**Plan studiów obowiązujący od roku akademickiego 2012/2013**

ZATWIERDZAM:

KIERUNEK: **FIZYKA**

Specjalność studiów: **Fizyka teoretyczna i astrofizyka, Bezpieczeństwo jądrowe i ochrona radiologiczna, Biofizyka molekularna i medyczna, Fizyka doświadczalna**

Poziom studiów: **I stopnia**

Profil studiów: **praktyczny**

Forma studiów: **stacjonarne**

data, podpis i pieczęć prorektora

| Lp. | Nazwa modułu (przedmiotu) | Punkty ECTS | Wymiar godzin (łączny) | | | | | | Rok I | | | | | | | | | | | | | | Rok II | | | | | | | | | | | | Rok III | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Rodzaj zaj. | | | | | 1 | | | | | | | 2 | | | | | | | 3 | | | | | | | 4 | | | | | | | 5 | | | | | | | 6 | | | | | | |
| | | | Razem | WY | CA | LB | KW | SM | WY | CA | LB | KW | SM | Forma zal. | Punkty ECTS | WY | CA | LB | KW | SM | Forma zal. | Punkty ECTS | WY | CA | LB | KW | SM | Forma zal. | Punkty ECTS | WY | CA | LB | KW | SM | Forma zal. | Punkty ECTS | WY | CA | LB | KW | SM | Forma zal. | Punkty ECTS | WY | CA | LB | KW | SM | Forma zal. | Punkty ECTS |
| **Blok modułów (przedmiotów) obowiązkowych - A** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Podstawy fizyki | 34 | 360 | 180 | 0 | 0 | 180 | 0 | 60 | | | 60 | | E | 12 | 60 | | | 60 | | E | 12 | 60 | | | 60 | | E | 10 | | | | | | | | | | | | | | | | | | | |
| 2 | Analiza matematyczna | 11 | 120 | 60 | 0 | 0 | 60 | 0 | 30 | | | 30 | | E | 7 | 30 | | | 30 | | E | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Repetytorium z fizyki | 2 | 15 | 0 | 0 | 0 | 15 | 0 | | | | 15 | | Z | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Repetytorium z matematyki | 2 | 15 | 0 | 0 | 0 | 15 | 0 | | | | 15 | | Z | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Pracownia fizyczna wstępna | 3 | 45 | 0 | 0 | 45 | 0 | 0 | | | 45 | | | Z | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Metody opracowania wyników pomiarów | 2 | 45 | 15 | 0 | 30 | 0 | 0 | 15 | | 30 | | | Z | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Technologie informacyjne | 2 | 30 | 0 | 0 | 30 | 0 | 0 | | | 30 | | | Z | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Algebra z geometrią | 4 | 60 | 30 | 0 | 0 | 30 | 0 | | | | | | | | 30 | | | 30 | | E | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | I Pracownia fizyczna | 11 | 90 | 0 | 0 | 45 | 0 | 45 | | | | | | | | | | | | 45 | Z | 6 | | | 45 | | | Z | 5 | | | | | | | | | | | | | | | | | | | | | |
| 10 | Astronomia (P) | 3 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | 30 | | | | | Z | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Język obcy do wyboru | 6 | 120 | 0 | 90 | 30 | 0 | 0 | | | | | | | | | | 30 | | | Z | 1 | | 30 | | | | Z | 1 | | 30 | | | | E | 3 | | | | | | | | | | | | |
| 12 | Mechanika klasyczna i relatywistyczna | 4 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | 30 | | | | | E | 4 | | | | | | | | | | | | | | | | | | | |
| 13 | WF | 1 | 30 | 0 | 30 | 0 | 0 | 0 | | | | | | | | | | | | | | | | 30 | | | | Z | 1 | | | | | | | | | | | | | | | | | | | |
| 14 | Podstawy fizyki kwantowej | 8 | 60 | 30 | 0 | 0 | 30 | 0 | | | | | | | | | | | | | | | | | | | | | | 30 | | | 30 | | E | 8 | | | | | | | | | | | | |
| 15 | Fizyka atomowa | 2 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | Z | 2 | | | | | | | | | | | | |
| 16 | Fizyka jądrowa | 2 | 45 | 30 | 0 | 0 | 15 | 0 | | | | | | | | | | | | | | | | | | | | | | 30 | | | 15 | | E | 2 | | | | | | | | | | | | |
| 17 | Fizyka ciała stałego | 4 | 45 | 30 | 0 | 0 | 15 | 0 | | | | | | | | | | | | | | | | | | | | | | 30 | | | 15 | | Z | 4 | | | | | | | | | | | | |
| 18 | Przesiębiorczość | 2 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | Z | 2 | | | | | | | | | | | | |
| 19 | Termodynamika i fizyka statystyczna | 3 | 45 | 30 | 0 | 0 | 15 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | | 15 | | E | 3 | | | | | | |
| 20 | Seminarium dyplomowe | 4 | 60 | 0 | 0 | 0 | 0 | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | Z | 2 | | | | | | |
| 21 | Elektrodynamika | 5 | 45 | 30 | 0 | 0 | 15 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | | 15 | | E | 5 |
| 23 | Filozofia z elementami logiki | 2 | 30 | 15 | 0 | 0 | 15 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | 15 | | E | 2 |
| Razem A | | 117 | 1380 | 570 | 120 | 180 | 405 | 105 | 105 | 0 | 105 | 120 | 0 | 0 | 30 | 150 | 0 | 30 | 120 | 45 | 0 | 30 | 90 | 60 | 45 | 60 | 0 | 0 | 21 | 150 | 30 | 0 | 60 | 0 | 0 | 19 | 30 | 30 | 0 | 15 | 30 | 0 | 8 | 45 | 0 | 0 | 30 | 30 | 0 | 9 |
| **Blok modułów (przedmiotów) wybieralnych/fakultatywnych - B Specjalność:Fizyka teoretyczna i astrofizyka** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Mechanika klasyczna i relatywistyczna | 1 | 30 | 0 | 0 | 0 | 30 | 0 | | | | | | | | | | | | | | | | | | 30 | | Z | 1 | | | | | | | | | | | | | | | | | | | |
| 2 | Metody matematyczne fizyki | 4 | 45 | 30 | 0 | 0 | 15 | 0 | | | | | | | | | | | | | | | 30 | | | 15 | | E | 4 | | | | | | | | | | | | | | | | | | | |
| 3 | Geometryczne metody fizyki | 2 | 45 | 30 | 0 | 0 | 15 | 0 | | | | | | | | | | | | | | | 30 | | | 15 | | E | 2 | | | | | | | | | | | | | | | | | | | |
| 4 | Metody obliczeniowwe i programowanie | 2 | 60 | 30 | 0 | 30 | 0 | 0 | | | | | | | | | | | | | | | 30 | | 30 | | | Z/O | 2 | | | | | | | | | | | | | | | | | | | |
| 5 | Mechanika ośrodków ciągłych | 6 | 60 | 30 | 0 | 0 | 30 | 0 | | | | | | | | | | | | | | | | | | | | | | 30 | | | 30 | | E | 6 | | | | | | | | | | | | |
| 6 | Metody komputerowe w astrofizyce (P | 3 | 30 | 15 | 0 | 15 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | | | Z/O | 3 | | | | | | | | | | | | |
| 7 | Fizyka Słońca i układu słonecznego | 4 | 60 | 30 | 0 | 0 | 30 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | | 30 | | E | 4 | | | | | | |
| 8 | Mechanika kwantowa nanostruktur | 5 | 60 | 30 | 0 | 0 | 30 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | | 30 | | E | 5 | | | | | | |
| 9 | Komputerowe modelowanie zjawisk fizycznych | 5 | 45 | 15 | 0 | 30 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | 30 | | | Z/O | 5 | | | | | | |
| 10 | Wstęp do klasycznej teorii pola | 6 | 60 | 30 | 0 | 0 | 30 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | | 30 | | E | 6 | | | | | | |
| 11 | Wstęp do kosmologii | 3 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | E | 3 |
| 12 | Fizyka cząstek elementarnych | 2 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | E | 2 |
| 13 | Elektrodynamika ośrodków ciągłych | 3 | 30 | 15 | 0 | 0 | 15 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | 15 | | E | 3 |
| 14 | Materia jądrowa gwiazd | 3 | 45 | 30 | 0 | 0 | 15 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | Z/O | 3 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Razem B | | 49 | 630 | 345 | 0 | 75 | 210 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 90 | 0 | 30 | 60 | 0 | 0 | 9 | 45 | 0 | 15 | 30 | 0 | 0 | 9 | 105 | 0 | 30 | 90 | 0 | 0 | 20 | 105 | 0 | 0 | 15 | 0 | 0 | 11 |
| | Blok modułów (przedmiotów) wybieralnych/fakultatywnych - C Specjalność:Bezpieczeństwo Jądrowe i ochrona radiologiczna | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Pracownia elektroniki | 4 | 60 | 0 | 0 | 60 | 0 | 0 | | | | | | | | | | | | | | | | | 60 | | | Z | 4 | | | | | | | | | | | | | | | | | | | | | |
| 2 | Oddziaływanie promieniowania jądrowego z materią | 1 | 15 | 15 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | 15 | | | | | E | 1 | | | | | | | | | | | | | | | | | | | | | |
| 3 | Detekcja promieniowania. Dozymetria (P) | 1 | 15 | 15 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | 15 | | | | | Z | 1 | | | | | | | | | | | | | | | | | | | | | |
| 4 | Prawo atomowe (P) | 2 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | 30 | | | | | E | 2 | | | | | | | | | | | | | | | | | | | | | |
| 5 | Rysynek techniczny | 1 | 15 | 0 | 0 | 15 | 0 | 0 | | | | | | | | | | | | | | | | | 15 | | | Z | 1 | | | | | | | | | | | | | | | | | | | | | |
| 6 | Efekty biologiczne promieniowania jonizującego | 2 | 15 | 15 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | 15 | | | | | Z | 2 | | | | | | | | | | | | | | |
| 7 | Jądrowe metody diagnostyki medycyny i terapii (P) | 1 | 15 | 15 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | 15 | | | | | Z | 1 | | | | | | | | | | | | | | |
| 8 | Reaktory i elektrownie jądrowe (P) | 3 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | Z | 3 | | | | | | | | | | | | | | |
| 9 | Chemia ogólna | 3 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | E | 3 | | | | | | | | | | | | | | |
| 10 | Reakcje jądrowe | 2 | 15 | 15 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | | | E | 2 | | | | | | | |
| 11 | Radiochemia | 2 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | Z | 2 | | | | | | | |
| 12 | Akceleratory i urządzenia jądrowe | 2 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | Z/O | 2 | | | | | | | |
| 13 | Materiałoznastwo reaktorowe (P) | 2 | 45 | 45 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 45 | | | | | E | 2 | | | | | | | |
| 14 | Pracownia radiochemiczna | 3 | 45 | 0 | 0 | 45 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 45 | | | Z | 3 | | | | | | | |
| 15 | Pracownia fizyki jądrowej | 5 | 90 | 0 | 0 | 90 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 90 | | | Z/O | 5 | | | | | | | |
| 16 | Postepowanie z wypalonym paliwem | 2 | 15 | 15 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | | | Z | 2 | | | | | | | |
| 17 | Odpady promieniotwórcze | 2 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | Z | 2 | | | | | | | |
| 18 | Pracownia specjalistyczna | 8 | 90 | 0 | 0 | 90 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 90 | | | Z/O | 8 |
| 19 | Osłony przed promieniowaniem jonizującym (P) | 3 | 15 | 0 | 0 | 15 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | Z | 3 |
| Razem C | | 49 | 630 | 315 | 0 | 315 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 0 | 75 | 0 | 0 | 0 | 9 | 90 | 0 | 0 | 0 | 0 | 0 | 9 | 165 | 0 | 135 | 0 | 0 | 0 | 20 | 0 | 0 | 105 | 0 | 0 | 0 | 11 |
| | Blok modułów (przedmiotów) wybieralnych/fakultatywnych - D Specjalność: Biofizyka molekularna i medyczna | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Pracownia elektroniki | 4 | 60 | 0 | 0 | 60 | 0 | 0 | | | | | | | | | | | | | | | | | 60 | | | Z | 4 | | | | | | | | | | | | | | | | | | | | | |
| 2 | Biochemia fizyczna | 2 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | 30 | | | | | Z/O | 2 | | | | | | | | | | | | | | | | | | | | | |
| 3 | Biofizyka ogólna | 3 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | 30 | | | | | E | 3 | | | | | | | | | | | | | | | | | | | | | |
| 4 | Wstęp do anatomii (P) | 4 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | E | 4 | | | | | | | | | | | | | | |
| 5 | Chemia fizyczna | 3 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | E | 3 | | | | | | | | | | | | | | |
| 6 | Fizyka medyczna | 2 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | Z/O | 2 | | | | | | | | | | | | | | |
| 7 | Budowa cząsteczek | 4 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | E | 4 | | | | | | | |
| 8 | Współczesna diagnostyka medyczna (P) | 3 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | Z | 3 | | | | | | | |
| 9 | Model. mat. w biofizyce | 4 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | E | 4 | | | | | | | |
| 10 | Pracownia biofizyki | 4 | 75 | 0 | 0 | 75 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 75 | | | Z | 4 | | | | | | | |
| 11 | Pracownia fizyczna II | 5 | 75 | 0 | 0 | 75 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 75 | | | Z | 5 | | | | | | | |
| 12 | Pracownia kliniczna (P) | 5 | 75 | 0 | 0 | 75 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 75 | | | Z | 5 |
| 13 | Pracownia biofizyki | 4 | 75 | 0 | 0 | 75 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 75 | | | Z | 4 |
| 14 | Spektrometria molekularna | 2 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | Z/O | 2 |
| Razem D | | 49 | 630 | 270 | 0 | 360 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 0 | 60 | 0 | 0 | 0 | 9 | 90 | 0 | 0 | 0 | 0 | 0 | 9 | 90 | 0 | 150 | 0 | 0 | 0 | 20 | 30 | 0 | 150 | 0 | 0 | 0 | 11 |
| | Blok modułów (przedmiotów) wybieralnych/fakultatywnych - E Specjalność: Fizyka doświadczalna | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Pracownia elektroniki | 4 | 60 | 0 | 0 | 60 | 0 | 0 | | | | | | | | | | | | | | | | | 60 | | | Z | 4 | | | | | | | | | | | | | | | | | | | | | |
| 2 | Elektronika | 4 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | 30 | | | | | E | 4 | | | | | | | | | | | | | | | | | | | | | |
| 3 | Rysynek techniczny | 1 | 15 | 0 | 0 | 15 | 0 | 0 | | | | | | | | | | | | | | | | | 15 | | | Z | 1 | | | | | | | | | | | | | | | | | | | | | |
| 4 | Pracownia fizyczna II | 10 | 150 | 0 | 0 | 150 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | 75 | | | Z/O | 4 | | | 75 | | | Z/O | 6 | | | | | | | |
| 5 | Elektronika i automatyka pomiarów (P) | 1 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | Z | 1 | | | | | | | | | | | | | | |
| 6 | Numeryczne metody opracowania i wizualizacji wyników pomiarów | 2 | 60 | 15 | 0 | 45 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | 15 | | 45 | | | Z | 2 | 30 | | | | | | | | | | | | | |
| 7 | Metody spektroskopowe | 2 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | E | 2 | | | | | | | | | | | | | | |
| 8 | Nowoczesne materiały i technologie | 3 | 30 | 30 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | Z/O | 3 | | | | | | | |
| 9 | Technologia rejestracji i przetwarzania wyników pomiarów | 4 | 45 | 0 | 0 | 45 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 45 | | | Z | 4 | | | | | | | |
| 10 | Metody mikroskopowe i dyfrakcyjne | 7 | 60 | 30 | 0 | 30 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | 30 | | | E | 7 | | | | | | | |
| 11 | Technologia i miernictwo prózni (P) | 5 | 60 | 15 | 0 | 45 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | 45 | | | Z | 5 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | Modelowanie eksperymentu | 6 | 60 | 15 | 0 | 45 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | 45 | | | E | 6 |
| | Razem E | 49 | 630 | 195 | 0 | 435 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 75 | 0 | 0 | 0 | 9 | 75 | 0 | 120 | 0 | 0 | 0 | 9 | 90 | 0 | 150 | 0 | 0 | 0 | 20 | 30 | 0 | 90 | 0 | 0 | 0 | 11 |
| | Razem A+B; A+C; A+D; A+E | | 2010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Razem godziny w semestrze | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Praktyki (pkt ECTS/wymiar) | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | | | |
| | Obozy naukowe (pkt ECTS/wymiar) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Wycieczki programowe (pkt ECTS/wymiar) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Ćwiczenia terenowe (pkt ECTS/wymiar) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Minimalna liczba punktów ECTS dla zajęć ogólnouniwersyteckich lub na innym kierunku studiów | 2 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | | 2 | | | | | | | |
| | Liczba punktów za pracę dyplomową i jej obronę (egzamin dyplomowy) | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| | Punkty ECTS w semestrze | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Razem | 180 | 2040 | | | | | 30 | | | | | | | 30 | | | | | | | 30 | | | | | | | | | | | | | | 30 | | | | | | | 30 | | | | | | | 30 |

**Uwaga!:** **studenta obowiązuje zaliczenie przedmiotów podstawowych i jednej wybranej specjalności.**

**Punkty ECTS wynoszą: przedmioty podstawowe: 117, każde ze specjalności - 49, praktyki -2, praca dyplomowa - 10, wykład ogólnouniwersytecki - 2**

Student przygotowujący pracę licencjacką uczestniczy w pracowni dyplomowej licencjackiej prowadzonej bezwymiarowo, indywidualnie przez promotora. Promotorowi zalicza się 15 godzin za prowadzenie pracowni dyplomowej.

Praktyki zawodowe powinny odbywać się po 2 roku w wymiarze nie krótszym niż 3 tygodnie.

Student uczestniczy w zorganizowanych w ramach wydziału/uczelni zajęciach z zakresu ochrony własności intelektualnej, bezpieczeństwa i higieny pracy oraz ergonomii

**Zatwierdzono na posiedzeniu Rady Wydziału w dniu:** **25.06.2012 r.**

…………………….…………………………………..

data, podpis i pieczęć dziekana

*/ przykładowa liczba punktów

A - blok modułów (przedmiotów) obowiązujących wszystkich studentów danego kierunku i specjalności

B - blok modułów (przedmiotów) wybieralnych/fakultatywnych m.in.. specjalnościowych lub specjalizacyjnych (minimum 30% ogólnej liczby punktów ECTS)

W przypadku studiów 3,5-letnich i 5-letnich należy dodać odpowiednią ilość kolumn, a w przypadku studiów 1,5-rocznych i 2-letnich usunąć odpowiednią ilość kolumn. Liczbę wierszy można zwiększać w zależności od potrzeb.

W przypadku studiów o profilu praktycznym należy przy nazwie przedmiotu praktycznego umieścić symbol: **(P)**

Symbole: WY-wykład, CA-ćwiczenia, LB-labolatorium, KW-konwersatorium, SM-seminarium, E- egzamin, Z- zaliczenie, Z/O zaliczenie z oceną wliczaną do średniej