

GEORGE MASON UNIVERSITY
Department of Computer Science
School of Engineering

SWE 760 - Software Analysis and Design of Real-Time Systems

Prerequisite: SWE 621 or CS 571, or permission of instructor.

Fall 2016

Tuesday 4:30-7:10 PM

Location: IN 208

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Office Hours: Tuesdays 3:00-4:00 PM, by appointment, phone & e-mail

Course Description:

Investigation of the characteristics of real-time embedded systems and important concepts in the design of these systems. In-depth study of object-oriented and component-based analysis and design modeling of real-time embedded systems using the Unified Modeling Language (UML), SysML, and MARTE notations, including design of hardware/software boundary, real-time design patterns, real-time scheduling, and quality of service issues. Case studies of a range of real-time applications.

Required Course Text (Available from Johnson Center bookstore):

H. Gomaa, *Real-Time Software Design for Embedded Systems*, Cambridge University Press, 2016.

Course Material (Download from course Web site):

Download from Blackboard Web site as follows:

To access Courses, log in at: <http://mymasonportal.gmu.edu>, click on the Courses tab and locate SWE 721 link in the Course List.

Assignments:

Students will undertake a term project in the real-time software design of a complex embedded system and write a term paper on some aspect of real-time software design.