

ECE317

Final Exam Study Guide

- **Tuesday, Dec. 10, 19:30 – 21:20**
- **The final is a multiple choice exam**
- **You are required to bring a Scantron Form No. 882-E to the exam, where you will record your answers. Use of No. 2 pencil is also recommended.** These are available from the PSU bookstore. You may want to bring an eraser as well.
- Closed book/closed notes except for a one page (8 ½" x 11") formula sheet (written on both sides is OK)
- Use of a calculator is NOT permitted.
- No spare (scratch) paper is allowed except you have the option to use a Blue Book (Examination Book) for scratch work. (However, I believe the exam papers provide sufficient space for scratch work). At the completion of the exam you will need to hand in your Blue Book, your exam papers and scantron sheet each with your name on them. The Blue Book can also be purchased, along with the scantron, at the PSU bookstore.
- I will provide the Bode Plot Summary and the Steady-State Error Table sheets (that are available on the class web page).

Material covered:

- The final exam is comprehensive however focus will be on topics covered mainly since Midterm 2.
- The final exam will focus on:
 - i. Control system design using Bode plots
 - ii. Steady state error
 - iii. Desirable loop requirements
- There may be a question or two related to the Labs.
- Be able to answer questions that feature a PECS schematic.
- Understand phase and gain margins, how they are specified and how they relate to system stability.
- Understand system type (also referred to as system type number) and how it is obtained
- Be clear about how steady state error is defined for both 1) unity gain, and 2) non-unity gain feedback systems.