

# GOVERNORS STATE UNIVERSITY

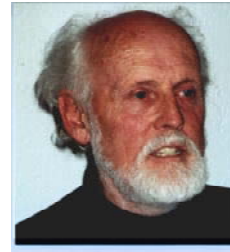
COLLEGE OF ARTS AND SCIENCES

DIVISION OF SCIENCE

## COURSE SYLLABUS

**COURSE TITLE:** Planning and Management of Software Projects  
**COURSE NUMBER:** CPSC 820  
**CREDIT HOURS:** 3  
**PROFESSOR:** Dr. Winfried Karl RUDLOFF  
**E-MAIL:** [w-rudlof@govst.edu](mailto:w-rudlof@govst.edu)  
**WEBSITE:** <http://faculty.govst.edu/science/faculty/rudloff/wkr.htm>  
**OFFICE:** Room F2637  
**OFFICE HOURS:** MW 2:00 - 4:00 pm, or by appointment

**TRIMESTER:** Winter 2007



### RATIONALE AND COURSE DESCRIPTION:

At the dawn of the computer era, the design and production of hardware was the most expensive part in the development of information systems. Today, with miniaturization of computer hardware and the evolution of faster and more efficient machines, computers have become affordable as a household item. Yet it is the development of **user-friendly software** that is most expensive.

This course is an extension of CPSC 390 and is designed to expand on the principles of software development technologies and the management of the software lifecycle. Specifically, methods of systems engineering, modular and, specifically, **object-oriented design of complex software**, and application of knowledge engineering principles that may include the design of natural-language interfaces will be discussed. Emphasis will be on design techniques, project planning, software integration, as well as maintenance and management of software.

### LEARNING OBJECTIVE:

The major objective of this course is to provide the students with knowledge that reflects the state of the art in advanced systems and software engineering. The planning and management of software projects will be discussed and practiced in a laboratory setting.

### MODES OF LEARNING INTERACTIONS AND SOURCES OF INFORMATION:

The required textbook is considered merely as an introduction to this course and reflects the viewpoint of computer scientists within narrow disciplinary confines. In this course, however, we want to encourage the students to develop a broader outlook. Thus, all students are required to participate in the collection and interpretation of information that expands beyond the horizons of the discipline. The students should use traditional resources (books, journals, libraries, etc.) as well as global electronic communication facilities (internet, telecommunication, multimedia, etc.). The knowledge acquired will be collated electronically in a hypertext-hypermedia and multimedia environment that can multi-dimensionally be accessed and transmitted via communication networks.

### PREREQUISITES:

An open mind and a desire to learn about the art and science of software development. Also, CPSC 390, Introduction to Software Engineering or equivalent.

### INTENDED AUDIENCE:

Computer science and MIS majors, and advanced computer programmers.

## TEXTBOOKS & READING MATERIAL:

### Required:

Roger S. Pressman, "Software Engineering: A Practitioner's Approach", Sixth edition. The McGraw-Hill Companies, Inc., New York.

Rudloff, W. K., Hypertext/Hypermedia Notes developed during this course

### Optional:

Stephen R. Schach, "Classical and Object-Oriented Software with UML and Java", most recent Ed., WCB McGraw-Hill. Boston.

## ACTIVITIES:

The lectures are primarily oriented around the required text and pertinent recent literature as well as instructor's handouts. **Students will be responsible for all material covered in class.** Students are responsible to develop a term project in a team setting that addresses the concepts of software planning and management discussed during the course. The project should be initiated as early as possible during the course in consultation with the professor.

It is highly recommended that the students follow up on the ideas discussed during the course through pertinent reading of suggested books on the subject and through researching most recent literature. Students are expected to develop an independent attitude towards the development of the team project pertinent to the discussed topics.

## COURSE EVALUATION:

Team Participation (includes peer judgement)	15%
Midterm Exam	25%
Final Exam	30%
Project	30%

Letter grades will be given based on a statistical evaluation of the overall number grades.

## TENTATIVE CLASS SCHEDULE

**NOTE:** Roger S. Pressman, "Software Engineering: A Practitioner's Approach", Sixth edition. The McGraw-Hill Companies, Inc., New York. **The scheduled material may be subject to change.**

Date	Topics
10 Jan	Web Engineering and Formulation and Planning (RSP: 16-17)
17 Jan	Analysis Modeling of Web Applications (RSP: 18)
24 Jan	Design Modeling of Web Applications and Testing (RSP: 19-20)
31 Jan	Project Management Concepts (RSP: 21)
07 Feb	Process and Project Metrics (RSP: 22)
14 Feb	Estimation for Software Projects and Software Project Scheduling (RSP: 23-24)
21 Feb	Methinks, I know it all: <b>Midterm Exam</b>
28 Feb	Risk Management (RSP: 25)
07 Mar	Quality Management and Change Management (RSP: 26-27)
14 Mar	Formal Methods (RSP: 28)
21 Mar	Cleanroom Software Engineering (RSP: 29)
28 Mar	Component-Based Software Engineering and Reengineering (RSP: 30-31)
04 Apr	<b>Presentation of Projects</b>
11 Apr	<b>Presentation of Projects</b> Due Date of Finalized Project
18 Apr	The Day of Reckoning: <b>Final Exam</b>

**Note:** This Syllabus may be downloaded in pdf-form from our website:

<http://faculty.govst.edu/science/faculty/rudloff/wkr.htm>