

| STUDY MODULE DESCRIPTION FORM | | |
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| Name of the module/subject Basics of Machine Design | | Code 1010604241010640394 |
| Field of study Transport | Profile of study (general academic, practical) (brak) | Year /Semester 2 / 4 |
| Elective path/specialty - | Subject offered in: Polish | Course (compulsory, elective) obligatory |
| Cycle of study: First-cycle studies | Form of study (full-time,part-time) part-time | |
| No. of hours Lecture: 16 Classes: - Laboratory: - Project/seminars: 14 | | 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 Technical sciences | | ECTS distribution (number and %) 4 100% 4 100% |
| Responsible for subject / lecturer: dr hab. inż. Piotr Krawiec prof. PP email: Piotr.Krawiec@put.poznan.pl tel. 61 665 2242 Maszyn Roboczych i Transportu Piotrowo 3 | | Responsible for subject / lecturer: doc. dr inż. Aleksander Bober email: Aleksander.Bober@put.poznan.pl tel. 61665 2845 Maszyn Roboczych i Transportu Piotrowo 3 |
| Prerequisites in terms of knowledge, skills and social competencies: | | |
| 1 | Knowledge | News from the classical recording design, computer graphics |
| 2 | Skills | It can compile the assembly and working |
| 3 | Social competencies | Able to work in a group performing different roles |
| Assumptions and objectives of the course: Knowledge of typical connections used in mechanical engineering, principles of construction machinery components and assemblies, and methods for their design. | | |
| Study outcomes and reference to the educational results for a field of study | | |
| Knowledge: | | |
| 1. Has a structured, theoretically founded knowledge in the field of engineering graphics and machine construction: technical drawing, objects projecting, the basic principles of engineering graphics, use of CAD (Computer Aided Design) graphics in the construction of machines, knows: the concept of the machine, machinery breakdown by purpose, principles of operation and type of energy - [K1A_W13] | | |
| 2. Has knowledge about classification of machinery, energy transformation in machinery, basic knowledge of machine design, principles of design, fatigue strength of machine parts, separable and inseparable connections, axles and shafts, bearings, clutches and brakes, mechanical gears, manufacturing techniques. - [K1A_W13] | | |
| Skills: | | |
| 1. Is able to obtain information from the literature, internet, databases and other sources in Polish and English. Can integrate the information to interpret and learn from them, create and justify opinions. - [K1A_U01] | | |
| 2. Is able to communicate using a variety of techniques in a professional environment and other environments using the formal record of the design, technical drawings, concepts and definitions in the scope of the study area. - [K1A_U02] | | |
| 3. Is able to analyze objects and technical solutions, can search the catalogs and manufacturers websites for ready-made components of machinery and equipment, including means and facilities for transport and storage, evaluate their suitability for use in own technical and organizational projects. komponenty maszyn i urządzeń. - [K1A_U10] | | |
| 4. Is able draw by hand machine elements and schematics in accordance with the principles of engineering drawing and European standards. - [K1A_U12] | | |
| Social competencies: | | |

1. Understands the need and knows the possibilities of lifelong learning, knows the need for acquiring new knowledge for professional development. - [K1A_K01]
2. Is aware of and understands the importance and impact of non-technical aspects of mechanical engineering activities and its impact on the environment and responsibility for own decisions in short and long-term aspect. - [K1A_K02]
3. Is able to define the tasks and priorities for their implementation for himself and the coworkers team. - [K1A_K05]

| Assessment methods of study outcomes | | |
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| Passing the exam, exercises and projects. | | |
| Course description | | |
| Basic concepts in the methodology of design elements and assemblies of machines. Understanding the determinants of I and the structure of the design process. Practical knowledge of typical design methodology calls rołącznych I nireozłącznych, Learning design methodology axle shafts elastic elements, design of uwzględnieniem fatigue. Zaasady selection of placental rolling and sliding. Reminder rules for the application of limits and fits. | | |
| Basic bibliography: | | |
| 1. Bahl G., Beitz W., Nauka konstruowania, WNT, Warszawa 1984 | | |
| 2. Dietrich M (red): Podstawy konstrukcji maszyn., WNT, Wa-wa, 1999. | | |
| 3. Osiński Z. (red) Podstawy konstrukcji maszyn, PWN, W-wa, 1999 | | |
| 4. Podręczniki z serii wydawniczej Podstaw Konstrukcji Maszyn, PWN Warszawa | | |
| Additional bibliography: | | |
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| Result of average student's workload | | |
| Activity | Time (working hours) | |
| 1. Participation in lectures | 16 | |
| 2. Consultation on the material given in lectures | 2 | |
| 3. Exam Preparation | 8 | |
| 4. Participation in the exam | 1 | |
| 5. Participation in the project activities | 14 | |
| 6. Preparation of the project | 15 | |
| 7. Consultation project | 5 | |
| Student's workload | | |
| Source of workload | hours | ECTS |
| Total workload | 77 | 4 |
| Contact hours | 39 | 2 |
| Practical activities | 35 | 2 |