COURSE: SE 501 - Introduction to Software Development

DATE: Fall 2023 (August 28, 2023 – December 16, 2023)

INSTRUCTOR: P. M. Jackowitz

OFFICE: LSC 192

OFFICE HOURS: As posted (online and office door), and by appointment. (Additionally “Zoom particulars” will be provided for remote access.)

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CATALOG COURSE DESCRIPTION: (Prerequisite, admission to the program) This course serves as an introduction to the discipline of Software Engineering, involving both a study of theory and practice. Significant ideas and developments are emphasized along with an examination of terminologies, classifications, paradigms, and methodologies. This course also provides an opportunity to review essential computer science material (data structures, programming languages and environments, systems and architectures) as appropriate within this context.

Student Learning Outcomes: Upon completion of this course, a successful student will have the ability to do each of the following:

- Provide an overview of the history of Software Engineering.
- Identify some of the prominent individuals who have made significant contributions to the development of Software Engineering and explain their contributions.
- Provide an insightful definition for Software Engineering and be able to substantiate an opinion on whether or not Software Engineering should be considered an “engineering discipline” on par with the traditional areas of engineering.
- Define and discuss at length the Software Life Cycle.
- Identify and explain numerous Software Process Models, discuss their respective advantages and disadvantages and identify situations that merit their application.
- Define and discuss at length Requirements Analysis, Design (at both the Architectural level and the Modular level), Programming, Testing and System Maintenance.
- Explain the role and importance of Project Planning, Project Management and metrics in Software Engineering.
- Be familiar with the sources of research in Software Engineering and be able to read, understand and evaluate the significance of current developments as they pertain both to the theory and practice of Software Engineering.
- Write and speak clearly and in an informed way on topics of interest in Software Engineering.
- Function as a contributing member of a Software Development team in a variety of capacities, including but not limited to, requirements gathering, architecture design, modular design, programming, testing and software maintenance.

TEXTS: No one specific text, but numerous texts will be referenced.

REFERENCES: As presented and as required.

Course Materials: The corresponding Brightspace “course” will provide students access to course materials, with “drop boxes” configured for the submission of work for the instructor to evaluate.
GRADING:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Tests and Quizzes</td>
<td>25%</td>
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<tr>
<td>Final Exam: (Comprehensive, as scheduled)</td>
<td>25%</td>
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<tr>
<td>Assignments/Homework</td>
<td>30%</td>
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<tr>
<td>Reports/Presentations/Participation</td>
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(Your attendance at all classes is required, and your participation is essential. Thus, attendance and participation will receive strong overriding consideration when determining grades.)

PROCEDURES:

In the event the University continues or establishes revised specific behaviors for all persons on campus, to deal with any ongoing infections, we are all expected to be informed of these and to adhere to them. Instructors are authorized to use their judgement and discretion to require students to clean and sanitize workstation areas and surfaces, maintain specific social distance and to wear masks.

Lectures:

- please sit in the same seat for every class meeting
- feel free to ask and answer questions, and to contribute to discussions
- classroom use of electronic devices/gadgets (including computers) is at the full discretion of the instructor. (*Distracting others or yourself will not be tolerated.*)

Tests and Quizzes:

- always announced in advance, and **no make-ups will be given**
- notice must be given if a test must be missed due to serious illness or emergency

Assignments:

- assignments are activities accomplished outside of class meetings that require the development and submission of specified items (typically source programs) that may be tested, evaluated and graded
- each student is required to do his/her own work on each assignment
- discussions and mutually beneficial collaboration among students is encouraged, but must not be to the point of representing someone else’s effort and understanding as your own as this would be considered to be **academic dishonesty** (See Academic Code of Honesty in the Student Handbook at: [https://catalog.scranton.edu/mime/media/view/55/6754/2021-2022-Student-Handbook+.pdf](https://catalog.scranton.edu/mime/media/view/55/6754/2021-2022-Student-Handbook+.pdf))
- academic dishonesty will be dealt with **severely**
- each assignment will have a specified **due date** and work submitted **after the due date is considered to be “late”,** and may not be accepted for testing, evaluation and grading and if accepted may be assessed a late penalty. Consideration of whether or not worthwhile preliminary work had been submitted prior to the due date will be given.
- incomplete work generally will receive a grade much higher than zero
- work not submitted will receive a grade of zero

Other:

- See Syllabi Language regarding "My Reporting Obligations as a Required Reporter" at: [https://www.scranton.edu/equity-diversity/faculty-resources.shtml](https://www.scranton.edu/equity-diversity/faculty-resources.shtml)