



# THE UNIVERSITY OF WINNIPEG

## APPLIED COMPUTER SCIENCE DEPARTMENT

### ACS-3901-001 – Principles of Software Project Management

#### **Instructor Information**

**Instructor:** Dr. Sheela Ramanna                      **Office:** 3D15  
**E-mail:** s.ramanna@uwinnipeg.ca                      **Office Hours:** Tuesday 2:15 - 3:15pm  
**Class Meeting Time:** T, Th 1:00 - 2:15pm                      **Room No:** 3D01  
**Course Web page:** <http://www.acs.uwinnipeg.ca/3901>

#### **Important Dates**

- First Class: January 7, 2020
- Final Withdrawal Date w/o academic penalty: March 13 (A minimum of 20% of the work on which the final grade is based will be evaluated and available to the student before the voluntary withdrawal date).
- Reading Week Break: February 16-22 (No classes)
- Midterm Exam: February 13, 2020
- Last Class: April 2, 2020
- Final Exam (Comprehensive – 3hours): April 9, 2020 at 1:30 p.m. Room: TBA
- The university will be closed on February 17 (Louis Riel Day) and April 10 (Good Friday).

#### **Additional Course Related Information**

- When it is necessary to cancel a class due to exceptional circumstances, instructors will make every effort to inform you via uwinnipeg email, as well as the departmental assistant and Chair/Dean so that class cancellation forms can be posted outside classrooms.
- Your uwinnipeg email address will normally be used for course related correspondence.
- Please note that withdrawing before the VW date does not result in a fee refund.
- Class make-up days are scheduled at the end of term for courses that conflict with holidays.

## **Course Objectives**

This course introduces proven principles, methods and techniques for effective planning, scheduling, monitoring and controlling of deliverable-oriented work. This course has been specifically designed to also cover essential project management techniques practised in the 4<sup>th</sup> year capstone ACS-4901/6 Systems Development Project course. Specifically, we will study the following project, product and people competencies:

- Selecting Software Development Lifecycles
- Project Teams and Roles --Team Selection
- Preparing Project Plans, Proposal and SSR
- Software Sizing and Cost Estimation Models
- Scheduling with PERT/CPM
- Risk Management Model
- Software Metrics, CMM model and GQM Paradigm
- Verification and Validation (Reviews, White and Black Box testing)
- Project Tracking and Control
- Quality Assurance and Configuration Management

## **Evaluation Criteria**

Assignments (4 )	15%
Presentation (Dates to be announced in Class)	5%
Mid Term Exam	30%
Final Exam	50%

Assignments involving group work will require the use of such tools as:

- Trello or other Collaboration Tools
- COCOMO Cost Estimation Tool
- GitHub distributed revision control and source code control tool
- Phabricator PM Tool
- Agilefant – project management tool for agile model
- May also require teams to independently investigate other open source tools
- Will require team presentation in class

There will be 3 assignments that will involve team work. Depending on class size, each team may include between 4-6 students. It is mandatory that each team member participate fully and contribute equally to the assignments. Failure to do so will result in loss of marks. Formation of teams will take place on January 7 and January 9. It is the responsibility of the student to attend classes in the first week to seek membership in a team. Failure to do so will result in loss of marks at least for Assignment 1.

NO LATE WORK will be accepted. Class work must be typed and submitted in an 8.5x11 folder with your name and course number on the outside. *Please contact me as soon as possible* if extenuating circumstances require you to miss a class, deadline, tests or examination. Should illness prevent participation in a test or examination, a medical certificate from a certified physician must be supplied before any adjustments are considered.

Exams and tests will test both factual knowledge and the ability to apply course material to real life situations and problems. Answers on exams, tests, assignments must be meaningful to achieve potential credit. English dictionary aids will be allowed as appropriate. *Keep a copy of all class work* (e.g., assignment, tests) handed back in case there is an error in recording of marks by the instructor.

### **Final Letter Grade Assignment**

Historically, numerical percentages have been converted to letter grades using the following scale. However, instructors can deviate from these values based on pedagogical nuances of a particular class, and final grades are subject to approval by the Department Review Committee.

A+	90+ - 100%	B	70 - 74%	F	below 50%
A	85 - 90%	C+	65 - 69%		
A-	80 - 84%	C	60 - 64%		
B+	75 - 79%	D	50 - 59%		

### **Required Text Book(s)/Reading List\***

- Quality Software Project Management by Futrell, Shafer, and Shafer, Prentice Hall, 2002, ISBN: 0-13-091297-8
- Class Notes

### **Prerequisite Information** (This information can be found in the UW General calendar)

- A grade of at least C in ACS-1904(3), ACS-2913(3), (or the previous ACS-2911(3) and ACS-2912(3)) and ACS-2814(3) (or the former ACS-2914(3)).

### **Email Communication**

Emails from accounts at uwinnipeg.ca are usually not filtered by the UofW email filter. Thereby it is recommended electronic communication used for the course utilize a UofW email account to minimize the risk of filtering.

### **Services for Students**

Students with documented disabilities, temporary or chronic medical conditions, requiring academic accommodations for tests/exams (e.g., private space) or during lectures/laboratories (e.g., note-takers) are encouraged to contact Accessibility Services (AS) at 786-9771 or [accessibilityservices@uwinnipeg.ca](mailto:accessibilityservices@uwinnipeg.ca) to discuss appropriate options. All information about a student's disability or medical condition remains confidential <http://www.uwinnipeg.ca/accessibility>.

Students may choose not to attend classes or write examinations on holy days of their religion, but they must notify their instructors at least two weeks in advance. Instructors will then provide opportunity for students to make up work examinations without penalty. A list of religious holidays can be found in the 2019-20 Undergraduate Academic Calendar.

All students, faculty and staff have the right to participate, learn, and work in an environment that is free of harassment and discrimination. The UW Respectful Working and Learning Environment Policy may be found online at [www.uwinnipeg.ca/respect](http://www.uwinnipeg.ca/respect).

## **Misuse of Computer Facilities, Plagiarism, and Cheating**

Academic dishonesty is a very serious offense and will be dealt in accordance with the University's policies.

*Avoiding Academic and Non-academic Misconduct.* Students are encouraged to familiarize themselves with the Academic Regulations and Policies found in the University Academic Calendar at: <https://uwinnipeg.ca/academics/calendar/docs/regulationsandpolicies.pdf> . Particular attention should be given to subsections 8 (Student Discipline), 9 (Senate Appeals), and 10 (Grade Appeals). Please note, in particular, the subsection of Student Discipline pertaining to plagiarism and other forms of cheating.

Detailed information can be found at the following:

- Academic Misconduct Policy and Procedures: <https://www.uwinnipeg.ca/institutional-analysis/docs/policies/academic-misconduct-policy.pdf> and <https://www.uwinnipeg.ca/institutional-analysis/docs/policies/academic-misconduct-procedures.pdf>
- Non-Academic Misconduct Policy and Procedures: <https://www.uwinnipeg.ca/institutional-analysis/docs/student-non-academic-misconduct-policy.pdf> and <https://www.uwinnipeg.ca/institutional-analysis/docs/student-non-academic-misconduct-procedures.pdf>

*Misuse of Filesharing Sites.* Uploading essays and other assignments to essay vendor or trader sites (filesharing sites that are known providers of essays for use by others who submit them to instructors as their own work) involves “aiding and abetting” plagiarism. Students who do this can be charged with Academic Misconduct.

*Avoiding Copyright Violation.* Course materials are owned by the instructor who developed them. Examples of such materials are course outlines, assignment descriptions, lecture notes, test questions, and presentation slides. Students who upload these materials to filesharing sites, or in any other way share these materials with others outside the class without prior permission of the instructor/presenter, are in violation of copyright law and University policy. Students must also seek prior permission of the instructor /presenter before photographing or recording slides, presentations, lectures, and notes on the board.

*Research Ethics.* Students conducting research interviews, focus groups, surveys, or any other method of collecting data from any person, including a family member, must obtain research ethics approval before commencing data collection. Exceptions are research activities done in class as a learning exercise. For submission requirements and deadlines, see <http://www.uwinnipeg.ca/research/human-ethics.html>.

## **Tentative List of Topics**

<b>Topic</b>	<b>Chapters*</b>
Competencies and Definitions, SDLC	Chap.1 and 3
Selecting SDLC -- Review of Process Models	Chap. 4
Project Teams and Roles --Team Selection	Chap.6, 12, 29
Project Planning and WBS -- Project Proposal/Charter	Chap.7 and 8
Tasks, Activities -- Project Plan Creation	Chap. 9
Software Sizing – Size Estimation Models	Chap.10
Estimating Duration and Cost – Cost Estimation Models	Chap. 11
Scheduling – PERT/CPM Scheduling Models	Chap. 14 and 15
Software Requirements Specification—Creating SSR	Chap. 16 and 17
Risk Management – Quantitative Risk Assessment	Chap. 18
Software Metrics – Quantitative Product and Process Metrics Assessment	Chap. 21
V&V- Testing strategies, test coverage and path measures	Chap. 23**
Project Tracking and Control – Quantitative Schedule and Progress Management, Error Tracking	Chap. 25**
SQA and SCM	Chap. 30**, 31**

\* Not all the materials in the above chapters will be covered.

\*\* These chapters are not included in the new edition. Notes will be given and the 2002 edition of the text book is placed on reserve in the library