

General Information:

Name of Course:	SOFTWARE ENGINEERING
Course Code:	PMRRTNB325HA
Semester:	5 th
Number of Credits:	5
Allotment of Hours per Week:	2 Lectures+2 practical classes /Week
Evaluation:	mid semester grade
Prerequisites:	Databases I
Instructor:	Dr Etelka SZENDRŐI, associate professor Office: 7624 Hungary, Pécs, Boszorkány u. 2. Office N° B-143 E-mail: szendroi@mik.pte.hu Office Phone: +36 72 503650 /23639

Introduction, Learning Outcomes:

Students learn methods used in large scale software development projects, emphasizing requirements analysis, design, implementation, and testing. The course introduces the engineering of complex software systems. The focus is on software engineering principles and the methods and tools that support the principles. Particular attention will be paid to object-oriented development techniques. Students will apply the methods in a series of assignments. Students will create ASP.NET application as well. Moreover, through group project, students can obtain hands-on experiences on entire phases and workflow of the software process. It is also expected that students will participate in a formal presentation of their team project.

General Course Description and Main Content:

Students will learn the following topics

1. What is Software Engineering, software crisis
1. The software processes, software life cycle
2. Waterfall model, iterative model, spiral model
3. Agile methods
4. Business requirements, requirement analysis
5. Architectural Design
6. Object oriented design, UML model language
7. Design patterns.
8. Software Testing, software maintenance.
9. Documenting requirements, effective verification and validation strategies
10. Software evolution
11. ASP.NET, develop web application

Methodology:

- **Lectures:** Lectures will cover the major concepts, methods and technics of software engineering.
- **Practices:** Students will be able to create software project plan, create UML diagrams and models. They will be able create software solutions in ASP.NET
- **Exams:** Accumulated knowledge is tested by two exams, one midterm and a final exam. Midterm exam will be on the 8th week and the final exam will be on 15th week.
- **Group Project:** As one of the course requirements, the success of the group project is necessary. The students must successfully finish their group project on time, satisfying the (functional and/or non-functional) requirements for the project. A set of final-version deliverables is required to be submitted at the end of semester. These deliverables shall be consistent, complete, and correct. The deadline of creating project groups (max 3 students in a group) is the 4th week.

Attendance:

Attending is required at all classes, and will impact the grade (max. 10%) of course. Unexcused absences will adversely affect the grade, and in case the absence of more than 30% of the total number of lessons will be grounds for failing the class. To be in class at the beginning time and stay until the scheduled end of the lesson is required, tardiness of more than 10 minutes will be counted as an absence. In the case of an illness or family emergency, the student must present a valid excuse, such as a doctor's note.

Grading:

The Course grade is determined as a combination of 1 midterm exam (35%), a final exam (35%), the project work (25%) and attendance of lectures and practices (5%). Factors such as class participation may be used to adjust your final grade, especially if it falls on a borderline.

The Project is worth 25% of your grade in the course. The breakdown of points for the project grade will be specified in the project assignment. Categories include:

- project documentation (contract, plan, requirements, design, implementation, test, maintenance);
- functional correctness based upon the documentation;
- process used to obtain functional software.

All exams are closed-book and closed-notes. A student with a proper excuse of being absent from the examination must inform and get a permission from the teacher prior to the time of examination. Any students who do not take the examination at the scheduled time will receive a zero score.

Grading Scale:

Numeric Grade:	5	4	3	2	1
Evaluation in percent:	89%-100%	77%-88%	66%-76%	55%-65%	0-54%

Course grade (exams) correction between: 18-31 of December, 2017

Students with Special Needs:

Students with a disability and needs to request special accommodations, please, notify the Deans Office. Proper documentation of disability will be required. All attempts to provide an equal learning environment for all will be made.

Readings and Reference Materials:

1. Ian Sommerville, *Software Engineering*, 10th Edition, Pearson, 2015
2. R.S. Pressmann: *Software Engineering, a Practitioner's approach*, 7th Edition, McGraw-Hill Higher education, 2010
3. William Penberthy, *BEGINNING ASP.NET for Visual Studio 2015*, John Wiley & Sons, Inc. (Wrox), 2016
4. Matthew MacDonald, *Beginning ASP.NET 4.5 in C#*, Apress, 2012

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