SYLLABUS

Name: Engineering project
Name in Polish: Projekt inżynierski
Name in English: Engineering project

Information on course:

Course offered by department:	Faculty of Organisation and Management
Course for department:	Silesian University of Technology
Study level and form:	Bechelor's degree, Full-time
Term:	winter semester, academic year valid from 2019/2020, sem. VI & VII
Coordinator of course edition:	Dr hab. Magdalena Palacz, prof. PŚ., prof. dr hab. Grażyna Płaza

Default type of course examination report:

Course pass

Language:

English

Course homepage:

https://platforma.polsl.pl/roz/

ECTS

15 (5/10)

Short description:

The purpose of the course is to use the knowledge and skills acquired during the course of study to carry out an analysis of selected production engineering problems or issues directly related to them and to propose necessary changes. The final result of these activities is the performance of a written study - an engineering project.

Description:

Detailed program content:
1. Presentation of the principles of conducting an engineering project in the course of Management and Production Engineering and discussion of the specific conditions for passing the semester, discussion of the formatting form of the engineering project.
2. The essence and area of the scientific area of Production Engineering with consideration of the requirements for engineering projects.
3. Discussion of key elements of an engineering project: engineering problem, purpose of an engineering project, scope of an engineering project, methods of solving engineering problems in the field of manufacturing engineering.
4. Literature study and techniques for collecting and processing source materials. Methods of developing the literature part of the engineering project: general principles and analysis of individual cases
5. key aspects related to the problem of plagiarism.

In addition, the subject of the engineering project is devoted each time to an individual discussion of the substantive documentation of the task specified in the project topic. Each engineering project is carried out under the guidance of a supervisor in the mode of consultation during the course of classes. The subject of the engineering project is an issue, the design of which confirms the acquisition of specific professional skills in the field of knowledge characterizing the graduate of the bachelor's degree.
The scope of preparing an engineering project includes: preparing a work plan, determining the purpose and scope of the work, analyzing the literature on the subject, conducting own research, designing improvements, and formulating conclusions. This task is carried out through the acquired skills of working with a book, using methods of observation and measurement in the field or an adequate project method.
Form of course: seminar
Number of hours with direct participation of academic teachers or other instructors: 45
Number of hours devoted to the student's own work:
Preparation of work: 350 hrs
Preparation of presentation: 55 hrs
Total number of hours: 450 hrs

Bibliography:

1. Źródła dobrane stosownie do problematyki pracy inżynierskiej.
2. Dokumentacja źródłowa z przedsiębiorstwa/organizacji, w której prowadzone są badania.
3. Regulamin realizacji prac dyplomowych
4. Opoka E.: Uwagi o pisaniu i redagowaniu prac dyplomowych na studiach technicznych, Wydawnictwo Politechniki Śląskiej, Gliwice 2003.
5. Rozpondek M., Wyciślik A.: Seminarium dyplomowe: praca magisterska i inżynierska: pierwsza praca - know how. Wydawnictwo Politechniki Śląskiej, Gliwice 2007.
6. Żółtowski B.: Seminarium dyplomowe: zasady pisania prac dyplomowych, Wydawnictwo ATR, Bydgoszcz 1997.
7. Borcz L.: Vademecum pracy dyplomowej, Wydawnictwo WSEiA, Bytom 2001.
8. Gambrelli G.: Praca dyplomowa: zdobycie promotora, pisanie na komputerze, opracowanie redakcyjne, prezentowanie, publikowanie, Wydawnictwa AGH, Kraków 2011.

Learning outcomes:

KNOWLEDGE knows and understands

K1A_W05: the issues of the principles of carrying out and elaborating the results of physical measurements, the types of measurement uncertainty and how to determine them.
SKILLS can
K1A_U07: design - according to the given specification - and perform a simple technical system and implement a technological process, using appropriately selected methods, techniques, tools and materials.
K1A_U13: when identifying and formulating specifications of engineering tasks and solving them: - use analytical, simulation and experimental methods, - perceive their system and non-technical aspects, including ethical aspects, - make a preliminary economic assessment of the proposed solutions and engineering actions taken.
K1A_U14: use the knowledge they have - formulate and solve complex and unusual problems and innovatively perform tasks in variable and not fully predictable conditions by: - proper selection of sources and information from them, making evaluation, critical analysis and synthesis of this information, - selection and application of appropriate methods and tools, including advanced information and communication technology (ICT).
SOCIAL COMPETENCIES is ready to
K1A_K02: to recognize the importance of knowledge in solving cognitive and practical problems and to consult experts in case of difficulties in solving a problem independently.

Assessment methods and assessment criteria:

Formative assessment: Ongoing consultations with the thesis supervisor during class time
Passing grade: The condition for the final assessment is submission of the supervisor-approved and finished engineering project in electronic version in the Silesian University of Technology Thesis Archiving System and attendance at the lecture.
The final evaluation of the project is carried out in accordance with the criteria specified in the Book of Educational Quality Assurance of the Silesian University of Technology. The evaluation is subject to both the substantive part and the linguistic and editing side of the thesis.

Practical placement:

Not applicable