School of Electrical Engineering and Telecommunications

ELEC4632: COMPUTER CONTROL SYSTEMS

Session 2, 2008

Course Staff

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Course Information

Units of Credit: 6

Lectures: Wednesday 15.00–17.00

Location: Lectures are scheduled for Room G25 in EE&T Building, but may be re-scheduled.

Course PreRequisite:

This course builds on a standard introductory undergraduate course on control engineering such as ELEC3114.

Course Contents:

Covers the design of practical control systems intended for implementation using digital controllers and embedded systems.

Particular topics include: digital control systems, discrete systems, stability analysis, digital controller synthesis, digital PID controllers, design of digital controllers, state-space models, observability and controllability, pole placement design, optimal design methods, nonlinear discrete-time systems, digital control of biomedical systems, case studies.

Aspects of implementation are constantly emphasized.

Expected Student Learning Outcomes:

By the end of the course, students will be expected to be able to model, design and analyze digital control systems based on the above topics.

Course Evaluation:

Labs - 20% (week 2 – week 12).
One mid-semester test (week 7) – 20%

Exam – 60%

**Recommended Reading:**

Lecture notes and papers will be handed out during the lectures and placed on the web page. The following texts will supplement the material:


**Academic Honesty and Plagiarism**

What is Plagiarism? Plagiarism is the presentation of the thoughts or work of another as one's own.* Examples include:

- direct duplication of the thoughts or work of another, including by copying material, ideas or concepts from a book, article, report or other written document (whether published or unpublished), composition, artwork, design, drawing, circuitry, computer program or software, web site, Internet, other electronic resource, or another person’s assignment without appropriate acknowledgment; paraphrasing another person’s work with very minor changes keeping the meaning, form and/or progression of ideas of the original; piecing together sections of the

- work of others into a new whole; presenting an assessment item as independent work

- when it has been produced in whole or part in collusion with other people, for example, another student or a tutor; and claiming credit for a proportion a work contributed to a group assessment item that is greater than that actually contributed.

For the purposes of this policy, submitting an assessment item that has already been submitted for academic credit elsewhere may be considered plagiarism. Knowingly permitting your work to be copied by another student may also be considered to be plagiarism. Note that an assessment item produced in oral, not written, form, or involving live presentation, may similarly
contain plagiarized material. The inclusion of the thoughts or work of another with attribution appropriate to the academic discipline does not amount to plagiarism. The Learning Centre website is main repository for resources for staff and students on plagiarism and academic honesty. These resources can be located via:

www.lc.unsw.edu.au/plagiarism

The Learning Centre also provides substantial educational written materials, workshops, and tutorials to aid students, for example, in:

- correct referencing practices; paraphrasing, summarizing, essay writing, and time management;
- appropriate use of, and attribution for, a range of materials including text, images, formulas and concepts.

Individual assistance is available on request from The Learning Centre. Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting, and the proper referencing of sources in preparing all assessment items.

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