Requirements Engineering

Overview

Course Outline

- Duration – 1 Semester (12 Weeks)
- Credits - 5

- Lectures – 2 hours per week
- Practical – 2 hours per week
- Directed learning – 24 hours
- Independent learning – 28 hours

Course Material

– Course material will be made available on X:\ drive

(X:\Lab\C_WOODS_2017\CP_Req_Engineering_2017)

– Supplement course material with reading from recommended texts and/or Internet

Course Content

- **An overview of SW Engineering**
  - Socio-technical systems (People, hardware, software)
  - Systems engineering
  - Organisations, people, Computer Systems
- **Software Processes**
  - Process Models
  - Process Activities (***Specification***, ***Development***, ***Validation***, ***Evolution***)
  - System Life cycle

- **Analysis & Design Methodologies/Tools**
  - Statement of Scope & Objectives
  - Requirements Analysis & Specification
  - System Life cycle
  - System Modelling
  - Data Modelling
  - Software Specification
  - Verification & Validation: ***Inspections***, ***walkthroughs***, ***management review***

- **OO Analysis & Design**
  - UML
- **Agile Methods**
  - The agile approach to SW Engineering
  - Overview of an agile approach (e.g. Scrum)
- **Software Testing**
  - Objectives
  - Testing Strategies
  - Test Cases/Data
  - Introduction to automated test tools (JUNIT)

- **Project Management**
  - Cost/Benefit Analysis (ROI)
  - Project task management
  - Project resource management
- **System Support/Documentation**
- **Quality Assurance**
  - Quality standards and practices
  - Quality Certification
  - Quality Management

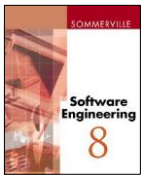
Reading Material

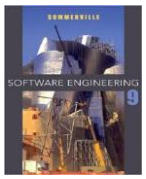
- **Software Engineering (8th / 9th / 10th Ed.) Ian Sommerville (2007)**
- Analysis & Design of Information Systems (2nd Ed) - James A. Senn (1989)
- Object-oriented Systems Analysis & Design using UML (3rd Ed) - Bennett, McRobb, Farmer (2005)

– **Essential text:**

– ***Software Engineering***

Ian Sommerville (8th / 9th Edition)





Other Material

- Useful web links will be provided
- Google!

  There is lots of useful material on the Internet

Assessments

Continuous Assessment (CA) – 60%

- System Design (TPS system / Database)
- Application of Analysis & Design methodologies
- **End Result**: System Requirements Specification document
- Submission deadline for each component
- Must present on-going design throughout the 12 weeks

- Each student to choose (or be assigned) a system to design (**TPS** – **T**ransaction **P**rocessing **S**ystem)
- A schedule of dates for the intermediate deliverables will be posted
- ***Some*** of the overall marks awarded for each component

Assignment **must** be submitted in **MS Word document format.**

Document template will be provided and must be used.

Document **must** demonstrate the use of **professional features** of MS Word application (e.g. numbering, Indexing, table of Contents, etc.)

Document **must** demonstrate a satisfactory standard of academic writing.

Late Submissions

- Penalties apply for late submission
- 20% deduction for each day late (week day).
- Medical certification, if applicable, **must** be submitted in accordance with rules documented in student handbook.

Final Examination (FE) – 40%

- 2 hour examination
- Paper contains ***four (4)*** questions
- Answer Question 1 and two other questions

Important!

- Module pass rate: 40%

Warning!

A poor CA mark makes it harder to achieve an overall mark of 40% which is required to pass the module

CA%	FE%	TOTAL %
20	70	40.0
30	55	40.0
40	40	40.0
50	25	40.0

There may also be a minimum grade required in the FE (regardless of overall result).