

Course code B.5.1 Course item .....

## 1. INFORMATION ABOUT THE COURSE

### A. Basic information

|   |   |
|---|---|
| Course title                            | Information Technology  |
| Field of study                          | Computer Aided Engineering                                      |
| Cycle                                   | <i>Second</i>   |
| Study profile                           | <i>Academic</i>   |
| Study mode                              | <i>Full-time</i>  |
| Specialisation                          | <i>Not relevant</i>   |
| Unit responsible for the field of study | <i>Faculty of Mechanical Engineering</i>                        |
| Lecturer                                | <i>Dr inż. Jarosław Zdrojewski, Mgr inż. Łukasz Zabłudowski</i> |
| Introductory courses                    | <i>Not relevant</i>   |
| Prerequisites                           | <i>Basic knowledge of mathematics</i>                           |

### B. Semester/ weekly timetable

| Semester | Lectures | Classes | Laboratories | Project classes | Seminars | Field experience | ECTS credits |
|----------|----------|---------|--------------|-----------------|----------|------------------|--------------|
| I        | 30       | -       | 15           | -               | -        | -                | 4            |

### LEARNING OUTCOMES (acc. to National Qualifications Framework)

| No.              | Description of learning outcomes   | Reference to learning outcomes for the field of study | Reference to learning outcomes for the area of study |
|------------------|--|---|--|
| <b>KNOWLEDGE</b> |  |   |  |
| K1               | On successful completion of the course student is supposed to: describe the basic Computer Architecture. Will be able to manage word processing, spreadsheets and prepare presentation graphics. | CAE_W01   | T2A_W02  |
| K2               | Student will have the knowledge to the discussion of the complexity of Relational Databases structure and define Database Queries using SQL.   | CAE_W08   | T2A_W04<br>T2A_W05                                   |
| <b>SKILLS</b>    |  |   |  |
| S1               | the student is able, using the available literature and the Internet, to obtain information to improve the complexity of database structure and SQL queries.                                     | CAE_U07   | T2A_U01  |
| S2               | the student is able to prepare a scientific report using word processing, spreadsheets, graphical  | CAE_U08   | T2A_U03<br>T2A_U10                                   |

|                           |  |         |         |
|---------------------------|--|---------|---------|
|                           | presentation.  |         |         |
| <b>SOCIAL COMPETENCES</b> |  |         |         |
| SC1                       | the student is able to act and think in a creative way | CAE_K06 | T2A_K06 |

## 2. TEACHING METHODS

*multimedia lecture, laboratory classes*

## 2. METHODS OF EXAMINATION

*test, written report*

## 3. COURSE CONTENT

|   |  |
|---|--|
| Specify the content separately for each type of classes in accordance with point I.B. | <p><b>LECTURES:</b><br/> Fundamentals of information technology. Hardware, OS, and Software. Inside the CPU, Computer Architecture: Processing, Memory and I/O, Computer Representations, Compression, Operating Systems, Software Development. Word processing. Spreadsheets. Databases. Relational Databases, Database Queries using SQL, An Introduction to Microsoft Access, Relational Database Design, an Introduction to User Interface Building. Managerial and presentation graphics. Services in computer networks. Acquisition and information processing.</p> <p><b>LABORATORY</b><br/> Exercises based on the MS Office, LEd, GIMP.</p> |
|---|--|

## 4. VALIDATION OF LEARNING OUTCOMES

(Each learning outcome from the list requires validation methods to ensure that it was achieved by a student.)

| Learning outcome | Form of assessment (for example:) |                     |            |         |        |      |
|------------------|-----------------------------------|---------------------|------------|---------|--------|------|
|                  | Oral examination                  | Written examination | Colloquium | Project | Report | Test |
| K1               |                                   |                     |            |         | x      | x    |
| K2               |                                   |                     |            |         | x      | x    |
| S1               |                                   |                     |            |         | x      | x    |
| S2               |                                   |                     |            |         | x      | x    |
| SC1              |                                   |                     |            |         | x      |      |

## 5. LITERATURE

|                          |   |
|--------------------------|---|
| Basic literature         | Kopertowska M., Sikorski W.: Przetwarzanie tekstu Wydawnictwo Naukowe PWN 2006<br>Kopertowska M.: Grafika menadżerska i prezentacyjna. Wyd. MIKOM W-wa<br>Dudek W.: Bazy danych SQL. Teoria i praktyka. Helion, 2006                  |
| Supplementary literature | Cybulka J., Jankowska B. Nawrocki J.: Automatyczne przetwarzanie tekstów. ZWK, Lex i YACC. Nakom 2007<br>Kopertowska M.: Arkusze kalkulacyjne. Wydawnictwo Naukowe PWN Warszawa 2007<br>Sikorski W.: Podstawy technik informatycznych |

## 6. TOTAL STUDENT WORKLOAD REQUIRED TO ACHIEVE EXPECTED LEARNING OUTCOMES EXPRESSED IN TIME AND ECTS CREDITS

**Załącznik nr 3** do wytycznych dla rad podstawowych jednostek organizacyjnych do tworzenia nowych i weryfikacji istniejących programów studiów I i II stopnia w UTP w Bydgoszczy

| Student's activity   | Student workload—<br>number of hours<br>(for example:) |
|--|--|
| Participation in classes indicated in point 2.2  | 30   |
| Preparation for classes  | 25   |
| Reading assignments  | 20   |
| Other (preparation for exams, tests, carrying out a project etc)                                 | 25   |
| <b>Total student workload</b>  | <b>100</b>   |
| <b>Number of ECTS credits allocated by the lecturer</b>  | <b>4</b>   |
| <b>Final number of ECTS credits (determined by the Programme Council for the Field of Study)</b> | <b>4</b>   |