University of Detroit Mercy
College of Engineering and Science
Department of Mathematics, Computer Science and Software Engineering

CSSE-4150 01 Software Engineering
Fall 2015-2016

DESCRIPTION OF COURSE: Software Processes, Software Requirements Engineering, System Models, Architectural Design, Object-Oriented Design, Software Reuse, Verification and Validation, Software Testing, Software Cost, Quality Management, Process Improvement, Software Engineering Ethics, Term Team Project.

PREREQUISITES: None.

PREREQUISITES BY TOPIC: None

REQUIRED TEXT: Software Engineering: Theory and Practice, Shari Pfleeger and Joanne Atlee, Prentice Hall, Fourth Edition, ISBN: 978-0-13-609674-0, 2010.

RECOMMENDED TEXTS:

Software Engineering, Ian Sommerville, Pearson, 9th Edition, ISBN-10: 0137035152, 2010.
Software Engineering: A Practitioner's Approach, Roger S Pressman, McGraw Hill, 7th Edition, ISBN-13 9780073375977, 2010.

INSTRUCTOR: Dr. Kevin Daimi, Room E324. Tel: 313-993-1060.
Email: daimikj@udmercy.edu.
Web page: http://daimikj.faculty.udmercy.edu/daimikj.htm

OFFICE HOURS: Tuesday and Thursday 11.00-12.15 pm., or contact me to schedule an appointment.

LECTURE: TR 3.30-4.45 PM, Room E223.

COURSE OBJECTIVE: To introduce software engineering concepts, principles, techniques, models, and methods needed for requirement engineering, software architecture, software design, software testing, software quality, and software maintenance.

COURSE OUTCOMES: Upon completion of the course, students will be able to*:

1. Apply suitable process model (a, i, j).
2. Perform requirements engineering and design data, architecture, interfaces, and code for software systems (a, b, c, i, j, k).
3. Conduct software testing using various testing strategies (a, c, i).

4. Implement software engineering metrics (a, c, i, j, k).
5. Apply software maintenance techniques (a, b, c, i, j, k)
6. Understand the professional, ethical, legal, security, and social issues and responsibilities within the computing field (e).
7. Present their projects both orally and in writing (f).
8. Carry out independent learning through literature and standards search (h)
9. Analyze the local and global impact of computing projects on individuals, organizations , and society (g)
10. Work in software engineering teams and lead teams (d).

***Letters refer to Software Engineering Program Outcomes*

COMPUTER USAGE: Students will use the available IBM Rational Software tools and Java.

TOPICS:

- What is Software Engineering
- Modelling the Process and Life Cycle
- Capturing the Requirements
- Designing the Architecture
- Designing the Modules
- Writing the Programs
- Testing the Programs
- Testing the System
- Agile Development
- Software Metrics
- Delivering the System
- Maintaining the System

COURSE ASSIGNMENTS:

Assignment	Topic Covered	Assign Date	Collect Date
Research Paper/Reports	• Mobile Game Design Paper	09/01/2015	10/27/2015
	• Report I (computing Impact)	09/01/2015	10/15/2015
	• Report II (Constraints)	09/01/2015	10/22/2015
Term Project	Engineering the NIM Game	09/01/2015	11/24/2015

- *Students may suggest other software systems subject to instructor approval.* ***Papers, reports, and projects will be presented in class****.*
- *Journal and conference papers used in preparing the Research Paper must be approved by the instructor by* ***09/10***
- *Paper Plan need be submitted on* ***09/17****.*

GRADING:	Term Paper	10%
	Term Report I + Quiz	05%
	Term Report II + Quiz	05%
	Term Project	50%
	Final Exam	30%

EXAM SCHEDULE: (TENTITATIVE)

Final Exam: Wednesday, December 16, 02.00-03.50 pm.
Paper Presentation: 11/10, 11/12, 11/17 (30 minutes)
Report I Discussion & Presentation: 11/19 (25 minutes each)
Report II Discussion & Presentation: 11/24 (25 minutes each)
Quiz I on Report I: 11/24
Quiz II on Report II: 12/01
Project Discussion/Presentation: 12/01 (50 minutes each)

GRADING SCALE: A 95-100, A- 90-94, B+ 85-89, B 80-84, B- 75-79, C+ 70-74, C 65-69, C- 60-64, D+ 55-59, D 50-54

IMPORTANT DATES:

September 07	Last Day to Add a Class
September 07	Last Day to Drop a Class without a "W"
October 12-13	Fall Break: NO Classes (University Open)
October 27	Mid-term Grades are Due
November 02	Advising for Term II Winter and Summer
November 09	Registration for Winter and Summer begins
November 23	Last Day to Withdraw from Class
November 25	Thanksgiving Break: NO Classes (University Open)
November 26-29	Thanksgiving Recess: University Closed
December 15-19	Final Exam Week

ACADEMIC INTEGRITY:

Students are expected to conform to a high standard of honesty and integrity in this course. Copying the work of someone else and other forms of cheating are strictly prohibited. Permitting or tolerating such behavior is also prohibited. The minimum penalty for any offense is a 0 on that assignment. The culprits may be subject to additional sanctions, up to and including expulsion from school for serious offenses, as prescribed by the University Catalog and the Engineering and Science Student Handbook.

STUDENTS WITH DISABILITIES

UDM is committed to all students achieving their potential. If a student has a disability or believes that s/he may have a disability (including a physical, mental, or emotional disability) that may require an accommodation, students should contact Emilie Gallegos in the University Academic Services (UAS) office for further discussion. The UAS

office is located on third floor of the Library. Because accommodations often require adequate time to implement, students should make arrangements to contact the UAS as soon as possible.

As protected personal information, all information regarding a student's disability is confidential and must be maintained in a confidential manner in compliance with state and federal laws, including but not limited to information regarding the fact that a student may be experiencing a disability and the nature of the disability.

NOTE: This syllabus is tentative.