الجامعـــــــــة الهاشـــميـــــــــة
كلية الاميـر الحسين بـــــن عبدالله الثاني لتكنولوجيا المعلـــومات

The Hashemite University
Prince Al-Hussein Bin Abdullah II Faculty for Information Technology
Department of Software Engineering

Course Syllabus

The Hashemite University	
Prince Al-Hussein Bin Abdullah II Faculty for Information Technology	
Department of Software Engineering	
Year: 2018-2019	**Semester:** Spring 2019

Course Information	
Course Title	Software Engineering Methods and Tools
Course Number	**SWE 3751** (121003751)
Instructor	Dr. Hani Bani-Salameh
Office Location	IT 324
Office Phone	Ext. 4471
Office Hours	☒ 10:00 AM – 11:00 AM (Sun, Tue, Thu)
E-mail	hani@hu.edu.jo

Text Book (s)

Assessment Policy		
Assessment Type	**Expected Due Date**	**Weight**
Midterm exam	TBA	30 %
Project / Paper - Presentation	TBA- Individual	5 %
Research Work / Paper	TBA- Individual	25 %
Final Exam	TBA	40 %

Course Description
To increase knowledge of methods and tools of software requirements, design, construction, testing, maintenance, configuration and quality assessment, to increase expertise in the area of the conceptual and formal modeling, to develop skills in choosing and applying appropriate software engineering methods and tools in practice, to improve abstract thinking.

Teaching & Learning Methods
• Class lectures and lecture notes are designed to achieve the course objectives. • You should read the assigned chapters before class, and participate in class and do whatever it takes for you to grasp this material. • You are responsible for all material covered in the class. • Please communicate with me regarding any concerns or issues related to this course by either in class, email, or during office hours. • Lecture notes and syllabus are available at the Moodle.

# of Weeks	Topics	Chapter(s)
1 Week: (2 X 1.5 hours lectures)	☒ **The conception, purpose, and classification of the software methods and tools.**	☒ **Chapter 10** ▪ Software Engineering Body of Knowledge (SWEBOK)
2 Weeks: (4 X 1.5 hours lectures)	☒ **Formal methods of software engineering**, their classification, characteristics, application.	☒ **Chapter 2:** An Overview of Formal Methods Tools and Techniques. ***In Rigorous Software Development, Undergraduate Topics in Computer Science***, pages 15–44. Springer, 2011.
2 Weeks: (4 X 1.5 hours lectures)	☒ **Object constraint language (OCL) as an extension of UML.** Kinds of constraints, structural and user-defined types, OCL expressions, OCL messages.	☒ OCL (Object Constraint Language) by Example ☒ Object Constraint Language (OCL): a Definitive Guide
2 Week: (4 X 1.5 hours lectures)	☒ **Students Presentations**	☒
2 Weeks: (4 X 1.5 hours lectures)	☒ **An application of specific OCL constraints.**	☒ Model-Driven Development of Mobile Applications Allowing Role-Driven Variants? **Steffen Vaupel et al.**
2 Week: (4 X 1.5 hours lectures)	☒ **Formal modeling with Z language. An implementation of models.**	☒ Presentation on a modern software engineering method and/or a corresponding tool (tools), which is not used in the study program.
2 Weeks: (4 X 1.5 hours lectures)	☒ **Evaluating Software Engineering Methods and Tools (Part 1 – 10)**	☒ TBA