STUDY MODULE DESCRIPTION FORM

Name of the module/subject	Code
High availability systems	**1010335531010337160**

Field of study	Profile of study (general academic, practical)	Year /Semester
Information Engineering	**(brak)**	**2 / 3**

Elective path/specialty	Subject offered in:	Course (compulsory, elective)
Security of Information Technology (IT)	**-**	**obligatory**

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

No. of hours	No. of credits
Lecture: **16** Classes: **-** Laboratory: **16** Project/seminars: **-**	**5**

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

Education areas and fields of science and art	ECTS distribution (number and %)

Responsible for subject / lecturer:

dr inż. Ewa Idzikowska
email: ewa.idzikowska@put.poznan.pl
tel. 61 665 35 31
Wydział Elektryczny
ul. Piotrowo 3A 60-965 Poznań

Responsible for subject / lecturer:

dr inż. Krzysztof Bucholc
email: krzysztof.bucholc@put.poznan.pl
tel. 61 665 39 91
Wydział Elektryczny
ul. Piotrowo 3A 60-965 Poznań

Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Ma wiedzę odpowiadającą studiom pierwszego stopnia. Ma podstawową wiedzę dotyczącą wybranych systemów informatycznych charakteryzujących się specyficznymi cechami lub przeznaczeniem.
2	**Skills**	Potrafi pozyskiwać informacje z literatury, baz danych i innych źródeł; potrafi integrować uzyskane informacje, dokonywać ich interpretacji i krytycznej oceny, a także wyciągać wnioski oraz formułować i wyczerpująco uzasadniać opinie.
3	**Social competencies**	Potrafi myśleć i działać w sposób kreatywny i przedsiębiorczy.

Assumptions and objectives of the course:

The aim of this course is to provide participants with clear understanding of reliable and high-availability systems.

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

Knowledge:

1. x - [K_W14]
2. x. - [K_W06]

Skills:

1. x - [K_U12]
2. x - [K_U01]
3. x - [K_U06]

Social competencies:

1. x - [K_K01]

Assessment methods of study outcomes

Lecture:written exam
Laboratory: tests, exercises assessment

Course description

Lecture:

Basics of critical systems. Hardware redundancy. Fault detection techniques. Methods of logical circuits testing. Structural and functional testing. Check pointing and resume of computation. Software faults toleration. Safety and security. Dependability evaluation. Modeling and testing of systems.

Laboratory:

Basics of reliability computation. Reliability of systems with redundancy. Analysis of complex systems reliability using simulation. Modeling of logic circuits. Fault modeling. The functional level and the structural level test generation. Validation of generated tests.

Basic bibliography:

Additional bibliography:

Result of average student's workload

Activity	Time (working hours)
1. Lecture	15
2. Laboratory	15
3. Prepartion for laboratory	20
4. Preparation of laboratory reports	20
5. Preparation for exam	30
6. Consultations and exam	10
7. Preparation for tests	15

Student's workload

Source of workload	hours	ECTS
Total workload	125	5
Contact hours	40	2
Practical activities	55	2