

# CAS 704 – Embedded, Real-Time Software Systems

**Instructor:** Douglas Down

**Office:** ITB 216

**Telephone:** x-24054

**e-mail:** downd@mcmaster.ca

**Office Hours:** (instructor) TBA

**Lectures:** Monday, Thursday 13:30-14:50 (ITB/222)

**Mission:**

**Grading:**

Assignments	20%
Term Test	30%
Final exam	50%

**Text:** There is no required text. References and course notes will be made available.

**Course coverage:**

1. Scheduling
  - a. Time-based scheduling
  - b. Classical results for single processor scheduling algorithms
  - c. Multiprocessor scheduling
  - d. Scheduling with energy concerns

The rest of the course coverage will be filled in after a vote of the class. The following are all possibilities.

2. Real-Time Operating Systems – we can look at TinyOS, details of its implementation and some applications.
3. Fault Tolerance Techniques
4. State-Space Control Theory and Real-Time Implementation
5. Specification of Real-Time Systems (examine in detail one framework – UML, Timed Petri Nets, etc.)
6. Individual Student Presentations – allows you to explore and present a topic of your choice.

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.

### **Academic Dishonesty:**

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity.

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: “Grade of F assigned for academic dishonesty”), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty please refer to the Academic Integrity Policy, located at <http://www.mcmaster.ca/academicintegrity>

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one’s own or for which other credit has been obtained.
2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations.