https://github.com/computationalmystic/MU-Software-Engineering/

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CS 4320 / 7320
Software Engineering

Course Introduction / Policies / Overview

Where to find course information:

1. Canvas: Grades, Assignment Submission, Group Identification
2. GitHub: Course Materials https://github.com/computationalmystic/MU-Software-Engineering/
3. Slack: Communication with professor and TA. Email is generally not effective for a quick response. Slack is effective for a quick response.

Slack Invite Link: http://bit.ly/2KI1BJh

https://github.com/computationalmystic/sengfs19

Instructors

Professor

Dr. Sean Goggins

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Teaching Assistant

- Caleb Heinzman
- Wenyi Lu

Departmental Learning Objectives

1. *Students will write technical documents (proposals, designs, documentation, executive summaries and project reports) to convey complex technical concepts to a variety of audiences.*
2. *Students will be able to analyze, interpret and describe the process of software engineering with respect to both large and small information systems, software systems, software development life cycles*
3. *Students will be* ***introduced to the preparation of a detailed problem definition*** *incorporating needs analysis, market assessment, and scope and feasibility analysis for a desirable solution.*
4. ***Students will be encouraged to use a variety of tools in order to complete a project, managing the development, creating the design, and developing a solution.***
5. *Students will demonstrate the ability to function effectively on a team.*
6. ***Students will work with a team of peers to analyze problems associated with a software solution, identify and define the requirements documents and models needed to determine possible solutions for the problem, and determine software and user-interface design.***
7. *Students will refine presentation skills to prepare for the capstone sequence resulting in professional presentations.*
8. *Students will be familiar with object oriented analysis and design issues using Unified Modeling Language (UML).*
9. *Students will learn of ethical and professional issues related to software engineering*

Meeting Schedule

Class Meeting Time :

- As posted in MyZou

Class Meeting Expectations :

1. Participation, which requires attendance
2. Team activities
3. Brief presentations (I will call on students by name from the roster)

Eight Areas of Coverage

1. Systems Theory and Engineering Software x
2. Ethics in Engineering Software x
3. The Software Development Lifecycle x
    - Requirements x
    - Design x
    - Implementation x
    - Testing x
    - Release x
    - Operations x
    - Maintenance
4. Flavors of Software Development Lifecycle x
    - Waterfall x
    - Agile x
    - Open Source x
5. Computing Disciplines Needed to Engineer Software
    - Computer Human Interaction x
    - Database Management Systems x
    - Algorithms x
    - Computing Languages x
6. Types of Technological Systems for Which We Engineer Software
    - Real Time Systems x
    - Safety Critical Systems x
    - Service Oriented Architectures x
    - Web Systems and Frameworks x
    - Mobile Systems x
    - Data Scientific Systems x

Eight Areas of Coverage (Page Two)

7. Essential Orthogonal Disciplines
    - Documentation
    - Version Control and Configuration Management x
    - Request Tracking x
    - Architecture x
    - Commercial Off the Shelf (COTS) Software x
    - Security x
8. The Social System of Engineering Software x
    - Collaboration x
    - Coordination x
    - Group Work x
    - The Science of Team Science x
    - Conflict x
    - Communication x
    - Metrics and Measurement x
    - Community Building x

Grad-Student Homeworks

- There will be various additional homework for graduate students:
  - Literature reading and critique and review writing
  - Software engineering related exercises in support of your group project

Syllabus: https://github.com/computationalmystic/sengfs19/README.md

See Syllabus for:

- General Course Policies
- ADA Notice
- Academic Dishonesty
- Intellectual Pluralism
- UM Executive Order No. 38,
  - Recording Course Activities

University of Missouri System Executive Order No. 38 lays out principles regarding the sanctity of classroom discussions at the university. The policy is described fully in Section 200.015 of the Collected Rules and Regulations. **In this class, students are not allowed to make audio or video recordings of course activity unless specifically granted permission by Dr. Goggins**. However, the redistribution of audio or video recordings of statements or comments from the course to individuals who are not students in the course is prohibited without the express permission of the faculty member and of any students who are recorded. Students found to have violated this policy are subject to discipline in accordance with provisions of Section 200.020 of the Collected Rules and Regulations of the University of Missouri pertaining to student conduct matters.