# PLAN STUDIÓW DWUSTOPNIOWYCH - STOPIEŃ I

DLA KIERUNKU: **MECHATRONIKA** TRYB STUDIÓW: **Stacjonarne (Dzienne)**

SPECJALNOŚĆ: **ZASTOSOWANIA MECHATRONIKI W INŻYNIERII ELEKTRYCZNEJ**

**obowiązuje od rocznika 2012/2013**

## ROZKŁAD ZAJĘĆ

| Lp. | Nazwa modułu | Godziny: Razem | w tym: Wykłady | Ćwiczenia | Laborat. | Projekty | Seminaria | I W | I Ć | I L | I P | I S | I ECTS | II W | II Ć | II L | II P | II S | II ECTS | III W | III Ć | III L | III P | III S | III ECTS | IV W | IV Ć | IV L | IV P | IV S | IV ECTS | V W | V Ć | V L | V P | V S | V ECTS | VI W | VI Ć | VI L | VI P | VI S | VI ECTS | VII W | VII Ć | VII L | VII P | VII S | VII ECTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | ROZKLAD ZAJĘC PROGRAMOWYCH NA SEMESTRY (Liczba godzin tygodniowo) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Matematyka | 150 | 90 | 60 | 0 | 0 | 0 | 3 E | 2 | | | | 6 | 3 E | 2 | | | | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Fizyka | 90 | 45 | 45 | 0 | 0 | 0 | 2 E | 2 | | | | 6 | 1 | 1 | | | | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Technika inżynierska | 60 | 30 | 0 | 30 | 0 | 0 | 2 | | 2 | | | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Nauka o materiałach | 45 | 30 | 0 | 15 | 0 | 0 | 2 | | 1 | | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Materiałozn. Elektrotechn. i Mechatroniczne | 45 | 30 | 0 | 15 | 0 | 0 | | | | | | | | | | | | | 2 | | 1 | | | 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Podstawy automatyki | 75 | 30 | 30 | 15 | 0 | 0 | | | | | | | | | | | | | 2 E | 2 | 1 | | | 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Technologie informacyjne | 30 | 15 | 0 | 15 | 0 | 0 | 1 | | 1 | | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Wychowanie fizyczne | 60 | 0 | 60 | 0 | 0 | 0 | | 2 | | | | 1 | | 2 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Język angielski | 120 | 0 | 120 | 0 | 0 | 0 | | 2 | | | | 2 | | 2 | | | | 2 | | 2 | | | | 2 | E | 2 | | | | 2 | | | | | | | | | | | | | | | | | | | |
| 10 | Przedsiębiorczość i ochrona wł. Intelektualnej | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | 1 |
| 11 | Podstawy prawne działaln.inżynierskiej | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | 1 | | | | | | | |
| 12 | Bezpieczeństwo pracy i ergonomia | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | 1 | | | | | | | |
| 13 | Podstawy zarządzania | 45 | 30 | 0 | 0 | 15 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | 1 | | 3 |
| 14 | Podstawy informatyki | 45 | 30 | 0 | 15 | 0 | 0 | 2 | | 1 | | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | Grafika inżynierska | 30 | 15 | 0 | 0 | 15 | 0 | 1 | | | 1 | | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | Podstawy programowania | 45 | 15 | 0 | 30 | 0 | 0 | | | | | | | 1 | | 2 | | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | Mechanika | 90 | 45 | 0 | 0 | 45 | 0 | 1 | | | 1 | | 3 | 2 E | | | 2 | | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | Podstawy elektrotechniki | 60 | 30 | 30 | 0 | 0 | 0 | | | | | | | 2 E | 2 | | | | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | Systemy informatyczne | 45 | 15 | 0 | 30 | 0 | 0 | | | | | | | 1 | | 2 | | | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | Programowanie obiektowe | 45 | 15 | 0 | 30 | 0 | 0 | | | | | | | | | | | | | | | | | | | 1 | | 2 | | | 3 | | | | | | | | | | | | | | | | | | | |
| 21 | Wytrzymałość materiałów | 60 | 30 | 0 | 15 | 15 | 0 | | | | | | | | | | | | | 2 | | 1 | 1 | | 4 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | Teoria obwodów | 60 | 30 | 15 | 15 | 0 | 0 | | | | | | | | | | | | | 2 | 1 | 1 | | | 3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | Podstawy konstrukcji maszyn | 60 | 30 | 15 | 0 | 15 | 0 | | | | | | | | | | | | | 2 E | 1 | | 1 | | 6 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | Podstawy elektroniki | 60 | 30 | 15 | 15 | 0 | 0 | | | | | | | | | | | | | 2 E | 1 | 1 | | | 6 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | Podstawy modelowania | 15 | 0 | 0 | 15 | 0 | 0 | | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | Elementy mechatroniki | 60 | 30 | 0 | 30 | 0 | 0 | | | | | | | | | | | | | | | | | | | 2 E | | 2 | | | 5 | | | | | | | | | | | | | | | | | | | |
| 27 | Metrologia i systemy pomiarowe | 90 | 45 | 0 | 30 | 0 | 15 | | | | | | | | | | | | | | | | | | | 2 | | 1 | | 1 | 4 | 1 E | | 1 | | | 2 | | | | | | | | | | | | | |
| 28 | Układy mikroprocesorowe | 60 | 30 | 0 | 30 | 0 | 0 | | | | | | | | | | | | | | | | | | | 2 | | 2 | | | 3 | | | | | | | | | | | | | | | | | | | |
| 29 | Energoelektronika | 45 | 15 | 0 | 30 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | 1 E | | 2 | | | 4 | | | | | | | | | | | | | |
| 30 | Inżynieria wytwarzania | 45 | 30 | 0 | 15 | 0 | 0 | | | | | | | | | | | | | | | | | | | 2 | | 1 | | | 2 | | | | | | | | | | | | | | | | | | | |
| 31 | Analogowe przetwarzanie sygnałów | 45 | 30 | 0 | 15 | 0 | 0 | | | | | | | | | | | | | | | | | | | 2 | | 1 | | | 2 | | | | | | | | | | | | | | | | | | | |
| 32 | Praktyka zawodowa | | | | | | | | | | | | | | | | | | | | | | | | | 3 Tygodnie | | | | | 3 | | | | | | | | | | | | | | | | | | | |
| 33 | Teoria sterowania | 45 | 15 | 15 | 0 | 15 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | 1 | | 3 | | | | | | | | | | | | | |
| 34 | Cyfrowe przetwarzanie sygnałów | 45 | 30 | 0 | 15 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 1 | | | 2 | | | | | | | | | | | | | |
| 35 | Mechatronika | 60 | 30 | 0 | 30 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 E | | 2 | | | 5 | | | | | | | |
| 36 | Programowanie mikrokontrolerów | 90 | 45 | 30 | 15 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 E | 2 | 1 | | | 6 | | | | | | | |
| 37 | Procesory sygnałowe w ster. syst. mechatr. | 45 | 15 | 0 | 30 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 2 | | | 3 |
| 38 | Praktyka dyplomowa | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 Tygodnie | | | | | 3 | | | | | | | |
| 39 | Projekt inżynierski | 45 | 0 | 0 | 0 | 45 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | E | | | 3 | | 15 |
| 40 | Mechatronika - wybrane zagadnienia | 45 | 0 | 0 | 0 | 0 | 45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 3 |
| | **Blok modułów z obieralnym językiem zajęć (polski/angielski) - minimum 2 z 4 modułów po angielsku** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 41 | Elektromechaniczne przetw. energii | 90 | 30 | 30 | 30 | 0 | 0 | | | | | | | | | | | | | | | | | | | 2 E | 2 | 2 | | | 6 | | | | | | | | | | | | | | | | | | | |
| 42 | Wprowadzenie do mechatroniki | 60 | 30 | 0 | 30 | 0 | 0 | | | | | | | 2 | | 2 | | | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43 | Automatyzacja procesów technologicznych | 60 | 30 | 0 | 15 | 15 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 1 | 1 | | 3 | | | | | | | |
| 44 | Roboty i manipulatory | 60 | 30 | 0 | 30 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | 2 E | | 2 | | | 5 | | | | | | | | | | | | | |
| | **Blok modułów obieralnych** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Blok modułów obieralnych | 465 | 195 | 0 | 225 | 45 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | 6 | 0 | 9 | 0 | 0 | 14 | 5 E | 0 | 3 | 2 | 0 | 11 | 2 | 0 | 3 | 1 | 0 | 5 |
| | Razem | 2880 | 1305 | 465 | 825 | 225 | 60 | 14 | 8 | 5 | 2 | 0 | 30 | 12 | 9 | 6 | 2 | 0 | 30 | 12 | 7 | 6 | 2 | 0 | 30 | 13 | 4 | 11 | 0 | 1 | 30 | 11 | 1 | 14 | 1 | 0 | 30 | 14 | 2 | 6 | 3 | 0 | 30 | 6 | 0 | 3 | 5 | 3 | 30 |
| | | | | | | | | 29 | | | | | | 29 | | | | | | 27 | | | | | | 29 | | | | | | 27 | | | | | | 25 | | | | | | 17 | | | | | |
| | Liczba: Egzaminów | | | | | | | **2** | | | | | | **3** | | | | | | **3** | | | | | | **3** | | | | | | **3** | | | | | | **3** | | | | | | **1** | | | | | |
| | Liczba: Zaliczeń | | | | | | | 16 | | | | | | 13 | | | | | | 16 | | | | | | 15 | | | | | | 13 | | | | | | 13 | | | | | | 11 | | | | | |
| | Praktyki | | | | | | | | | | | | | | | | | | | | | | | | | 3 tyg. | | | | | | | | | | | | 3 tyg | | | | | | | | | | | |

Oznaczenia

**Suma ECTS 210** | 45% | 54,69 % | I | II | III | IV | V | VI | VII