**PWSZ w Kaliszu Instytut Politechniczny**
**KIERUNEK INŻYNIERIA ŚRODOWISKA**

**PLAN STUDIÓW NIESTACJONARNYCH**
**I stopnia (OBOWIĄZUJE OD 1.10.2014)**

**Specjalność**
**INŻYNIERIA OCHRONY ŚRODOWISKA**

| L.p. | Nazwa przedmiotu | L.egz. | Ogólna liczba godzin w tym: Razem | wykł. W | ćw. C | lab. L | proj. P | Rozdział zajęć programowych na semestry: SEMESTR I PK | E | W | C | L | P | SEMESTR II PK | E | W | C | L | P | SEMESTR III PK | E | W | C | L | P | SEMESTR IV PK | E | W | C | L | P | SEMESTR V PK | E | W | C | L | P | SEMESTR VI PK | E | W | C | L | P | SEMESTR VII PK | E | W | C | L | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | **PRZEDMIOTY OGÓLNE** | 1 | 189 | 54 | 135 | 0 | 25 | 3 | 0 | 0 | 35 | 0 | 25 | 2 | 0 | 9 | 28 | 0 | 0 | 1 | 0 | 0 | 18 | 0 | 0 | 3 | 0 | 18 | 27 | 0 | 0 | 2 | 1 | 9 | 18 | 0 | 0 | 3 | 0 | 9 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | Wychowanie fizyczne | | 20 | | 20 | | | | | | 10 | | | | | | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Język obcy | 1 | 72 | | 72 | | | | | | | | | 1 | | | 18 | | | 1 | | | 18 | | | 1 | | | 18 | | | 2 | E | | 18 | | | | | | | | | | | | | |
| 3 | Technologia informacyjna | | 25 | | | | 25 | 3 | | | | | 25 | | | | | | | | | | | | | 2 | | 9 | 9 | | | | | | | | | | | | | | | | | | | |
| 4 | Przedmiot humanistyczny (Ekonomia) | | 18 | 9 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Przedmiot humanistyczny (Psychologia, Socjologia, Zarządzanie przed.) | | 18 | 9 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 9 | 9 | | | | | | | |
| 6 | Ochrona własności intelektualnej | | 9 | 9 | | | | | | | | | | 1 | | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Bezpieczeństwo pracy i ergonomia | | 9 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 9 | | | | | | | |
| 8 | Przedmiot ogólnouczelniany | | 18 | 18 | | | | | | | | | | | | | | | | | | | | | | 1 | | 9 | | | | 1 | | 9 | | | | | | | | | | | | | | |
| B | **PRZEDMIOTY PODSTAWOWE** | 7 | 744 | 295 | 263 | 48 | 138 | 27 | 3 | 141 | 95 | 0 | 30 | 20 | 0 | 33 | 123 | 0 | 45 | 21 | 3 | 91 | 27 | 24 | 39 | 8 | 0 | 15 | 9 | 24 | 12 | 4 | 0 | 15 | 9 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | Matematyka | 1 | 120 | 30 | 90 | | | 7 | E | 30 | 40 | | | 6 | | | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Fizyka | 1 | 60 | 30 | 30 | | | 5 | E | 30 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Chemia | | 75 | 50 | 25 | | | 5 | | 25 | 25 | | | | | | | | | 3 | | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Biologia i ekologia | 1 | 55 | 25 | 30 | | | 3 | | 25 | | | | 3 | | | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Ochrona środowiska | | 50 | 25 | 25 | | | 3 | E | 25 | | | | 1 | | | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Rysunek tech. I geometria wykreślna | | 36 | 6 | | | 30 | 4 | | 6 | | | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Informatyczne podstawy projektowania | | 60 | 15 | | | 45 | | | | | | | 5 | | 15 | | | 45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Termodynamika techniczna | 1 | 48 | 15 | 9 | 24 | | | | | | | | | | | | | | 6 | E | 15 | 9 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Mechanika płynów | | 48 | 15 | | 24 | 9 | | | | | | | | | | | | | 3 | | 15 | | | 9 | 3 | | | | 24 | | | | | | | | | | | | | | | | | | | |
| 10 | Materiałoznawstwo | 1 | 30 | 18 | | | 12 | | | | | | | | | | | | | 3 | E | 18 | | | 12 | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Mechanika i wytrzymałość materiałów | | 36 | 15 | 9 | | 12 | | | | | | | | | | | | | | | | | | | 5 | | 15 | 9 | | 12 | | | | | | | | | | | | | | | | | | |
| 12 | Budownictwo | | 36 | 15 | 9 | | 12 | | | | | | | | | | | | | | | | | | | | | | | | | 4 | | 15 | 9 | | 12 | | | | | | | | | | | | |
| 13 | Hydrologia i nauka o Ziemi | 1 | 36 | 18 | 18 | | | | | | | | | 5 | E | 18 | 18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | Procesy jednostkowe | 1 | 54 | 18 | 18 | | 18 | | | | | | | | | | | | | 6 | E | 18 | 18 | | 18 | | | | | | | | | | | | | | | | | | | | | | | | |
| C | **PRZEDMIOTY KIERUNKOWE** | 4 | 438 | 142 | 45 | 81 | 170 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 1 | 24 | 0 | 0 | 45 | 8 | 0 | 18 | 15 | 36 | 0 | 19 | 3 | 64 | 15 | 45 | 71 | 4 | 0 | 18 | 0 | 0 | 30 | 6 | 0 | 18 | 15 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | Ochrona powietrza | 1 | 45 | 15 | 15 | | 15 | | | | | | | | | | | | | | | | | | | 5 | E | 15 | 15 | | 15 | | | | | | | | | | | | | | | | | | |
| 2 | Technologia wody | 1 | 40 | 15 | | | 25 | | | | | | | 4 | E | 15 | | | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Technologia ścieków | | 48 | 9 | 15 | | 24 | | | | | | | | | | | | | 3 | | 9 | 15 | | | 2 | | | | | 24 | | | | | | | | | | | | | | | | | | |
| 4 | Sieci i instalacje sanitarne | | 57 | 18 | 15 | | 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 6 | | 18 | 15 | | 24 | | | | | | |
| 5 | Gospodarka odpadami | 1 | 36 | 16 | | | 20 | | | | | | | | | | | | | | | | | | | 3 | E | 16 | | | 20 | | | | | | | | | | | | | | | | | | |
| 6 | Ogrzewnictwo, wentylacja i klimatyzacja | | 45 | 18 | | 15 | 12 | | | | | | | | | | | | | | | | | | | 4 | | 18 | | 15 | 12 | | | | | | | | | | | | | | | | | | |
| 7 | Ochrona przed hałasem i wibracjami | | 48 | 18 | | | 30 | | | | | | | | | | | | | | | | | | | | | | | | | 4 | | 18 | | | 30 | | | | | | | | | | | | |
| 8 | Biotechnologia środowiska | 1 | 45 | 15 | | 30 | | | | | | | | | | | | | | | | | | | | 5 | E | 15 | | 30 | | | | | | | | | | | | | | | | | | | |
| 9 | Rozwój zrównowazony | | 29 | 9 | | | 20 | | | | | | | 4 | | 9 | | | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Analiza chem. wody iścieków | | 45 | 9 | | 36 | | | | | | | | | | | | | | 5 | | 9 | | 36 | | | | | | | | | | | | | | | | | | | | | | | | | |
| D | **PRZEDMIOTY SPECJALISTYCZNE** | 5 | 329 | 137 | 51 | 44 | 97 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 2 | 66 | 33 | 14 | 18 | 21 | 3 | 71 | 18 | 30 | 40 | 30 | 0 | 0 | 0 | 0 | 39 |
| 1 | Biokonwersja odpadów | | 35 | 20 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | 6 | | 20 | 15 | | | | | | | | | | | | | | |
| 2 | Geodezja i kartografia | | 39 | 9 | | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 5 | | 9 | | 30 | | | | | | | |
| 3 | Mikroorganizmy w ochronie środowiska | | 22 | 8 | | 14 | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | | 8 | | 14 | | | | | | | | | | | | | |
| 4 | Projektowanie urządzeń ochrony powietrza | 1 | 36 | 16 | | | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 5 | E | 16 | | | 20 | | | | | | |
| 5 | Przedmiot obieralny | 2 | 40 | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | E | 20 | | | | 3 | E | 20 | | | | | | | | | |
| 6 | Seminarium dyplomowe | | 30 | | | | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | | | | | 30 |
| 7 | Projekt dyplomowy | | 9 | | | | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | 9 |
| 8 | Studium wykonalności projektów ochrony środowiska | | 28 | 8 | | | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | E | 8 | | | 20 | | | | | | |
| 9 | Urządzenia ochrony środowiska | 1 | 54 | 18 | 18 | | 18 | | | | | | | | | | | | | | | | | | | | | | | | | 7 | E | 18 | 18 | | 18 | | | | | | | | | | | | |
| 10 | Zagrożenia środowiskowe | 1 | 36 | 18 | 18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | | 18 | 18 | | | | | | | | |
| 11 | Praca dyplomowa | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | | | |
| 12 | Praktyki zawodowa* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 10 | | | | | |
| | | | | W | C | L | P | PK | E | W | C | L | P | PK | E | W | C | L | P | PK | E | W | C | L | P | PK | E | W | C | L | P | PK | E | W | C | L | P | PK | E | W | C | L | P | PK | E | W | C | L | P |
| | **RAZEM** | 17 | 1700 | 628 | 494 | 173 | 430 | 30 | 3 | 141 | 130 | 0 | 55 | 30 | 1 | 66 | 151 | 0 | 90 | 30 | 3 | 109 | 60 | 60 | 39 | 31 | 3 | 97 | 51 | 69 | 83 | 31 | 3 | 108 | 60 | 14 | 60 | 30 | 3 | 98 | 51 | 30 | 64 | 30 | 0 | 0 | 0 | 0 | 39 |
| | Obowiązuje od 1.10.2014 | Liczba godzin | | | | | | 326 | | | | | | 307 | | | | | | 268 | | | | | | 300 | | | | | | 242 | | | | | | 243 | | | | | | 39 | | | | | |

*Praktyka zawodowa 3 miesiące (możliwość realizacji od sem. IV; zaliczenie na ocenę w sem. VII) Praca dyplomowa inżynierska (ok 200 h) i egzamin dyplomowy nie są ujęte w Programie"

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