STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Software engineering**	Code **1010334561010330109**

Field of study **Information Engineering**	Profile of study (general academic, practical) **(brak)**	Year /Semester **3 / 6**
Elective path/specialty **-**	Subject offered in: **Polish**	Course (compulsory, elective) **obligatory**

Cycle of study: **First-cycle studies**	Form of study (full-time,part-time) **part-time**

No. of hours Lecture: **16** Classes: **-** Laboratory: **-** Project/seminars: **8**	No. of credits **4**

Status of the course in the study program (Basic, major, other) **(brak)**	(university-wide, from another field) **(brak)**

Education areas and fields of science and art **technical sciences**	ECTS distribution (number and %**)** **4 100%**

Responsible for subject / lecturer:

Ph.D. Eng. Adam Meissner
email: Adam.Meissner@put.poznan.pl
tel. 61 665 37 24
Faculty of Electrical Engineering
ul. Piotrowo 3A 60-965 Poznań

Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Student has a basic knowledge on software engineering.
2	**Skills**	Student is able to find information from professional literature, databases and other sources; he/she can also integrate and correctly interpret the gained information and then to conclude and formulate his/her own opinions; a student is able to work individually and in a team; he/she can estimate a time for a given task and prepare a schedule for it.
3	**Social competencies**	Student understands the necessity and knows possibilities of lifelong learning and improving the professional, personal and social competencies; a student realises the responsibility for his/her work done individually or in a team; he/she is also ready to accept the rules of group work.

Assumptions and objectives of the course:

During the second part of the course a student is familiarized with selected methods of software modelling and design and also with methods of software testing and validation.

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. Student has a theoretical and practical knowledge on software engineering - [K_W12]

2. Student is knowledgeable with the state of art and modern trends in software engineering and computing - [K_W19]

Skills:

1. Student is able to create engineer work documentation and to prepare text with the work result discussion - [K_U03]

2. Student is able to formulate requirements, to build an object model, and assess a simple information system, its functions, and components - [K_U16]

Social competencies:

1. Student has a broaded awareness of an importance of non-technical aspects and then consequences of software engineer - [K_K02]

2. Student understands the importance of a thorough design of a given project, respecting notation standards, using a proper language and keeping deadlines - [K_K07]

Assessment methods of study outcomes

Lectures: written exam.

Project: rating a model of a given software system designed in the UML standard.

http://www.put.poznan.pl/

Course description

Lectures. An overview of software life cycle models. Systematic approach to software design, ISO 9000 standard, CMM model. Agile programming and extreme programming. Software design patterns. Program refactoring, code smells. Methods of software testing and validation.

Project. Continuation of work form the previous part of the course on the model of the given software system. The model is designed in the UML standard and its new elements are activity diagrams, sequence diagrams and a deployment diagram.

Basic bibliography:

1. Paulish D.J., Architecture-Centric Software Project Management: A Practical Guide, Addison-Wesley Professional, 2001
2. Shore S., Warden S., The Art of Agile Development, O'Reilly Media, 2007
3. Bath G., McKay J., The Software Test Engineer's Handbook, Rocky Nook, 2011

Additional bibliography:

1. Jeffries R., Extreme Programming Adventures in C#, Microsoft Press, 2004

Result of average student's workload

Activity	Time (working hours)
1. Lectures	16
2. Project	8
3. Software system modeling	20
4. Preparation for the exam	15
5. Consultations, exam	5

Student’s workload

Source of workload	hours	ECTS
Total workload	64	4
Contact hours	29	2
Practical activities	28	2