KIERUNEK: **BIOLOGIA**
Specjalność: **Medical Biology**
Poziom studiów: **I stopień**
Profil studiów: **ogólnoakademicki**
Forma studiów:**stacjonarne**

**Plan studiów obowiązujący od roku akademickiego 2019/2020**

ZATWIERDZAM:

data, podpis i pieczęć prorektora

| Lp. | Nazwa modułu (przedmiotu) | Punkty ECTS | Wymiar godzin (łączny) | | | | | | Rok I | | | | | | | | | | | | | | Rok II | | | | | | | | | | | | Rok III | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Razem | Rodzaj zaj. | | | | | 1 | | | | | | | 2 | | | | | | | 3 | | | | | | | 4 | | | | | | | 5 | | | | | | | 6 | | | | | | |
| | | | | 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 | Physics with elements of biophysics | 5 | 60 | 20 | | 40 | | | 20 | | 40 | | | egz. | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Mathematics with elements of statistics | 5 | 60 | 30 | | | 30 | | 30 | | | 30 | | egz. | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Mycology | 3 | 45 | 15 | | 30 | | | 15 | | 30 | | | zal. | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Intellectual property protection | 1 | 15 | 15 | | | | | 15 | | | | | zal. | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Information technology | 2 | 30 | | | 30 | | | | | 30 | | | zal. | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Physical education | 0 | 60 | | 60 | | | | | 30 | | | | zal. | 0 | | 30 | | | | zal. | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Training* | 1 | 8 | 8 | | | | | 8 | | | | | z.bo. | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Microbiology | 5 | 60 | 30 | | 30 | | | 30 | | 30 | | | egz. | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Human anatomy | 3,5 | 60 | 30 | | 30 | | | | | | | | | | 30 | | 30 | | | zal. | 3,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | General and taxonomic botany | 6 | 75 | 30 | | 45 | | | | | | | | | | 30 | | 45 | | | egz. | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Botany and zoology field classes | 3 | 60 | | 60CT | | | | | | | | | | | | 60CT | | | | zal. | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | General and taxonomic zoology with principles of taxonomy | 7,5 | 90 | 30 | | 60 | | | | | | | | | | 30 | | 60 | | | egz. | 7,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | Genetics with elements of human genetics | 5 | 60 | 30 | | 30 | | | | | | | | | | | | | | | | | 30 | | 30 | | | egz. | 5 | | | | | | | | | | | | | | | | | | | |
| 14 | Animal physiology – an extensive course | 7,5 | 90 | 30 | | 60 | | | | | | | | | | | | | | | | | 30 | | 60 | | | egz. | 7,5 | | | | | | | | | | | | | | | | | | | |
| 15 | Environmental protection – an extensive course | 3 | 60 | 30 | 15CT | 15 | | | | | | | | | | | | | | | | | 30 | 15CT | 15 | | | z.śr. | 3 | | | | | | | | | | | | | | | | | | | |
| 16 | Biochemistry | 7,5 | 90 | 30 | | 60 | | | | | | | | | | | | | | | | | 30 | | 60 | | | egz. | 7,5 | | | | | | | | | | | | | | | | | | | |
| 17 | Evolutionary biology | 2 | 30 | 15 | | | 15 | | | | | | | | | | | | | | | | | | | | | | | 15 | | | 15 | | zal. | 2 | | | | | | | | | | | | |
| 18 | Cell biology – an extensive course | 7,5 | 90 | 30 | | 60 | | | | | | | | | | | | | | | | | | | | | | | | 30 | | 60 | | | egz. | 7,5 | | | | | | | | | | | | |
| 19 | Molecular biology with elements of molecular diagnostics | 5 | 60 | 30 | | 30 | | | | | | | | | | | | | | | | | | | | | | | | 30 | | 30 | | | egz. | 5 | | | | | | | | | | | | |
| 20 | Ecology | 6 | 75 | 30 | 5CT | 40 | | | | | | | | | | | | | | | | | | | | | | | | 30 | 5CT | 40 | | | egz. | 6 | | | | | | | | | | | | |
| 21 | Ethics | 1 | 15 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | | | zal. | 1 | | | | | | | | | | | | |
| 22 | Human immunology with elements of virology | 5 | 60 | 30 | | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | 30 | | | egz. | 5 | | | | | | |
| 23 | Genetic engineering – a basic course | 3,5 | 45 | 15 | | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | 30 | | | z.śr. | 3,5 | | | | | | |
| 24 | Basics of individual entrepreneurship | 0,5 | 10 | | | | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | 10 | | zal. | 0,5 | | | | | | | | | | | | |
| 25 | Foreign language B2 | 8 | 120 | | | | 120L | | | | | | | | | | | | 30L | | zal. | 1,5 | | | | 30L | | zal. | 1,5 | | | | 30L | | zal. | 1,5 | | | 30L | | egz. | 3,5 | | | | | | |
| 26 | Biotechnology | 1,5 | 30 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | zal. | 1,5 |
| 27 | Plant physiology – an extensive course | 8 | 90 | 30 | | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | egz. | 8 |
| 28 | Mechanisms of evolution | 2,5 | 30 | 15 | | | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | egz. | 2,5 |
| **Razem A** | | **115,5** | **1578** | **568** | **140** | **680** | **190** | | **118** | **30** | **130** | **30** | | | **22** | **90** | **90** | **135** | **30** | | | **21,5** | **120** | **15** | **165** | **30** | | | **24,5** | **120** | **5** | **130** | **55** | | | **23,5** | **45** | | **60** | **30** | | | **12** | **75** | | **60** | **15** | | | **12** |
| **Blok modułów (przedmiotów) wybieralnych -- B** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | [a] General and inorganic chemistry with elements of analytical chemistry / [b] Chemia ogólna i nieorganiczna z el. chemii analitycznej | 6 | 75 | 30 | | 45 | | | 30 | | 45 | | | egz. | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | [a] The elements of organic chemistry for biology students / [b] Elementy chemii organicznej dla biologów | 5 | 60 | 30 | | 30 | | | | | | | | | | 30 | | 30 | | | egz. | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | [a] Physical chemistry / [b] Chemia fizyczna | 1,5 | 30 | 30 | | | | | | | | | | | | 30 | | | | | zal. | 1,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | [a] The history of philosophy with elements of natural philosophy / [b] Contemporary problems in philosophy | 2,5 | 30 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | | | | egz. | 2,5 | | | | | | | | | | | | |
| 33 | Academic lecture | 1 | 15 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | | | zal. | 1 | | | | | | |
| 34 | Seminar | 3 | 45 | | | | | 45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 45 | zal. | 3 |
| 35 | Developmental biology | 2 | 30 | 15 | | 15 | | | 15 | | 15 | | | zal. | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | Physical basis of instrumental diagnostics and physiotherapy | 1,5 | 30 | 20 | | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 20 | | 10 | | | zal. | 1,5 | | | | | | |
| 37 | Parasitology | 2 | 30 | 15 | | 15 | | | | | | | | | | 15 | | 15 | | | zal. | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 38 | Radiology | 1 | 15 | 15 | | | | | | | | | | | | | | | | | | | 15 | | | | | zal. | 1 | | | | | | | | | | | | | | | | | | | |
| 39 | Environmental toxicology | 4,5 | 60 | 30 | | 30 | | | | | | | | | | | | | | | | | 30 | | 30 | | | z.śr. | 4,5 | | | | | | | | | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | Biochemistry of nutrition | 1 | 15 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | | | zal. | 1 | | | | | | | |
| 41 | Elements of pathophysiology | 1 | 15 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | | | zal. | 1 | | | | | | | | | | | | | | |
| 42 | Basics of pharmacology | 3 | 45 | 15 | | | **30** | | | | | | | | | | | | | | | | | | | | | | | 15 | | | 30 | | zal. | 3 | | | | | | | | | | | | | | |
| 43 | Applied biology in medicine | 3 | 40 | | | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 40 | | | zal. | 3 | | | | | | | |
| 44 | Biological basics of herbal medicine | 6 | 70 | 30 | | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | | 40 | | | egz. | 6 | | | | | | | |
| 45 | Human evolution | 1,5 | 30 | 15 | | | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | 15 | | zal. | 1,5 | | | | | | | |
| 46 | Pharmacological botany | 6 | 75 | 30 | 5CT | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | 5CT | 40 | | | z. śr. | 6 |
| 47 | Human ecology | 1,5 | 30 | 15 | | | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | 15 | | zal. | 1,5 |
| 48 | Biomaterial engineering in medicine | 1 | 15 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | | | zal. | 1 |
| 49 | Biochemical methods in clinical analysis | 3,5 | 45 | 15 | | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | 30 | | | zal. | 3,5 |
| **Razem B** | | **57,5** | **800** | **395** | **5** | **295** | **60** | **45** | **45** | | **60** | | | | **8** | **75** | | **45** | | | | **8,5** | **45** | | **30** | | | | **5,5** | **60** | | | **30** | | | **6,5** | **95** | | **90** | **15** | | | **14** | **75** | | **70** | **15** | **45** | | **15** |
| **Razem A+B** | | **173** | **2378** | **963** | **145** | **975** | **250** | **45** | **163** | **30** | **190** | **30** | | | **30** | **165** | **90** | **180** | **30** | | | **30** | **165** | **15** | **195** | **30** | | | **30** | **180** | **5** | **130** | **85** | | | **30** | **140** | | **150** | **45** | | | **26** | **150** | **5** | **130** | **30** | **45** | | **27** |
| **Razem godziny w semestrze** | | | | | | | | | **413** | | | | | | | **465** | | | | | | | **405** | | | | | | | **400** | | | | | | | **335** | | | | | | | **360** | | | | | | |
| | Specialization practical training | **4** | 120 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 120 | | | | z.bo. | **4** | | | | | | | |
| | 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** | | 1** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Diploma thesis + final exam | | **3** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | **3** |
| **Punkty ECTS w semestrze** | | | | | | | | | **30** | | | | | | | **30** | | | | | | | **30** | | | | | | | **30** | | | | | | | **30** | | | | | | | **30** | | | | | | |
| **Razem** | | **180** | **2498** | **963** | **145** | **975** | **250** | **45** | **163** | **30** | **190** | **30** | | | **30** | **165** | **90** | **180** | **30** | | | **30** | **165** | **15** | **195** | **30** | | | **30** | **180** | **5** | **130** | **85** | | | **30** | **140** | | **270** | **45** | | | **30** | **150** | **5** | **130** | **30** | **45** | | **30** |

**Rada Wydziału Biologii i Biotechnologii zatwierdziła korektę planu w dniu:** 23 stycznia 2019 r.

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data, podpis i pieczęć dziekana

*/ Szkolenia: Bezpieczeństwo pracy i ergonomia 4 godz., Odpowiedzialność dyscyplinarna 2 godz., Przysposobienie biblioteczne 2 godz.

**/ Moduły oznaczone dwiema gwiazdkami są przedmiotem wyboru i zostały uwzględnione w bloku B

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)

Symbole: WY-wykład, CA-ćwiczenia audytoryjne, CT-ćwiczenia terenowe, LB-laboratorium, KW-konwersatorium, L-lektoraty, SM-seminarium, KP-kurs podstawowy, KR-kurs rozszerzony, zal. - zaliczenie na ocenę, z.bo. - zaliczenie bez oceny, z.śr. - zaliczenie z oceną liczoną do średniej ocen