

| Lp                                        |                                             | Moduły przedmiotowe | Suma godzin / ECTS |     |     |    |     |                | Sem. I |   |   |      | Sem. II        |     |      |      | Sem. III |                |      |     | Sem. IV |     |                |   | Sem. V |   |      |                | Sem. VI |   |   |    | Sem. VII       |  |  |  |
|-------------------------------------------|---------------------------------------------|---------------------|--------------------|-----|-----|----|-----|----------------|--------|---|---|------|----------------|-----|------|------|----------|----------------|------|-----|---------|-----|----------------|---|--------|---|------|----------------|---------|---|---|----|----------------|--|--|--|
|                                           |                                             |                     | W                  | Ć   | L   | P  | Σ   | P <sub>E</sub> | W      | Ć | L | P    | P <sub>E</sub> | W   | Ć    | L    | P        | P <sub>E</sub> | W    | Ć   | L       | P   | P <sub>E</sub> | W | Ć      | L | P    | P <sub>E</sub> | W       | Ć | L | P  | P <sub>E</sub> |  |  |  |
| A OGÓLNE                                  |                                             |                     | 90                 | 225 |     | 15 | 330 | 13             | 5      | 6 |   | 6    | 1              | 5   |      | 2,5  | 2        |                | 1    | 2   | 1       | 3,5 |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 1                                         | Przedmiot obieralny z nauk humanistycznych  |                     | 30                 | 30  |     |    | 60  | 3              | 1      | 1 |   | 1,5  | 1              | 1   |      | 1,5  |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 2                                         | Przysposobienie akademickie                 |                     | 15                 |     |     |    | 15  | 1              |        |   |   |      |                |     |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 3                                         | Ergonomia                                   |                     |                    |     |     | 15 | 15  | 1,5            |        |   |   |      |                |     |      |      |          |                |      |     | 1       | 1,5 |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 4                                         | Język angielski                             |                     |                    | 120 |     |    | 120 | 5              | 2      |   | 1 | 2    |                | 1   | 2    |      | 1        |                | 2    | 2   |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 5                                         | WF                                          |                     |                    | 60  |     |    | 60  |                |        | 2 |   |      |                | 2   |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 6                                         | Przedmiot obieralny z nauk ekonomicznych    |                     | 30                 |     |     |    | 30  | 1,5            | 2      |   |   | 1,5  |                |     |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 7                                         | Technologie informacyjne**                  |                     | 15                 | 15  |     |    | 30  | 2              | 1      | 1 |   | 2    |                |     |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| B PODSTAWOWE                              |                                             |                     | 285                | 150 | 30  |    | 465 | 45,5           | 10     | 5 |   | 22,5 | 6              | 3   | 2    | 15,5 | 3        | 2              |      | 7,5 |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 1                                         | Podstawy analizy matematycznej              |                     | 30                 | 15  |     |    | 45  | 4,5            | 2      | 1 |   | 4,5  |                |     |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 2                                         | Algebra liniowa i geometria analityczna     |                     | 30                 | 15  |     |    | 45  | 4,5            | 2      | 1 |   | 4,5  |                |     |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 3                                         | Probabilistyka i statystyka                 |                     | 15                 | 15  |     |    | 30  | 3              |        |   |   |      |                |     |      |      | 1        | 1              |      | 3   |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 4                                         | Analiza matematyczna                        |                     | 30                 | 15  |     |    | 45  | 4,5            |        |   | 2 | 1    |                | 4,5 |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 5                                         | Funkcje zmiennej zespolonej                 |                     | 15                 | 15  |     |    | 30  | 3              |        |   | 1 | 1    |                | 3   |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 6                                         | Fizyka                                      |                     | 45                 | 15  |     |    | 60  | 6              | 2      | 1 |   | 4,5  | 1              |     |      | 1,5  |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
|                                           | Laboratorium fizyki                         |                     |                    |     | 30  |    | 30  | 2              |        |   |   |      |                | 2   | 2    |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 7                                         | Metodyka i techniki programowania (algorytm |                     |                    |     |     |    |     |                |        |   |   |      |                |     |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
|                                           | Algorytmy i struktury danych                |                     | 30                 | 15  |     |    | 45  | 4,5            | 2      | 1 |   | 4,5  |                |     |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
|                                           | Podstawy programowania                      |                     | 30                 | 15  |     |    | 45  | 4,5            | 2      | 1 |   | 4,5  |                |     |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 8                                         | Technika obliczeniowa i symulacyjna (Metody |                     | 30                 | 15  |     |    | 45  | 4,5            |        |   |   |      |                |     | 2    | 1    |          | 4,5            |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 9                                         | Teoria obwodów i sygnałów                   |                     | 30                 | 15  |     |    | 45  | 4,5            |        |   | 2 | 1    |                | 4,5 |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| C TECHNICZNE KIERUNKOWE                   |                                             |                     | 300                | 75  | 135 | 15 | 525 | 44             |        |   |   | 8    | 1              | 3   | 13,5 | 4    | 2        | 2              | 10,5 | 4   | 1       | 2   | 9,5            | 4 | 1      | 2 | 8,5  |                |         | 1 | 2 |    |                |  |  |  |
| 1                                         | Elementy elektroniczne                      |                     | 30                 | 15  |     |    | 45  | 3              |        |   | 2 | 1    |                | 3   |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
|                                           | Lab. podstaw elektroniki                    |                     |                    |     | 15  |    | 15  | 1,5            |        |   |   |      | 1              |     | 1,5  |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 2                                         | Optoelektronika                             |                     | 30                 |     |     |    | 30  | 3              |        |   | 2 |      |                | 3   |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 3                                         | Układy elektroniczne                        |                     | 30                 | 15  |     |    | 45  | 4,5            |        |   |   |      |                |     | 2    | 1    |          | 4,5            |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
|                                           | Laboratorium UE                             |                     |                    |     | 30  |    | 30  | 2              |        |   |   |      |                |     |      |      |          |                |      | 2   |         | 2   |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 4                                         | Podstawy metrologii                         |                     | 30                 |     |     |    | 30  | 1,5            |        |   | 2 |      |                | 1,5 |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
|                                           | Laboratorium metrologii                     |                     |                    |     | 30  |    | 30  | 1,5            |        |   |   |      |                |     |      | 2    |          | 1,5            |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 5                                         | Technika cyfrowa                            |                     | 30                 |     |     |    | 30  | 3              |        |   | 2 |      |                | 3   |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
|                                           | Laboratorium techniki cyfrowej              |                     |                    |     | 30  |    | 30  | 1,5            |        |   |   |      | 2              | 1,5 |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 6                                         | Architektura komputerów i systemy operacyjn |                     | 30                 |     |     |    | 30  | 3              |        |   |   |      |                |     |      |      |          |                | 2    |     |         | 3   |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
|                                           | Laboratorium architektury komputerów        |                     |                    |     | 30  |    | 30  | 1,5            |        |   |   |      |                |     |      |      |          |                |      |     |         |     |                |   | 2      |   | 1,5  |                |         |   |   |    |                |  |  |  |
| 7                                         | Przetwarzanie sygnałów                      |                     | 30                 | 15  |     |    | 45  | 4,5            |        |   |   |      |                |     | 2    | 1    |          | 4,5            |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 8                                         | Podstawy telekomunikacji                    |                     | 30                 | 15  |     |    | 45  | 4,5            |        |   |   |      |                |     |      |      | 2        | 1              |      | 4,5 |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 9                                         | Systemy i sieci telekomunikacyjne           |                     | 30                 |     |     |    | 30  | 3              |        |   |   |      |                |     |      |      |          |                |      |     |         |     |                |   |        | 2 |      | 3              |         |   |   |    |                |  |  |  |
| 10                                        | Techniki multimedialne                      |                     | 30                 | 15  |     |    | 45  | 4              |        |   |   |      |                |     |      |      |          |                |      |     | 2       | 1   |                |   |        | 4 |      |                |         |   |   |    |                |  |  |  |
|                                           | Projektowanie aplikacji multimedialnych     |                     |                    |     |     | 15 | 15  | 2              |        |   |   |      |                |     |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         | 1 | 2 |    |                |  |  |  |
| C                                         | Rozszerzenie standardów                     |                     | 360                | 75  | 210 | 60 | 705 | 53,5           |        |   |   |      |                |     | 5    | 1    | 4        | 10,5           | 7    | 1   | 4       | 2   | 17,5           | 7 | 1      | 4 | 13,5 | 5              | 2       | 2 | 2 | 12 |                |  |  |  |
| C1 Projektowanie i programowanie urządzeń |                                             |                     |                    |     |     |    |     |                |        |   |   |      |                |     |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 1                                         | Programowanie komputerów i urządzeń         |                     | 30                 | 15  |     | 15 | 60  | 4,5            |        |   |   |      |                | 2   | 1    |      | 3        |                |      | 1   | 1,5     |     |                |   |        | 2 | 1    |                | 4       |   |   |    |                |  |  |  |
| 2                                         | Przedmiot obieralny 1:                      |                     | 30                 | 15  |     |    | 45  | 4              |        |   |   |      |                |     |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
|                                           | Grafika i komunikacja człowiek-komputer*    |                     |                    |     |     |    |     |                |        |   |   |      |                |     |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
|                                           | Programowanie urządzeń mobilnych            |                     |                    |     |     |    |     |                |        |   |   |      |                |     |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |
| 3                                         | Projekt zespołowy* (TC, SE, inne)           |                     |                    |     | 30  | 30 | 2   |                |        |   |   |      |                |     |      |      |          |                |      |     |         |     |                |   |        |   |      |                | 2       | 2 |   |    |                |  |  |  |
| C2 Technika i systemy                     |                                             |                     |                    |     |     |    |     |                |        |   |   |      |                |     |      |      |          |                |      |     |         |     |                |   |        |   |      |                |         |   |   |    |                |  |  |  |

**Przedmiot obieralny z nauk humanistycznych:**

|                                                                                             |  |
|---------------------------------------------------------------------------------------------|--|
| Przedmiot obieralny z nauk humanistycznych.                                                 |  |
| Gr.1. Technologia kształcenia. Psychopedagogiczne aspekty studiowania. Podstawy psychologii |  |

Gr.2. Integracja europejska. Rynek pracy RP i UE. Filozofia techniki. Historia techniki

**Przedmiot obieralny z nauk ekonomicznych:**

Podstawy ekonomii

Zarządzanie i marketing

Praktyka zawodowa - 4 tygodnie, sem. VI

\*\* Treści kształcenia w zakresie technologii informacyjnej: podstawy technik informatycznych, przetwarzanie tekstów, arkusze kalkulacyjne, bazy danych, grafika menedżerska i/lub prezentacyjna, usługi w sieciach informatycznych, pozyskiwanie i przetwarzanie informacji – powinny stanowić co najmniej odpowiednio dobrany podzbiór informacji zawartych w modułach wymaganych do uzyskania Europejskiego Certyfikatu Umiejętności Komputerowych (ECDL – European Computer Driving Licence).