COURSE CONDUCT

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

• 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.

• 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.

• 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!
### COURSE CONDUCT (Continued)

- **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

### WHAT IS THIS COURSE ABOUT? Digital Systems

- **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.”

### DIGITAL SYSTEMS (Continued)

- **What is digital?**

  Information represented by discrete values such as True and False, Off and On, or integers.

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  Contrasts with **analog** which takes on continuous values.

- **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