COURSE CONDUCT

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• Text

ECE/Comp. Sci. 352 Course Materials at Bob’s Copy Shop

(Continued)

• Responsibilities
  You are responsible for all reading assignments and lecture material and, if you miss a lecture, obtaining handouts and studying lecture notes of others.

• Computer Usage:
  Logic reduction, logic diagram entry and logic simulation using CAD software on CAE UNIX workstations. Unix usage required - CAE Unix Tutorials - execute newuser at CAE - Mentor Graphics Tools Tutorial is required!
  Used for course design projects and, occasionally, homework.
• Homework and Projects
  Homework is not submitted but very important to your learning and quiz performance! Solutions on Web Page CAD-based design projects (one individual and one team) will be submitted and graded.

• Exams
  Four Quizzes - See Course Conduct for rules
  One Final - Note date and time and plan to be there - no excuses short of death or serious illness.

• Discussions
  Optional discussions do not meet on a regular schedule - reviews before exams - project help sessions

• Consultation
  Use office hours and e-mail.
  Don’t wait until it is too late to get help!
• Grading
  60% Four Quizzes
  20% Projects
  20% Final Exam
• Nature of Course
  First ECE-taught course for most students
  Material not too difficult, but fast-paced with fairly high expectations. First five weeks tends to be easy, but ramps up thereafter! So don’t be complacent!
  Workload per credit high compared to typical lower-level course

• Objective:
  To be able to analyze and design digital logic systems by understanding formal foundations and selected design techniques.
• What is a digital system?
  Obvious example?
  Less obvious examples?
    Hint 1: In 1997, 35 in the average North American home.
    Hint 2: In 1998, over 4 billion sold.
  PCs and microcontrollers are, by definition, “computers.”
• What is digital?
   Information represented by discrete values such as True and False, Off and On, or integers.

   \[
   \begin{array}{c|c}
   H & \text{Contrasts with analog which takes on continuous values.} \\
   L & \end{array}
   \]

Why digital and why binary (two discrete values)?
   Provides more reliable implementation for many tasks
   Design process easier
   Integrated circuit fabrication much easier.

Definition - **Bit** - binary digit

Information representation - strings of bits
WHAT IS THIS COURSE ABOUT?
Digital Computer

• What is a Digital Computer?
  See Text Figure 1-2

WHAT IS THE CONTENT OF THE COURSE?

• Boolean Algebra
• Logic components
• Combinational logic circuit analysis and design
• Synchronous sequential logic circuit analysis and design
• Digital subsystems
• Basic computer organization and design