#### card of course

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| Subject name | Mobile databases |

1. The placement of the subject in the study system

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| 1.1. Field of study | Computer science |
| 1.2. Form and path of study | Full-time/Part-time |
| 1.3. Level of education | First-cycle studies |
| 1.4. Study profile | Practical |

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| 1. 5. Specialty | Databases |
| 1.6. Subject Coordinator | Dr Rafał Stęgierski |

2. General characteristics of the subject

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| 2.1. Belonging to a subject group | Optional/practical |
| 2.2. Number of ECTS | 4 |
| 2.3. Language of lectures | English |
| 2.4. Semesters in which the subject is taught | V |
| 2.5.Criteria for selecting course participants | For specialization: Databases |

1. Learning outcomes and course delivery
   1. Subject Objectives

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| No. | Subject Objectives |
|
| C1 | Acquiring competence in designing and building mobile databases. |
| C2 | Acquiring competence in using and managing data in a mobile database. |
| C3 | Gaining competence in using a mobile database when building software. |

* 1. Subject-specific learning outcomes, divided into knowledge , skills and competences , with reference to the directional learning outcomes

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| --- | --- | --- | --- | --- | --- | --- |
| No. | Description of subject  learning outcomes | Reference to  directional effects  learning (symbols) | Method of implementation (mark "X") | | | |
| ST | | NST | |
| Classes at the University | Activities on  the platform | Classes at the University | Activities on  the platform |
| After passing the course, the student knows and understands **the knowledge** | | | | | | |
| W1 | methods of collecting data in mobile databases and issues of implementing mobile databases | INF\_W03  INF\_W04 INF\_W20 |  | X |  | X |
| W2 | techniques for selecting and manipulating data in mobile databases |  | X |  | X |
| W3 | issues of using a mobile database when building software |  | X |  | X |
| After passing the course, the student is **able** to: | | | | | | |
| U1 | design and prepare a mobile database for operation | INF\_U02  INF\_U14 INF\_U19 | X |  | X |  |
| U2 | enter data into the mobile database, modify it, delete it and select it | X |  | X |  |
| U3 | use a mobile database when building software | X |  | X |  |
| After completing the course, the student is ready to take part in **social competences.** | | | | | | |
| K1 | identifying the potential and risks associated with the use of mobile databases | INF\_K02 | X |  | X |  |

3.3. Forms of teaching and their number of hours - Full-time studies (ST), Part-time studies (NST)

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| Path | Lecture | Exercises | Design | Workshop | Laboratory | Seminar | Lecturer | Classes conducted using distance learning methods and techniques in the form of a lecture | Other | **ECTS points** |
| **ST** |  |  |  |  | 30 |  |  | 20 |  | 4 |
| **NST** |  |  |  |  | 15 |  |  | 10 |  | 4 |

3.4. Content of education (separately for each form of classes: (W, ĆW, PROJ, WAR, LAB, LEK, OTHER). It should be marked (X) how the given content will be implemented (classes at the university or classes on the e-learning platform conducted using distance learning methods and techniques)

TYPE OF CLASS: LECTURE

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| --- | --- | --- | --- | --- | --- | --- |
| No. | Content of the course | Reference to subject-specific learning outcomes | Method of implementation (mark "X") | | | |
| ST | | NST | |
| **Classes at the University** | **Activities on  the platform** | **Classes at the University** | **Activities on  the platform** |
| 1. | Mobile databases – areas of application, advantages and implementation barriers. | W1, W3 |  | X |  | X |
| 2 . | Mobile database architecture and methods of collecting data on mobile devices. | W1, W2, W3 |  | X |  | X |
| 3. | Mobile database security. | W1, W3 |  | X |  | X |
| 4. | Modern mobile database systems. | W1 |  | X |  | X |
| 5. | Creating data structures in a mobile database. | W3 |  | X |  | X |
| 6. | Data management in the mobile database. | W2, |  | X |  | X |
| 7. | Selecting data from the mobile database. | W2 |  | X |  | X |
| 8. | Using mobile databases in software development. | W1, W2, W3 |  | X |  | X |
| 9. | Summary of classes and discussion of grades |  |  | X |  | X |

TYPE OF CLASS: PROJECT

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| --- | --- | --- | --- | --- | --- | --- |
| No. | Content of the course | Reference to subject-specific learning outcomes | Method of implementation (mark "X") | | | |
| ST | | NST | |
| **Classes at the University** | **Activities on  the platform** | **Classes at the University** | **Activities on  the platform** |
| 1. | Introduction to classes, selection of project topics, setting up the work environment. | U1, U3, K1 | X |  | X |  |
| 2 | Designing the structure of a mobile database. Preparing a database or databases for the needs of design work. | U3, K1 | X |  | X |  |
| 3. | Practical use of data manipulation mechanisms. | U2 | X |  | X |  |
| 4. | Practical use of data selection mechanisms. | U2 | X |  | X |  |
| 5. | Writing software code that uses a mobile database. | U3 | X |  | X |  |
| 6 | Preparation of the final version of design documentation. | U1, U2, U3 | X |  | X |  |
| 7. | Summary of classes and discussion of grades. |  | X |  | X |  |

3.5. Methods of verifying learning outcomes (indication and description of methods of conducting classes and verification of achievement of learning outcomes and method of documentation)

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| --- | --- | --- | --- |
| Subject Effects | Teaching methods | Methods of verifying learning outcomes | Documentation methods |
| KNOWLEDGE | | | |
| W1-W3 | lecture, discussion | A written paper containing content related to the topics included in the syllabus – 100% of the lecture grade | A graded written assignment |
| SKILLS | | | |
| U1- U3 | discussion, group work, project preparation | Carrying out a project in the field of mobile databases, concerning the program content listed in the syllabus. Detailed guidelines regarding the scope of work are provided to students during classes by the instructor - 100% grade for the project | Rated project |
| SOCIAL COMPETENCES | | | |
| K1 | discussion, group work, project preparation | Carrying out a project in the field of mobile databases, concerning the program content listed in the syllabus. Detailed guidelines regarding the scope of work are provided to students during classes by the instructor - 100% grade for the project | Rated project |

3.6. Assessment criteria for the achieved learning outcomes

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| Learning effect | For a grade of 3 or "pass."  the student knows and understands/is able to/is ready to | For a grade of 3.5, the student knows and understands/is able to/is ready to | For a grade of 4, the student knows and understands/is able to/is ready to | For a grade of 4.5, the student knows and understands/is able to/is ready to | For a grade of 5, the student knows and understands/is able to/is ready to |
| W | 51-60% of knowledge indicated in learning outcomes | 61-70% of knowledge indicated in learning outcomes | 71-80% of knowledge indicated in learning outcomes | 81-90% of knowledge indicated in learning outcomes | 91-100% of knowledge indicated in learning outcomes |
| U | 51-60% of skills indicated in learning outcomes | 61-70% of skills indicated in learning outcomes | 71-80% of skills indicated in learning outcomes | 81-90% of skills indicated in learning outcomes | 91-100% of skills indicated in learning outcomes |
| K | 51-60% of skills indicated in learning outcomes | 61-70% of skills indicated in learning outcomes | 71-80% of skills indicated in learning outcomes | 81-90% of skills indicated in learning outcomes | 91-100% of skills indicated in learning outcomes |

3.7. Literature

**Basic**

1. Horton John, Android programming for beginners: Learn all the Java and Android skills you need to start making powerful mobile applications, Packt Publishing, Birmingham, 2015.
2. Dokumentacja bazy danych SQLite, http://www.sqlite.org/docs.html
3. Android developers – Zapisywanie danych w mobilnej bazie danych, https://developer.android.com/training/data-storage/sqlite?hl=pl#java

**Supplementary**

1. MongoDB Tutorial, https://www.tutorialspoint.com/mongodb/
2. CouchDB Tutorial, https://www.tutorialspoint.com/couchdb/
3. MariaDB Tutorial, https://www.tutorialspoint.com/mariadb/index.htm
4. Cassandra Tutorial, https://www.tutorialspoint.com/cassandra/cassandra\_pdf\_version.htm

4. Student workload - ECTS points balance

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| --- | --- | --- |
| **Types of student activity** | **Student Load** | |
| **ST** | **NST** |
| **Classes requiring direct contact between the student and the academic teacher at the university premises** | **50** | **25** |
| Classes included in the study plan | 50 | 25 |
| **Student's own work** | **50** | **75** |
| Ongoing preparation for classes, preparation of project work/presentations/etc. | 25 | 40 |
| Preparation for passing classes | 25 | 35 |
| **TOTAL STUDENT HOURLY LOAD** | **100** | **100** |
| **Number of ECTS points** | **4** | **4** |

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| Last change date | 30/09/2024 |
| The changes were introduced | INF Education Quality Team |
| The changes were approved | Arkadiusz Gwarda, M.A. |