STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Technology of informatics**		Code **x**
Field of study **Chemical and process engineering**	Profile of study (general academic, practical) **general academic**	Year /Semester **1 / 1**
Elective path/specialty **-**	Subject offered in: **Polish**	Course (compulsory, elective) **obligatory**
Cycle of study: **First-cycle studies**	Form of study (full-time,part-time) **full-time**	
No. of hours Lecture: **-** Classes: **-** Laboratory: **-** Project/seminars: **30**		No. of credits **3**
Status of the course in the study program (Basic, major, other) **basic**	(university-wide, from another field) **university-wide**	
Education areas and fields of science and art **the sciences**		ECTS distribution (number and %) **3 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Basic knowledge about computer.
2	**Skills**	Basic skill of computer usage.
3	**Social competencies**	Awareness of significance of computer in nowadays world..

Assumptions and objectives of the course:

To acquaint students with advanced problems related to the use of software with particular emphasis on engineering applications. In the design classes, students are to acquire skills and competences related to the use of basic and advanced functions of computational tools and CAE design support tools.

Study outcomes	Reference to the educational results for a field of study
Knowledge:	
The graduate has a general knowledge of chemical technology as a field which is directly related to chemical and process engineering	**K_W04**
Skills:	
The graduate can acquire information from literature, databases and other sources related to chemical and process engineering, also in a foreign language, integrate them, interpret, draw conclusions and formulate opinions	**K_U01**
The graduate can communicate using various techniques both in the professional environment and in other environments, including in a foreign language	**K_U02**
The graduate has the ability to self-study	**K_U05** **K_U07**
The graduate uses computer programs to support the tasks typical of chemical and process engineering	
Social competencies:	
The graduate is aware of the responsibility for his/her own work and the willingness to subordinate teamwork and responsibility for jointly accomplished tasks	**K_K04**

Assessment methods of study outcomes

Project: Assessment based on colloquiums in project classes.

Course description

Mastering the operation of tools used to conduct mathematical calculations. Tool: Mathcad.

Introduction to object-oriented programming. Extending the functionality of programs in the VBA (Visual Basic for Applications) environment by writing macros. Tool: VBA editor in the environment of the appropriate program - Microsoft Word, Excel, CHEMCAD

Introduction to Visual Basic NET. Visual Studio tool

Introduction to COM (Component Object Model) programming. The use of programming interfaces in Microsoft Word, Excel and Mathcad.

Basic bibliography:

1. Visual Basic do Windows.Programowanie zdarzeniowe / Bielecki Jan. WPLJ 1991

2. Microsoft office 2007 PL język VBA i makra: usprawnij działanie najpopularniejszego pakietu biurowego / Paul McFedries, Helion 2008.

3. Podstawy technik informatycznych i komunikacyjnych / Witold Sikorski. Autor: Sikorski, Witold. Wydawnictwo Naukowe PWN: Mikom, 2009.

4. Technologia informacyjna / Jae K. Shim, Joel G. Siegel, Robert Chi ; przeł. [z jęz. ang.] Adam Oracz. Autor: Shim, Jae K., Siegel, Joel G., Chi, Robert., Oracz, Adam . Tł. Dom Wydawniczy ABC, 1999.

5. Technologie informacyjne - przykłady zastosowań: materiały do wykładów / Marek Cieciura. Autor: Cieciura, Marek. Vizja Press & It, 2007.

6. Technologie informatyczne i ich zastosowania / pod red. Aleksandra Jastriebowa. Autor: Jastriebow, Aleksander. Red. Politechnika Radomska im. Kazimierza Pułaskiego: Instytut Technologii Eksploatacji - Państwowy Instytut Badawczy, cop. 2010.

7. Mathcad 12, 11, 2001i, 2001, 2000 w algorytmach / Witold Paleczek. Autor: Paleczek, Witold. Akademicka Oficyna Wydawnicza Exit, 2005.

8. Microsoft Office 2007 PL w biurze i nie tylko / Piotr Wróblewski. Autor: Wróblewski, Piotr (informatyka). "Helion", 2007.

9. Office 2010: praktyczny kurs: PowerPoint 2010, Word 2010, Excel 2010, Access 2010 / Alicja Żarowska-Mazur, Waldemar Węglarz. Autor: Żarowska-Mazur, Alicja., Węglarz, Waldemar. Wydawnictwo Naukowe PWN, 2012.

Additional bibliography:

1. Mikrospołeczność informacyjna: na przykładzie miasteczka internetowego Akademii Górniczo-Hutniczej w Krakowie / pod red. Lesława H. Habera. Autor: Haber, Lesław Henryk. Red. Uczelniane Wydawnictwa Naukowo-Dydaktyczne AGH, 2001.

2. Problemy społeczeństwa informacyjnego: elementy analizy, ewaluacji i prognozy / Lech W. Zacher (red. nauk.) ; [tł. tekstów aut. zagranicznych wykonali: Jacek F. Mączyński, Agnieszka Pawłowska, Lech W. Zacher]. Wyższa Szkoła Przedsiębiorczości i Zarządzania

3. Społeczeństwo informacyjne: szanse, zagrożenia, wyzwania / Tomasz Goban-Klas, Piotr Sienkiewicz. Autor: Goban-Klas, Tomasz., Sienkiewicz, Piotr. Wydaw. Fundacji Postępu Telekomunikacji, 1999.

Result of average student's workload

Activity	Time (working hours)
1. Preparation for projects	15
2. Participation in design classes	30
3. Participation in consultations	10
4. Preparation for the colloquium	20

Student's workload

Source of workload	hours	ECTS
Total workload	75	3
Contact hours	40	2
Practical activities	35	1