Załącznik nr 1

**PAŃSTWOWA WYŻSZA SZKOŁA ZAWODOWA w ELBLĄGU**

**INSTYTUT POLITECHNICZNY**

# PLAN STUDIÓW

**STUDIA PIERWSZEGO STOPNIA - STACJONARNE**
**PROFIL PRAKTYCZNY**

**Kierunek: MECHANIKA i BUDOWA MASZYN**
*dotyczy studentów rekrutowanych w roku 2017 i latach kolejnych*

| L.p. | Nazwa przedmiotu | L. egz. | ECTS p. wyb. | ECTS z. praw. | ECTS z NA | ECTS Łącznie | Liczba godzin | sem I w | sem I ć | sem I l | sem I p/s | sem I e | sem I ECTS | sem II w | sem II ć | sem II l | sem II p/s | sem II e | sem II ECTS | sem III w | sem III ć | sem III l | sem III p/s | sem III e | sem III ECTS | sem IV w | sem IV ć | sem IV l | sem IV p/s | sem IV e | sem IV ECTS | sem V w | sem V ć | sem V l | sem V p/s | sem V e | sem V ECTS | sem VI w | sem VI ć | sem VI l | sem VI p/s | sem VI e | sem VI ECTS | sem VII w | sem VII ć | sem VII l | sem VII p/s | sem VII e | sem VII ECTS | sem VIII w | sem VIII ć | sem VIII l | sem VIII p/s | sem VIII e | sem VIII ECTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A.** | **PRZEDMIOTY KSZTAŁCENIA OGÓLNEGO** | | | | | **27** | **450** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Język obcy | 1 | | | 6,6 | 12 | 150 | | 2 | | | | **2** | | 2 | | | | **2** | | 2 | | | | **2** | | 2 | | | | **2** | | 2 | | | E | **4** | | | | | | | | | | | | | | | | | |
| 2 | Technologie informacyjne | 0 | | 1,8 | 1,2 | 2 | 30 | | | 2 | | | **2** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Bezpieczeństwo pracy i ergonomia | 0 | | | 0,5 | 1 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | **1** | | | | | | | | | | | | |
| 4 | Ochrona własności intelektualnej | 0 | | | 0,5 | 1 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | **1** |
| 5 | Analiza ekonomiczna dla inżynierów | 0 | | 1,5 | 1,2 | 2 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | **2** | | | | | | | | | | | | |
| 6 | Podstawy przedsiębiorczości | 0 | | 2,1 | 1,4 | 3 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | **3** |
| 7 | Przedmiot humanistyczny lub społeczny | 0 | 4 | | 2,4 | 4 | 60 | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | **2** | | | | | | | | | | | | | 2 | | | | | **2** |
| 8 | Kultura społeczna i zawodowa | 0 | | 2,2 | 1,1 | 2 | 60 | | | | | | | 0,7 | | | 0,3 | | **0,5** | 0,3 | | | 0,7 | | **0,5** | 0,5 | | | 0,5 | | **0,5** | 0,3 | | | 0,7 | | **0,5** | | | | | | | | | | | | | | | | | |
| 9 | Wychowanie fizyczne | 0 | | | 2 | 0 | 60 | | 1 | | | | | | 1 | | | | | | 1 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **B.** | **PRZEDMIOTY PODSTAWOWE** | | | | | **46** | **540** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Algebra z geometrią analityczną | 0 | | | 1,5 | 4 | 45 | 1 | 2 | | | | **4** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Analiza matematyczna | 1 | | | 2,8 | 6 | 75 | 2 | 3 | | | E | **6** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Równania różniczkowe zwyczajne | 1 | | | 1,4 | 3 | 30 | | | | | | | 1 | 1 | | | E | **3** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Metody statystyczne w technice | 0 | | 1,2 | 1,2 | 2 | 30 | | | | | | | 1 | | 1 | | | **2** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Fizyka | 1 | | 3,8 | 4 | 8 | 90 | 2 | 1 | | | E | **4** | 1 | | 2 | | | **4** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Mechanika techniczna | 1 | | 1,9 | 3,6 | 8 | 90 | | | | | | | 3 | 3 | | | E | **8** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Wytrzymałość materiałów | 1 | | 5,2 | 3,8 | 9 | 97,5 | | | | | | | | | | | | | 3 | 3 | 0,5 | | E | **9** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Drgania mechaniczne | 0 | | 2 | 1,6 | 3 | 37,5 | | | | | | | | | | | | | | | | | | | 1 | 0,5 | 1 | | | **3** | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Mechanika płynów | 0 | | 1,7 | 2 | 3 | 45 | | | | | | | | | | | | | | | | | | | 1,5 | 1 | 0,5 | | | **3** | | | | | | | | | | | | | | | | | | | | | | | |
| **C.** | **PRZEDMIOTY KIERUNKOWE** | | | | | **87** | **1140** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Termodynamika techniczna | 1 | | 2,8 | 2,3 | 5 | 60 | | | | | | | | | | | | | 2 | 2 | | | E | **5** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Podstawy elektrochemii | 0 | | 1 | 1,1 | 2 | 30 | 1 | | 1 | | | **2** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Elektrotechnika | 0 | | 3 | 2,2 | 4 | 60 | | | | | | | | | | | | | 2 | | 2 | | | **4** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Elektronika | 0 | | 1,9 | 1,7 | 3 | 45 | | | | | | | | | | | | | | | | | | | 2 | | 1 | | | **3** | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Podstawy automatyki i robotyki | 0 | | 1,6 | 1,7 | 3 | 45 | | | | | | | | | | | | | | | | | | | 1,5 | | 1,5 | | | **3** | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Grafika inżynierska | 0 | | 3 | 3,1 | 6 | 82,5 | 1,5 | | | 2 | | **4** | | | 1 | 1 | | **2** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Podstawy konstrukcji maszyn | 1 | | 10,4 | 5,6 | 12 | 150 | | | | | | | | | | | | | 2 | 2 | | | | **4** | 2 | 2 | | | E | **5** | | | | 2 | | **3** | | | | | | | | | | | | | | | | | |
| 8 | Komputerowe wspomaganie prac inżynierskich | 0 | | 3,5 | 4 | 5 | 75 | | | | | | | | | | | | | | | 2 | | | **2** | | | 3 | | | **3** | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Materiały inżynierskie | 1 | | 6,8 | 4,6 | 9 | 105 | 2 | | 1 | | | **4** | 1 | | 2 | 1 | E | **5** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Obróbka bezubytkowa | 0 | | 4,5 | 3,8 | 6 | 90 | | | | | | | 2 | | 1 | 0,5 | | **4** | 1 | | 1 | 0,5 | | **2** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Obróbka ubytkowa | 0 | | 2,1 | 1,8 | 3 | 45 | | | | | | | | | | | | | | | | | | | 2 | | 1 | | | **3** | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Przetwórstwo tworzyw sztucznych | 0 | | 1,3 | 1,3 | 2 | 30 | | | | | | | | | | | | | 1 | | 1 | | | **2** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | Technologia maszyn | 1 | | 4 | 2,5 | 5 | 60 | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 1 | 1 | E | **5** | | | | | | | | | | | | | | | | | |
| 14 | Podstawy eksploatacji, diagnostyki i napraw maszyn | 0 | | 2,3 | 1,9 | 3 | 45 | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 1 | | | **3** | | | | | | | | | | | | | | | | | |
| 15 | Metrologia i systemy pomiarowe | 0 | | 3 | 2,4 | 4 | 60 | 1 | | 1 | | | **2** | | | | | | | | | | | | | 1 | | 1 | | | **2** | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | Zarządzanie jakością | 0 | | 1,1 | 1,2 | 2 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | **2** |
| 17 | Zarządzanie środowiskiem i ekologia | 0 | | 0,6 | 1,2 | 2 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | **2** |
| 18 | Przedmioty wybieralne kierunkowe | 0 | 6 | 3,7 | 2,7 | 6 | 67,5 | | | | | | | | | | | | | | | | | | | 2 | | 1 | | | **3** | | | | | | | 1 | | | 0,5 | | **3** | | | | | | | | | | | |
| 19 | Projekt przejściowy | 0 | 5 | 4,9 | 1,4 | 5 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | **5** | | | | | | | | | | | |
| **D.** | **PRZEDMIOTY SPECJALNOŚCIOWE - moduły do wyboru** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **D.I.** | **SPECJALNOŚĆ TECHNOLOGIA i EKSPLOATACJA MASZYN** | | | | | **34** | **435** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Napędy oraz sterowanie hydrauliczne i pneumatyczne | 0 | 2 | 1,2 | 1,1 | 2 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 0,5 | 0,5 | | **2** | | | | | | | | | | | | | | | | | | |
| 2 | Sterowanie mikrokomputerowe układów mechanicznych | 0 | 4 | 2,9 | 2,2 | 4 | 52,5 | | | | | | | | | | | | | | | | | | | | | | | | | 1,5 | | 1,5 | 0,5 | | **4** | | | | | | | | | | | | | | | | | | |
| 3 | Eksploatacja i diagnostyka maszyn | 1 | 5 | 4,1 | 2,3 | 5 | 52,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1,5 | | 2 | | E | **5** | | | | | | | | | | | | |
| 4 | Technologia napraw maszyn | 0 | 2 | 1,5 | 1,2 | 2 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 0,5 | 0,5 | | **2** | | | | | | | | | | | | |
| 5 | Projektowanie i automatyzacja procesów technologicznych | 1 | 5 | 4,1 | 2,4 | 5 | 61,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 0,6 | 1,5 | E | **5** | | | | | | | | | | | | |
| 6 | Oprzyrządowanie technologiczne systemów produkcyjnych | 0 | 3 | 2,4 | 1,4 | 3 | 36 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 0,4 | 1 | | **3** | | | | | | | | | | | | |
| 7 | Komputerowe wspomaganie wytwarzania CAM | 0 | 3 | 2,7 | 1,7 | 3 | 45 | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | **2** | | | 1 | | | **1** | | | | | | | | | | | |
| 8 | Zarządzanie produkcją i eksploatacją | 0 | 2 | 1,1 | 1,2 | 2 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | **2** | | | | | | | | | | | |
| 9 | Nowoczesne technologie w produkcji maszyn | 0 | 3 | 1,6 | 1,3 | 3 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 0,3 | 0,7 | | **3** |
| 10 | Przedmioty wybieralne specjalnościowe | 0 | 5 | 2,9 | 2,4 | 5 | 67,5 | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | 0,5 | 2 | | **5** | | | | | | | | | | | | | | | | | |
| **D.II.** | **SPECJALNOŚĆ: TECHNIKI KOMPUTEROWE w BUDOWIE MASZYN** | | | | | **34** | **435** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Techniki obliczeniowe i symulacje komputerowe | 1 | 7 | 5,7 | 3,2 | 7 | 75 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 3 | | E | **5** | | | 1 | | | **2** | | | | | | | | | | | |
| 2 | Komputerowo wspomagane projektowanie maszyn | 1 | 5 | 4,5 | 2,2 | 5 | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 3 | | E | **5** | | | | | | | | | | | | |
| 3 | Szybkie prototypowanie | 0 | 3 | 1,9 | 1,9 | 3 | 45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 2 | | | **3** | | | | | | | | | | | | |
| 4 | Sterowanie maszyn i urządzeń | 0 | 5 | 3,2 | 2,9 | 5 | 75 | | | | | | | | | | | | | | | | | | | 1 | | 1,5 | 0,5 | | **3** | 1 | | 1 | | | **2** | | | | | | | | | | | | | | | | | |
| 5 | Komputerowe wspomaganie wytwarzania (CAM) | 0 | 5 | 4,3 | 2,9 | 5 | 67,5 | | | | | | | | | | | | | | | | | | | 0,5 | | 2 | | | **3** | | | 2 | | | **2** | | | | | | | | | | | | | | | | | |
| 6 | Podstawy zarządzania produkcją | 0 | 2 | 1,1 | 1,1 | 2 | 22,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0,7 | | 0,8 | | | **2** | | | | | | | | | | | | |
| 7 | Podstawy zarządzania projektami | 0 | 2 | 1 | 1 | 2 | 22,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0,7 | | | 0,8 | | **2** | | | | | | | | | | | | |
| 8 | Wzornictwo przemysłowe | 0 | 3 | 2 | 1,6 | 3 | 37,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | 0,5 | | **3** |
| 9 | Przedmioty wybieralne specjalnościowe | 0 | 2 | 1,1 | 1,1 | 2 | 30 | | | | | | | | | | | | | | | | | | | 1 | | 1 | | | **2** | | | | | | | | | | | | | | | | | | | | | | | |
| **E.** | **PRAKTYKI, DYPLOMY - moduły do wyboru** | | | | | **48** | **45** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | | **30** | | | | | | | |
| 1 | Praktyka zawodowa | 0 | 30 | 29 | 28 | 30 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Seminarium dyplomowe | 0 | 1 | 0,6 | 0,6 | 1 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | **1** | | | | | | | | | | | |
| 3 | Pracownia dyplomowa | 0 | 2 | 2 | 1 | 2 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | **2** |
| 4 | Przygotowanie do egzaminu dyplomowego | 1 | | | | 5 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | E | **5** |
| 5 | Praca dyplomowa | 0 | 10 | 10 | 0,4 | 10 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | | **10** |
| | **RAZEM** | **A+B+C+D1+E** | **13** | **92** | **151** | **133** | **242** | **2610** | **11** | **9** | **5** | **2** | **2** | **30** | **9,7** | **7** | **7** | **2,8** | **3** | **30,5** | **11** | **10** | **6,5** | **1,2** | **2** | **30,5** | **13,5** | **6,5** | **10** | **0,5** | **1** | **30,5** | **10,8** | **2** | **6,5** | **6,7** | **2** | **30,5** | **9,5** | **1** | **4,5** | **7,5** | **2** | **30** | **0** | **0** | **0** | **0** | **0** | **30** | **7** | **0** | **0,3** | **5,7** | **1** | **30** |
| | **Godzin tygodniowo** | | | | | | | **174** | **26,5** | | | | | | **26,5** | | | | | | **29,0** | | | | | | **30,5** | | | | | | **26,0** | | | | | | **22,5** | | | | | | **0,0** | | | | | | **13,0** | | | | | |
| | **RAZEM** | **A+B+C+D2+E** | **13** | **92** | **151** | **133** | **242** | **2610** | **11** | **9** | **5** | **2** | **2** | **30** | **9,7** | **7** | **7** | **2,8** | **3** | **30,5** | **11** | **10** | **6,5** | **1,2** | **2** | **30,5** | **13,5** | **6,5** | **10** | **0,5** | **1** | **30,5** | **9,8** | **2** | **9,5** | **4,2** | **3** | **31** | **7,4** | **1** | **9,8** | **4,3** | **1** | **30** | **0** | **0** | **0** | **0** | **0** | **30** | **7** | **0** | **1** | **5,5** | **1** | **30** |
| | **Godzin tygodniowo** | | | | | | | **174** | **26,5** | | | | | | **26,5** | | | | | | **29,0** | | | | | | **30,5** | | | | | | **25,5** | | | | | | **22,5** | | | | | | **0,0** | | | | | | **13,5** | | | | | |

**Praktyka zawodowa: sem. VII - 15 tygodni**

**Obowiązuje od: 22-02-2018 r.**

**Zmiany:**
30-06-2011
17-06-2010
29-01-2009
13-09-2007
25-09-2012
29-05-2014
28.09.2015
28-09-2016
27.09.2017

**Zatwierdzony przez Senat PWSZ w Elblągu w dniu 18-01-2018 roku**

**REKTOR**