General Information:

Name of Course: # SOFTWARE ENGINEERING

Course Code: IVB307AN
Semester: 5th
Number of Credits: 2
Allotment of Hours per Week: 2 Lectures /Week
Evaluation: **Exam (Written exam)**
Prerequisites: **Databases I, Programming2**

Instructor: **Dr Etelka SZENDRŐI, associate professor**
Office: 7624 Hungary, Pécs, Boszorkány u. 2. Office Nº 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. 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

Methodology:

- **Lectures**: Lecture presentations will cover the major concepts, methods and technics of software engineering.
- **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 (end of 14th week). These deliverables shall be consistent, complete, and correct. The deadline of creating project groups (max 3 students in a group) is the 6th week.

Schedule:
Study period in 15 weeks: September 2-December 13 (2019)
Tests:
Week 7: **Test 1**
Week 9: Autumn Holiday

Correction Period: December 17-31 (2019)

Exam: **Students will take the final exam of the Software engineering course in the exam period.**

Attendance:
Attending is required at all classes, and will impact the grade (max. 5%) 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 semester grade is determined as a combination of Test 1 (70%), the project work (25%) and attendance of lectures (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;

The test is closed-book and closed-notes. A student with a proper excuse of being absent from the test must inform and get a permission from the teacher prior to the time of examination. Any students who do not take the test 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%

The Final grade of the Course is the Combination of semester grade (40%) and Exam score (60%) taken in Exam Period. Calculation of the Final grade of the course is described with the next formula: **0,4*semester grade+0,6*Exam score in Examination time period.**

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 Practition'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