Active & Passive Sign Convention for power flow, Per Unit, Transformers, Symmetrical Components: Lect 4 (skip first 2 mins) | Lect 4 Notes
  • Transformers, Induced Voltage & Polarity Marks, Phase Shift: Lect 5 (skip 3:45 - 5:20) | Lect 5 Notes
  • Phase Shift in Transformers, Phasor Diagrams, Application of Symmetrical Components: Lect 6 (skip first 3 mins) | Lect 6 Notes
  • Sample .m files from above tutorials: | for_ex.m | r2p.m | for_if_ex.m | while_ex.m | ft.m |
• Symmetrical Components - the basics.