|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **STUDY MODULE DESCRIPTION FORM** | | | | | | | | | | | | | | | |
| Name of the module/subject | | | | | | | | | | | | | Code | | |
| CAD/CAM systems in planning technology | | | | | | | | | | | | | 1011101461011115676 | | |
| Field of study | | | | | | | | | | | Profile of study  (general academic, practical) | | | | Year /Semester |
| Production Engineering and Management - Erasmus+ | | | | | | | | | | | - | | | | - |
| Elective path/specialty | | | | | | | | | | | Subject offered in: | | | | Course (compulsory, elective) |
| **-** | | | | | | | | | | | **English** | | | | **elective** |
| Cycle of study: | | | | | | | | Form of study (full-time,part-time) | | | | | | | |
| First-cycle studies | | | | | | | | part-time | | | | | | | |
| No. of hours | | | | | | | | | | | | | | | No. of credits |
| Lecture: | | **5** | Classes: | | **-** | Laboratory: |  | | | Project/seminars: | | **10** | | | 6 |
| Status of the course in the study program (Basic, major, other) | | | | | | | | | (university-wide, from another field) | | | | | | |
| **-** | | | | | | | | | **-** | | | | | | |
| Education areas and fields of science and art | | | | | | | | | | | | | | ECTS distribution (number and %) | |
|  | | | | | | | | | | | | | |  | |
| Responsible for subject / lecturer:  Mr. Remigiusz LABUDZKI, PhD  email: remigiusz.labudzki@put.poznan.pl  tel. +48 61 6652051  Faculty of Mechanical Engineering and Management  Piotrowo Street 3, 60-965 Poznań | | | | | | | |  | | | | | | | |
| Prerequisites in terms of knowledge, skills and social competencies: | | | | | | | | | | | | | | | |
| 1 | Knowledge | | | Student has a fundamental knowledge in the field of manufacturing technology | | | | | | | | | | | |
| 2 | Skills | | | Student understands and is able to apply the parameters of manufacturing process and systems | | | | | | | | | | | |
| 3 | **Social competencies** | | | Student understanding of the need to learn and acquire new knowledge | | | | | | | | | | | |
| Assumptions and objectives of the course:  Students become familiar with methodology and technique applied for designing of machine vision system in production | | | | | | | | | | | | | | | |
| Study outcomes and reference to the educational results for a field of study | | | | | | | | | | | | | | | |
| Knowledge: | | | | | | | | | | | | | | | |
| 1. Students have a basic knowledge of principles designing and computer aided manufacturing in planning technology  2. Student characterizes and explains the role of the CAD/CAM systems in production  3. Student knows methods and tools for developing CAD/CAM systems in manufacturing | | | | | | | | | | | | | | | |
| Skills: | | | | | | | | | | | | | | | |
| 1. Students are able to identify and describe basics tools of CAD/CAM systems  2. Students are able to identify and describe area of use CAD/CAM systems  3. Students are able to use effectively CAD/CAM systems in planning technology | | | | | | | | | | | | | | | |
| Social competencies: | | | | | | | | | | | | | | | |
| 1. Student is aware of the need for lifelong learning; inspire and organize the learning process of others in the coming within studied concerning issues - [K1A\_K01]  2. Students are willing to cooperate and work in teams to resolve contained within the subject being studied problems - [K1A\_K03]  3. Students are able to see the cause-and-effect relationships in the implementation of the set objectives and importance tasks - [K1A\_K04]  4. Students are able to plan and manage in an entrepreneurial manner - [K1A\_K06] | | | | | | | | | | | | | | | |

|  |  |  |
| --- | --- | --- |
| Assessment methods of study outcomes | | |
| presentations, own project of mechanical part type shaft and corps, own project of machining parts type shaft and corps, virtual reality relase to machine | | |
| Course description | | |
| The production process and its surroundings. Role CAD/CAM systems in planning technology. Rules of design parts in CAD. Principles of programming in CAM system during machining parts type shaft and corps. Major tools in CAD/CAM systems. Selection material, parameters and machining tools in CAM process. Selection machine, clamping of machining parts and for tools. Rules optimization of the machining process in CAM. Strategy in planning technology. | | |
| Basic bibliography:  1. Manual user: Inventor (Autodesk), SolidWorks (Dassault), EdgeCAM (Vero) | | |
| Additional bibliography:  1. [P. Radhakrishnan](https://www.google.pl/search?hl=pl&tbo=p&tbm=bks&q=inauthor:%22P.+Radhakrishnan%22), [S. Subramanyan](https://www.google.pl/search?hl=pl&tbo=p&tbm=bks&q=inauthor:%22S.+Subramanyan%22), [V. Raju](https://www.google.pl/search?hl=pl&tbo=p&tbm=bks&q=inauthor:%22V.+Raju%22), CAD/CAM/CIM | | |
| Result of average student's workload | | |
| Activity | | Time (working hours) |
| 1. Participation in lectures  2. Participation in projects  3. Literature studies  4. Preparation for exam | | 5  10  10  5 |
| Student’s workload | | |
| Source of workload | hours | ECTS |
| Total workload | 30 | 6 |