# STUDY MODULE DESCRIPTION FORM

| Name of the module/subject | | Code |
|---|---|---|
| **Quality Management** | | **1011101251011100188** |

| Field of study | Profile of study (general academic, practical) | Year /Semester |
|---|---|---|
| **Engineering Management - Full-time studies -** | **(brak)** | **3 / 5** |
| Elective path/specialty | Subject offered in: | Course (compulsory, elective) |
| **-** | **Polish** | **obligatory** |

| Cycle of study: | Form of study (full-time,part-time) |
|---|---|
| **First-cycle studies** | **full-time** |

| No. of hours | | | | No. of credits |
|---|---|---|---|---|
| Lecture: **15** | Classes: **15** | Laboratory: **-** | Project/seminars: **15** | **3** |

| Status of the course in the study program (Basic, major, other) | (university-wide, from another field) |
|---|---|
| **(brak)** | **(brak)** |

| Education areas and fields of science and art | ECTS distribution (number and %) |
|---|---|
| | |

**Responsible for subject / lecturer:**

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## Prerequisites in terms of knowledge, skills and social competencies:

| | | |
|---|---|---|
| 1 | **Knowledge** | Student knows and understands the basic concepts and principles of organization and management. |
| 2 | **Skills** | The student is able to apply the use of basic knowledge of the basics of organization and management. |
| 3 | **Social competencies** | The student is aware of the need for the development of products including the requirements . |

## Assumptions and objectives of the course:

The acquisition of competence to understand the basic concepts and the regularities of the quality management as well as dealing with problems in this area.

## Study outcomes and reference to the educational results for a field of study

### Knowledge:

1. The student has knowledge of the organizational standards concerning quality management - [K1A_W16]
2. The student has a basic knowledge about the life cycle of the machines - [K01-InzA_W01]
3. The student has a basic knowledge about the life cycle of industrial products - [K02-InzA_W01]
4. The student knows the basic methods, techniques, tools and materials used when solving simple tasks of engineering construction and machines exploitation - [K04-InzA_W02]
5. The student has a basic knowledge necessary to understand the non-technical determinants of engineering activities - [K05-InzA_W03]
6. The student has basic knowledge concerning management, including quality management and conducting business - [K06-InzA_W04]
7. The student is familiar with the typical industrial technologies, has an in-depth knowledge of building technologies and machines exploitation - [K07-InzA_W5]

### Skills:

1. The student uses normative systems and selected standards and rules in order to deal with quality management tasks - [K1A_U05]
2. The student examines solutions to specific problems from the scope of quality management and suggests appropriate solutions - [K1A_U07]
3. The student can (while formulating and solving engineering tasks)-detect their systemic, socio-technical, organizational, economic and non-technical aspects - [K01-InzA_U3]
4. The student is able to make a critical analysis of technological processes of machines production and organization of production systems - [K01-InzA_U5]
5. The student is able to identify project tasks and solve simple design tasks in the construction area and machines exploitation - [K01-InzA_U6]
6. The student is able to apply some typical methods of solutions to simple problems within the scope of the construction and machines exploitation - [K01-InzA_U7]
7. The student is able to design a construction and technology of simple parts and machines? components, as well as the organization of production process in the first degree of complexity - [K01-InzA_U8]

**Social competencies:**

1. The student is aware of the responsibility for his own work and can work in a team to manage the quality management system - [K1A_K02]
2. The student can discern some cause-and-effect dependencies in the process of achieving of the objectives and can rank the relevance of alternative or competing tasks - [K1A_K03]
3. Can contribute to a factual input in the preparation of the social projects and manage the ventures resulting from these projects - [K2A_K05]
4. The Student is aware of and understands the non-technical aspects and effects for engineering activity., including its impact on the environment - [K01-InzA_K1]

## Assessment methods of study outcomes

Formative assessment:

a) Classes: current/ongoing evaluation of the tasks which are correlated with lectures

b) Projects: current/ongoing evaluation of work progress on a given project

c) Lectures: evaluations based on questions relating to the presented materials during the current and previous lectures

Collective assessment:

a) Classes: 1. Reports presentation (based on classes); 2. oral answer to the set of questions (based on classes)

b) Projects: evaluation of the presented solution with reference to the chosen project, which was the subject of the project work

c) Lectures: written test (3 open questions presented during the lecture; each question is scored 2-5 points; final result is an average of partial grades; the final test pass equals at least 3.0

## Course description

Basic approaches to the problematic aspect of the quality of products, processes and systems. Normalisation and certification. Pro quality management policies. Selected systems and quality management standards. Integration of management systems. The economics of quality. Improvement of quality. Foundation of TQM (Total Quality Management). Methods and tools of quality improvement (e.g., quality plan, FMEA, QFD, Ishikawa diagram, Pareto analysis, Deming wheel).

**Basic bibliography:**

1. Jasiulewicz-Kaczmarek M., Misztal A., Projektowanie i integracja systemów zarządzania projakościowego, WPP 2014
2. Zymonik Z., Hamrol A., Grudowski P., Zarządzanie jakością i bezpieczeństwem Polskie Wydawnictwo Ekonomiczne, 2013
3. Hamrol A., Zarządzanie jakością z przykładami Wydawnictwo Naukowe PWN, 2011
4. Starzyńska B., Hamrol A., Grabowska M., Poradnik menedżera jakości. Kompendium wiedzy o narzędziach jakości Wydawnictwo Politechniki Poznańskiej, Poznań 2010

**Additional bibliography:**

## Result of average student's workload

| Activity | Time (working hours) |
|---|---|

| | |
|---|---|
| 1. Lecture | 15 |
| 2. Preparation for credits (based on lectures) | 10 |
| 3. Classes | 15 |
| 4. Preparation for classes | 15 |
| 5. Project | 15 |
| 6. Preparation for the project | 20 |
| 7. Credits, final exam and project presentation | 10 |

| **Student's workload** | | |
|---|---|---|
| **Source of workload** | **hours** | **ECTS** |
| Total workload | 100 | 3 |
| Contact hours | 55 | 2 |
| Practical activities | 30 | 1 |