



### COURSE DESCRIPTION

|                          |                          |  |
|--------------------------|--------------------------|--|
| Course code              | full-time studies        |  |
|                          | part-time-studies        |  |
| Course name              | <b>Projekt zespołowy</b> |  |
| Course name in English   | <b>Team Project</b>      |  |
| Valid from academic year | <b>2022/23</b>           |  |

### PLACEMENT IN THE TEACHING PROGRAM

|  |  |
|--|--|
| Field of study                                 | <b>Computer Science</b>  |
| Level of education                             | <b>1<sup>st</sup> degree</b>   |
| Studies profile                                | <b>General</b>   |
| Form and method of teaching classes            | <b>Full-time and part-time studies</b>   |
| Specialization                                 | <b>Information and communication technology</b>  |
| Organizational unit responsible for the course | <b>Katedra Systemów Informatycznych</b>  |
| Course coordinator                             | <b>dr inż. Mirosław Płaza</b>  |
| Approved by                                    | <b>Dean of the Faculty of Electrical Engineering,<br/>Automatic Control and Computer Science<br/>Roman Deniziak, KUT prof., DSc, PhD</b> |

### GENERAL CHARACTERISTIC OF THE COURSE

|                    |   |                     |
|--------------------|---|---------------------|
| Course affiliation | <b>Speciality</b>   |                     |
| Course status      | <b>Obligatory</b>   |                     |
| Language           | <b>English</b>  |                     |
| Semester           | full-time studies   | <b>Semester VI</b>  |
|                    | part-time-studies   | <b>Semester VII</b> |
| Requirements       | <b>Computer networks, Routing and Switching Essentials, Internet of Things, Network programming</b> |                     |
| Exam (YES/NO)      | <b>NO</b>   |                     |
| ECTS               | <b>3</b>  |                     |

| Course form        |                   | lecture | classes | laboratory | project   | other |
|--------------------|-------------------|---------|---------|------------|-----------|-------|
| Hours per semester | full-time studies |         |         |            | <b>45</b> |       |
|                    | part-time-studies |         |         |            | <b>27</b> |       |

## LEARNING RESULTS

| Category          | Result Symbol | Learning Results  | References to the field of study results |
|-------------------|---------------|---|--|
| Knowledge         | W01           | Students have a structured knowledge of the techniques of designing algorithmic constructs and their implementation in various programming languages including task division.   | INF1_W23                                 |
|                   | W02           | Students have the knowledge to evaluate the usefulness of a given programming approach to solve specific engineering problem.   | INF1_W23                                 |
| Skills            | U01           | Students are able to analyze, on their own, simple problems related to the prepared project, starting from its precise formulation and assessment of complexity, through specifications, indication of various solutions to implementation details. | INF_U23                                  |
|                   | U02           | Students can program in selected modern programming languages.  | INF_U23                                  |
|                   | U03           | Students are able to configure data communication networks; create network applications, including for IoT and web applications.  | INF_U23                                  |
| Social competence | K01           | Students are prepared to work in a team, assuming different roles in it; they understand the necessity of systematic work on long-term projects.  | INF1_K1<br>INF1_K2                       |
|                   | K02           | Students are prepared to appropriately define priorities for the achievement of a task set by themselves or others.   | INF1_K1<br>INF1_K2                       |

## COURSE CONTENT

| Course Form | Content   |
|-------------|---|
| project     | <p>IT/ICT project assignment topics include the following issues:</p> <ul style="list-style-type: none"> <li>- literature analysis of existing solutions to a given engineering problem,</li> <li>- analysis and selection of appropriate techniques for effective implementation of the given problem with justification of the choices made,</li> <li>- design of the system/task under development, along with a description of the techniques and tools used,</li> <li>- preparation of project documentation, which describes in detail the executed project along with the project assumptions – the documentation is prepared independently by the team implementing the project,</li> <li>- description of how to implement the developed solution along with the user manual,</li> <li>- analysis of further development possibilities of the prepared solution,</li> <li>- presentation of the developed solution.</li> </ul> |

## LEARNING RESULTS VERIFICATION METHODS

| Result Symbol | Learning results verification methods |              |         |         |        |       |
|---------------|---------------------------------------|--------------|---------|---------|--------|-------|
|               | Oral Exam                             | Written Exam | Midterm | Project | Report | Other |
| W01           |                                       |              |         | X       |        |       |
| W02           |                                       |              |         | X       |        |       |
| U01           |                                       |              |         | X       |        |       |
| U02           |                                       |              |         | X       |        |       |
| U03           |                                       |              |         | X       |        |       |
| K01           |                                       |              |         | X       |        |       |
| K02           |                                       |              |         | X       |        |       |

## ASSESSMENT FORMS AND CRITERIA

| Course Form | Assessment Form   | Assessment Criteria  |
|-------------|-------------------|--|
| project     | pass with a grade | Obtaining at least 50% of points from the completed project. |

## STUDENT'S VOLUME OF WORK

| ECTS Balance |  |                     |   |     |    |   |                   |   |     |   |    |      |   |
|--------------|--|---------------------|---|-----|----|---|-------------------|---|-----|---|----|------|---|
| No.          | Activity Type  | Student Involvement |   |     |    |   |                   |   |     |   |    | Unit |   |
|              |  | full-time studies   |   |     |    |   | part-time-studies |   |     |   |    |      |   |
|              |  | Lec                 | C | Lab | P  | S | Lec               | C | Lab | P | S  |      |   |
| 1.           | Participation in classes according to the schedule   |                     |   |     | 45 |   |                   |   |     |   | 27 |      | h |
| 2.           | Other (consultations, exams)   |                     |   |     | 2  |   |                   |   |     | 2 |    |      | h |
| 3.           | <b>Total with the direct assist of an academic teacher</b>                                 | <b>47</b>           |   |     |    |   | <b>29</b>         |   |     |   |    | h    |   |
| 4.           | <b>Number of ECTS, that students obtains with the direct assist of an academic teacher</b> | <b>1,88</b>         |   |     |    |   | <b>1,16</b>       |   |     |   |    | ECTS |   |
| 5.           | <b>Hours of unassisted student work</b>  | <b>28</b>           |   |     |    |   | <b>46</b>         |   |     |   |    | h    |   |
| 6.           | <b>Number of ECTS that student obtains working unassisted</b>                              | <b>1,12</b>         |   |     |    |   | <b>1,84</b>       |   |     |   |    | ECTS |   |
| 7.           | <b>Practical classes volume of work</b>  | <b>45</b>           |   |     |    |   | <b>27</b>         |   |     |   |    | h    |   |
| 8.           | <b>Number of ECTS obtained by student at practical classes</b>                             | <b>1,80</b>         |   |     |    |   | <b>1,08</b>       |   |     |   |    | ECTS |   |
| 9.           | <b>Total student's volume of work expressed in hours</b>                                   | <b>75</b>           |   |     |    |   | <b>75</b>         |   |     |   |    | h    |   |
| 10.          | <b>ECTS</b>  | <b>3</b>            |   |     |    |   |                   |   |     |   |    |      |   |