

# Subject programme

1. Subject name / subject module: **Intelligent Decision Systems**
2. Lecture language: **English**
3. The location of the subject in study plans:
  - Area or areas of the studies: **Computer Control Systems Engineering**
  - Degree of the studies: **2nd degree studies**
  - Field or fields (implementation of effects standard): **Mechatronics**
4. Supervision of subject implementation:
  - The Institute / Another unit: **Institute of Informatics and Mechatronics**
  - The person responsible for the subject: **Shakhovska Nataliya, dr hab. inż.**
  - People cooperating in the development of the programme of the subject:
5. The number of hours and forms of teaching for individual study system and the evaluation method:

Mode of study	Teaching activities with the tutor												Total
	Form of classes												
	Lecture	SOW	ECTS	...	SOW	ECTS	...	SOW	ECTS	...	SOW	ECTS	ECTS
Full-time studies	24	51	3										3
Part-time studies													
Credit rigor	Exam			Graded assignment									

## 6. Student workload – ECTS credits balance

*1 ECTS credit corresponds to 25-30 hours of student work needed to achieve the expected learning outcomes including the student's own work*

Activity (please specify relevant work for the subject)	Hourly student workload (full-time studies/part-time studies)
Participation in lectures	24
Participation in laboratory classes	-
Independent study of the subject	34
Preparation to a final test	15
Participation in an exam / graded assignment	2
Total student workload (TSW)	75
<b>ECTS credits</b>	<b>3</b>
* Student's workload related to practical forms	0
Student's workload in classes requiring direct participation of academic teachers	24

## 7. Implementation notes: recommended duration (semesters), recommended admission requirements, relations between the forms of classes:

- Recommended admission requirements – none.
- Recommended duration of the subject is taken from the course plan.

## 8. Specific learning outcomes – knowledge, skills and social competence:

Specific learning outcomes for the subject		Form	Teaching method	Methods for testing of (checking, assessing) learning outcomes
Outcome symbol	Outcome description			
<b>Knowledge</b>				
K_W07	To know the good practices of implementing group web engineering projects that ensure efficiency, speed, correctness and security. To know the current development trends of Internet systems. To know the rules of preparing computer presentations and their presentation in a public forum.	Lecture	Expository methods	Final test, Student learning activities
<b>Skills</b>				
K_U02	To be able to solve an advanced engineering task with research elements. To can develop a project for a selected problem / task, and develop its detailed documentation. To can maintain a schedule for the implementation of individual project phases, define the roles of individual people in the team.	Lecture	Expository methods	Final test, Student learning activities
<b>Social competence</b>				
K_K02	The student is able to present the basics of knowledge engineering, the oncept of building expert systems, knowledge representation models, various inference strategies and declarative programming techniques.	Lecture	Expository methods	Final test, Student learning activities

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	Students can use appropriate inference methods when solving IT problems, also using incomplete, uncertain and imprecise information.			
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## 9. Assessment rules / criteria for each form of education and individual grades:

Activity	Grades	Calculation	To final
Final test/project	bdb (5)	5*80%	4,0
Attendance	on 70% of all classes	$0,70 * 5 \rightarrow 3,5 * 20\%$	0,7
Final result			4,70

0 – 3.00	ndst	4.01 – 4.50	db
3.01 – 3.50	dst	4.51 – 4.7	db+
3.51 – 4.00	dst+	4.71 – 5.0	bdb

## 10. The learning contents with the form of the class activities on which they are carried out (Lecture)

1. Introduction to Decision Support Systems;
2. Decision-making Models;
3. Decision-making Strategies;
4. Expert Systems;
5. Data mining, OLAP;
6. Multi-dimensional data;
7. Framework;
8. Scripts;
9. Semantic networks;
10. Ontologies.

## 11. Required teaching aids

- a. Lecture - multimedia projector
- b. Laboratory classes - specialist laboratory

## 12. Literature:

- a. Basic literature:  
Rutkowski Leszek, Metody i techniki sztucznej inteligencji, Wydawnictwo Naukowe PWN, Warszawa, 2017
- b. Supplementary literature:  
Clocksin W. F., Mellish C. S., Prolog. Programowanie, Helion, 2003

## 13. Available educational materials divided into forms of class activities (Author's compilation of didactic materials, e-learning materials, etc.).

## 14. Teachers implementing particular forms of education:

Form of education	Name and surname
1. Lecture	Shakhovska Nataliya, dr hab. inż.
2. Laboratory classes	