

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Ergonomics in Design</b>		Code <b>1011105351011120238</b>
Field of study <b>Engineering Management - Part-time studies -</b>	Profile of study (general academic, practical) <b>(brak)</b>	Year /Semester <b>3 / 5</b>
Elective path/specialty <b>-</b>	Subject offered in: <b>Polish</b>	Course (compulsory, elective) <b>elective</b>
Cycle of study: <b>First-cycle studies</b>	Form of study (full-time,part-time) <b>part-time</b>	
No. of hours Lecture: <b>10</b> Classes: <b>10</b> Laboratory: <b>-</b> Project/seminars: <b>-</b>		No. of credits <b>4</b>
Status of the course in the study program (Basic, major, other) <b>(brak)</b>		(university-wide, from another field) <b>(brak)</b>
Education areas and fields of science and art		ECTS distribution (number and %)
<b>Responsible for subject / lecturer:</b> dr inż. Marcin Butlewski email: marcin.butlewski@put.poznan.pl tel. 61 665 33 77 Faculty of Engineering Management ul. Strzelecka 11 60-965 Poznań		<b>Responsible for subject / lecturer:</b> mgr inż. Aleksandra Dewicka email: aleksandra.dewicka@put.poznan.pl tel. 61-665-33-77; 61-665-33-74 Faculty of Engineering Management ul. Strzelecka 11 60-965 Poznań
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	Basic knowledge of ergonomics
2	<b>Skills</b>	Analyze problems of interdisciplinary
3	<b>Social competencies</b>	Independent thinking and teamwork
<b>Assumptions and objectives of the course:</b> The aim of the course is to acquaint students with the basic issues-oriented design methodology man as the operator and service as an employee of machinery and other equipment. The aim of the exercise is to provide human systems design skills - technical object during practical design work on specific, detailed design tasks defined with the anthropocentric point of view.		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b>		
1. It has a basic knowledge of the life cycle of machinery and equipment - [[K01-InzA_W01]] 2. It has a basic knowledge of the life cycle of socio-technical systems - [[K03-InzA_W01]] 3. Knows the basic methods, techniques, tools and materials used in solving simple engineering tasks in the field of construction and operation of machinery - [[K04-InzA_W02]] 4. It has the basic knowledge necessary to understand the determinants of non-technical engineering activities; knows the basic principles of health and safety in force in the industry - [[K05-InzA_W03]] 5. Know the typical technologies studied engineering in terms of field of study - [[K04-InzA_W02]] 6. Know the typical industrial technology and know how in-depth technology construction and operation of machinery - [[K07-InzA_W05]]		
<b>Skills:</b>		

<p>1. It can be used to formulate and solve engineering tasks analytical methods, simulation and experimental - [[K01-InzA_U2]]</p> <p>2. Can - in formulating and solving engineering tasks? see their system aspects, socio-technical, organizational, and economic and non-technical - [[K01-InzA_U3]]</p> <p>3. Can make a preliminary economic analysis of engineering activities undertaken - [[K01-InzA_U4]]</p> <p>4. Able to identify the project tasks and solve simple design tasks in the construction and operation of machinery - [[K01-InzA_U6]]</p> <p>5. Able to employ the usual methods for solving simple problems involving the construction and operation of machines - [[K01-InzA_U7]]</p> <p>6. Able to design and technology to design simple parts and components of machines and production units to design the organization of the first level of complexity - [[K01-InzA_U8]]</p>
<p><b>Social competencies:</b></p> <p>1. Is aware of and understands the validity of non-technical aspects and effects of engineering activities, including its impact on the environment, and the associated responsibility for decisions - [[K01-InzA_K1]]</p> <p>2. Is aware that the creation of products that meet the needs of users requires a systemic approach, taking into account the technical and others - [[K01-InzA_K2]]</p>

<b>Assessment methods of study outcomes</b>		
<p>Forming Rating:                  Grading on the basis of: test, active participation in classes                  Summary Rating                  Written exam (test)</p>		
<b>Course description</b>		
<p>The genesis of the science of designing and definitions. Designing the system and the system designed. Engineering Design: goals, objectives, structure of the process. Ergonomic design paradigm. The human-technical object as an object of design, decision criteria, the structure of the ergonomic design process. Design: work process, work space, information and control processes, sources of work environment factors - practical examples. Economic and social benefits of ergonomic design. Computer-aided design and heuristic. Designing for the disabled.</p>		
<b>Basic bibliography:</b>		
<p>1. Projektowanie ergonomiczne, Edwin Tytyk, Wydawnictwo Naukowe PWN, Warszawa, 2001</p> <p>2. Ergonomia w technice, Edwin Tytyk, Marcin Butlewski, Politechnika Poznańska, Poznań, 2011</p> <p>3. Ergonomia, Leszek Pacholski (red.), Politechniki Poznańskiej, Poznań, 1986</p> <p>4. Diagnoza ergonomiczna stanowisk pracy; Ewa Górską, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 1998</p>		
<b>Additional bibliography:</b>		
<p>1. Ergonomia w projektowaniu stanowisk pracy. Podstawy teoretyczne; Ewa Górską, Edwin Tytyk, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 1998</p> <p>2. Ergonomia produktu. Ergonomiczne zasady projektowania produktów; Jan Jabłoński (red.), Wydawnictwo Politechniki Poznańskiej, Poznań, 2006</p> <p>3. Atlas antropometryczny populacji polskiej; Ewa Nowak, Wydawnictwo Instytutu Wzornictwa Przemysłowego, Warszawa, 2000</p> <p>4. Ergonomia w projektowaniu stanowisk pracy. Podstawy teoretyczne; Ewa Górską, Edwin Tytyk, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 1998</p>		
<b>Result of average student's workload</b>		
<b>Activity</b>	<b>Time (working hours)</b>	
1. Participation in lectures	12	
2. Participation in the exercises	12	
3. Prepare for Training	10	
4. Consultation	10	
5. Preparation for credit	18	
6. Examination	2	
<b>Student's workload</b>		
<b>Source of workload</b>	<b>hours</b>	<b>ECTS</b>
Total workload	64	4
Contact hours	36	4

Practical activities	12	2
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