



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Product Quality Planning (APQP)

|                                |                                       | Course                               |
|--------------------------------|---------------------------------------|--------------------------------------|
| Field of study                 | Management and Production Engineering | Year/Semester<br>1/2                 |
| Area of study (specialization) | Production systems                    | Profile of study<br>general academic |
| Level of study                 | Second-cycle studies                  | Course offered in<br>Polish          |
| Form of study                  | full-time                             | Requirements<br>elective             |

|                                |                    |                     | Number |
|--------------------------------|--------------------|---------------------|--------|
| <b>of hours</b>                |                    |                     |        |
| Lecture                        | Laboratory classes | Other (e.g. online) |        |
| 15                             |                    |                     |        |
| Tutorials                      | Projects/seminars  |                     |        |
|                                | 15                 |                     |        |
| <b>Number of credit points</b> |                    |                     |        |
| 2                              |                    |                     |        |

|  |                                      | Lecturers |
|--|--------------------------------------|-----------|
| Responsible for the course/lecturer:   | Responsible for the course/lecturer: |           |
| Dr. Magdalena DIERING                  |                                      |           |
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| Piotrowo 3, 60-965 Poznan, Poland      |                                      |           |

### Prerequisites

Knowledge of issues in the field of quality management, knowledge of the basics of project management. Student has IT skills - knowledge of MS Office. The student has the skills of logical thinking, the use of information obtained from the library and the Internet. Social competences - the student understands the need to learn and acquire new knowledge; can work in a team; recognizes the possibilities of continuous improvement in various areas of life, including the activities of organizations, with particular emphasis on manufacturing enterprises.

### Course objective

To familiarize the student with the methodology of advanced product quality planning - APQP.



## Course-related learning outcomes

### Knowledge

Student knows the stages of the APQP methodology and PPAP actions. The student knows the process FMEA method. The student knows what a control plan is.

### Skills

The student knows how to develop APQP project documentation - 18 elements of PPAP.

The student knows how to develop a "quality trilogy" for a selected product and process - Process Flow Chart, pFMEA, Control Plan.

### Social competences

The student is aware of the effects of engineering activities in both technical and non-technical areas. The student is aware of the effects of decisions and responsibility for decisions.

## Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

### Formulation assessment:

Lecture – Evaluation based on answers to questions about the material discussed in the previous lectures.

Laboratory – Evaluation based on assessment of current progress of tasks

### Summary assessment:

Lecture – Examination on the basis of a colloquium consisting of 8 general questions (credit in the case of a correct answer to at least 4 questions (each question for 1 point): 3 points and less – Not credited, 4 - Satisfactory, 5 – Satisfactory plus, 6 - Good, 7 – Good plus and 8 – Very good. Credit – during the last lecture (at the end of the semester). Discussion the results of the exam.

Laboratory exercises: performing problem tasks, solving tasks, discussion, working in a team.

## Programme content

### Lecture:

1. AIAG Core Tools – guidebooks.
2. Stages of APQP methodology.
3. APQP trilogy (Process Flow-Chart, FMEA and CP).
4. Part Approval Process (PPAP).
5. APQP and PPAP documentation.
6. Practical guidelines for conducting APQP projects in the company.



Laboratory:

Development of selected elements of APQP project documentation (APQP trilogy).

### Teaching methods

Lecture: multimedia presentation illustrated with examples given on the board, discussion.

Laboratory exercises: performing problem tasks, solving tasks, discussion, working in a team.

### Bibliography

Basic

1. Advanced Product Quality Planning And Control Plan, 2nd ed., Reference manual, AIAG-Work Group, Daimler Chrysler Corporation, Ford Motor Company, General Motors Corporation, 2008.
2. Measurement System Analysis, 4th ed., Reference manual, AIAG-Work Group, Daimler Chrysler Corporation, Ford Motor Company, General Motors Corporation, 2010.

Additional

1. AIAG & VDA FMEA Handbook, 2019.
2. Production Part Approval Process (PPAP). Reference Manual. 4th Editon. AIAG 2006.
3. Adam Hamrol, Strategie i praktyki sprawnego działania, Wyd. PWN, Warszawa 2015.

### Breakdown of average student's workload

|  | Hours | ECTS |
|--|-------|------|
| Total workload   | 50    | 2,0  |
| Classes requiring direct contact with the teacher  | 30    | 1,0  |
| Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam) <sup>1</sup> | 20    | 1,0  |

<sup>1</sup> delete or add other activities as appropriate