STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Concurrent programming**	Code **1010334551010335200**

Field of study **Information Engineering**	Profile of study (general academic, practical) **(brak)**	Year /Semester **3 / 5**

Elective path/specialty **-**	Subject offered in: **Polish**	Course (compulsory, elective) **elective**

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

No. of hours Lecture: **16** Classes: **-** Laboratory: **12** Project/seminars: **-**	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:

dr inż. Krzysztof Zwierzyński
email: Krzysztof.Zwierzynski@put.poznan.pl
tel. +48 61 665 3755
Faculty of Electrical Engineering
ul. Piotrowo 3A 60-965 Poznań

Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Mathematics in the basics of matrix calculus, linear algebra. Basic knowledge of object-oriented programming, using the Windows API, the basics of UNIX. Knowledge and understanding of the basic concepts of programming
2	**Skills**	Ability to program in an object-oriented language. Design and analysis of combinatorial algorithms, including sorting and processing base of graphs. solve simple tasks in the field of mathematical analysis.
3	**Social competencies**	Conscientiousness in communicating the results of laboratories.

Assumptions and objectives of the course:

Skills in programming

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

Knowledge:

Skills:

Social competencies:

Assessment methods of study outcomes

Assignments, reports from laboratories

Course description

Programming in C, code optimization.

Optimize sequence.

Optimizing super-scalar.

Programming in OpenMP parallelism declarative.

Development platforms, support for concurrency: Win32, .NET, Java

Programming in TBB, advanced optimization techniques (as hardware)

memory models

Basic bibliography:

Additional bibliography:

Result of average student's workload	
Activity	**Time (working hours)**
Student's workload	

Source of workload	hours	ECTS
Total workload	100	4
Contact hours	50	2
Practical activities	50	2