**UNIWERSYTET MORSKI W GDYNI**
**Wydział Informatyki**
*Plan studiów zatwierdzony przez Senat UMG dnia19 grudnia 2024 roku.*
*Obowiązuje od semestru zimowego roku akademickiego 2025/2026.*

Kierunek: **Informatyka**
Studia: **I stopnia** **Stacjonarne** Rok nabor **2025/2026**

| UMG/WI/Inf+IA/st | | | | ROK 1 | | | | | | | | | | ROK 2 | | | | | | | | | | ROK 3 | | | | | | | | | | ROK 4 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Semestr I | | | | | | | | | | Semestr III | | | | | | | | | | Semestr V | | | | | | | | | | Semestr VII | | | | |
| Lp. | Przedmiot | Katedra Zakład | Rygor | W | C | L | P | Liczba godzin | W | C | L | P | ECTS | W | C | L | P | ECTS | W | C | L | P | ECTS | W | C | L | P | ECTS | W | C | L | P | ECTS | W | C | L | P | ECTS |
| | **Przedmioty ogólne i kierunkowe** | | | | | | | 1725 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Wychowanie fizyczne I, II, III, IV | SWFiS | Z | **0** | **90** | **0** | **0** | 90 | | 15 | | | *0* | | 15 | | | *0* | | 30 | | | *0* | | 30 | | | *0* | | | | | | | | | | |
| 2 | Język angielski I, II, III, IV, V | SJO | Z | **0** | **210** | **0** | **0** | 210 | | 45 | | | *3* | | 45 | | | *3* | | 45 | | | *3* | | 45 | | | *3* | | 30 | | | *2* | | | | | |
| 3 | Matematyka I | ZM | E1 | **30** | **30** | **0** | **0** | 60 | 30 | 30 | | | *5* | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Fizyka | KF/WM | Z | **15** | **15** | **15** | **0** | 45 | 15 | 15 | 15 | | *4* | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Technologie informacyjne | ZIS | Z | **15** | **0** | **15** | **0** | 30 | 15 | | 15 | | *3* | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Wprowadzenie do programowania | ZPI | E1 | **30** | **0** | **30** | **15** | 75 | 30 | | 30 | 15 | *6* | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Technika cyfrowa | ZSA | E1 | **30** | **0** | **30** | **0** | 60 | 30 | | 30 | | *5* | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Sieci komputerowe | ZSA | Z | **15** | **0** | **30** | **0** | 45 | 15 | | 30 | | *3* | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Bezpieczeństwo i higiena pracy | WI | Z | **15** | **0** | **0** | **0** | 15 | 15 | | | | *1* | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Matematyka II | ZM | E2 | **15** | **30** | **0** | **0** | 45 | | | | | | 15 | 30 | | | *4* | | | | | | | | | | | | | | | | | | | | |
| 11 | Matematyka dyskretna | ZM | Z | **15** | **15** | **0** | **0** | 30 | | | | | | 15 | 15 | | | *2* | | | | | | | | | | | | | | | | | | | | |
| 12 | Systemy operacyjne | WE | Z | **15** | **0** | **30** | **0** | 45 | | | | | | 15 | | 30 | | *3* | | | | | | | | | | | | | | | | | | | | |
| 13 | Algorytmy i struktury danych | ZPI | E2 | **30** | **0** | **45** | **0** | 75 | | | | | | 30 | | 45 | | *5* | | | | | | | | | | | | | | | | | | | | |
| 14 | Bazy danych | ZPI | E2 | **30** | **0** | **15** | **15** | 60 | | | | | | 30 | | 15 | 15 | *4* | | | | | | | | | | | | | | | | | | | | |
| 15 | Automatyka i robotyka | ZSA | Z | **15** | **0** | **0** | **15** | 30 | | | | | | 15 | | | 15 | *2* | | | | | | | | | | | | | | | | | | | | |
| 16 | Systemy wbudowane I | ZSA | E2 | **30** | **0** | **30** | **0** | 60 | | | | | | 30 | | 30 | | *4* | | | | | | | | | | | | | | | | | | | | |
| 17 | Paradygmaty programowania | ZSA | Z | **15** | **0** | **15** | **0** | 30 | | | | | | 15 | | 15 | | *3* | | | | | | | | | | | | | | | | | | | | |
| 18 | Statystyka | ZM | E3 | **30** | **30** | **15** | **0** | 75 | | | | | | | | | | | 30 | 30 | 15 | | *6* | | | | | | | | | | | | | | |
| 19 | Programowanie obiektowe | ZIS | E3 | **30** | **0** | **30** | **0** | 60 | | | | | | | | | | | 30 | | 30 | | *5* | | | | | | | | | | | | | | |
| 20 | Technologie mobilne | WE | Z | **15** | **0** | **15** | **0** | 30 | | | | | | | | | | | 15 | | 15 | | *2* | | | | | | | | | | | | | | |
| 21 | Podstawy sztucznej inteligencji | ZPI | Z | **15** | **0** | **30** | **0** | 45 | | | | | | | | | | | 15 | | 30 | | *3* | | | | | | | | | | | | | | |
| 22 | Metody optymalizacji | ZSA | Z | **15** | **0** | **0** | **15** | 30 | | | | | | | | | | | 15 | | | 15 | *2* | | | | | | | | | | | | | | |
| 23 | Technologie internetowe | ZISiSI | E3 | **30** | **0** | **30** | **15** | 75 | | | | | | | | | | | 30 | | 30 | 15 | *5* | | | | | | | | | | | | | | |
| 24 | Grafika komputerowa i wizualizacja danych | WI | Z | **15** | **0** | **30** | **0** | 45 | | | | | | | | | | | 15 | | 30 | | *4* | | | | | | | | | | | | | | |
| 25 | Analiza i projektowanie systemów informatycznych | ZIS | Z | **15** | **0** | **15** | **15** | 45 | | | | | | | | | | | | | | | | 15 | | 15 | 15 | *3* | | | | | | | | | |
| 26 | Uczenie maszynowe | ZISiSI | E4 | **15** | **0** | **15** | **15** | 45 | | | | | | | | | | | | | | | | 15 | | 15 | 15 | *3* | | | | | | | | | |
| 27 | Zarządzanie dla informatyków | ZIS | Z | **15** | **15** | **0** | **0** | 30 | | | | | | | | | | | | | | | | 15 | 15 | | | *2* | | | | | | | | | |
| 28 | Prawo w gospodarce elektronicznej | WI | Z | **15** | **0** | **0** | **0** | 15 | | | | | | | | | | | | | | | | | | | | | 15 | | | | *1* | | | | | |
| 29 | Inżynieria oprogramowania | ZIS | E5 | **15** | **0** | **15** | **15** | 45 | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | 15 | *3* | | | | | |
| 30 | Sztuczne sieci neuronowe | ZSA | Z | **15** | **0** | **15** | **15** | 45 | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | 15 | *3* | | | | | |
| 31 | Proseminarium | WI | Z | **15** | **0** | **0** | **0** | 15 | | | | | | | | | | | | | | | | | | | | | 15 | | | | *1* | | | | | |
| 32 | Wirtualizacja | ZSA | Z | **15** | **0** | **15** | **0** | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | | *2* |
| 33 | Cyberbezpieczeństwo | ZISiSI | Z | **15** | **0** | **15** | **0** | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | | *2* |
| 34 | Podstawy biznesu elektronicznego | ZIS | Z | **15** | **15** | **0** | **0** | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | 15 | | | *2* |
| 35 | Seminarium dyplomowe I | WI | Z | **0** | **15** | **0** | **0** | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | | *1* |
| 36 | Seminarium dyplomowe II | WI | Z | **0** | **15** | **0** | **0** | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | *1* |
| 37 | Praca dyplomowa | WI | Z | **0** | **0** | **0** | **0** | 0 | Zaliczenie pracy dyplomowej odbywa się na ostatnim semestrze | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | *15* |
| | **Przedmioty wybieralne (ścieżki kształcenia)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Inteligentne Aplikacje** | | | | | | | | **600** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Aplikacje mobilne | ZPI | E4 | **15** | **0** | **15** | **30** | 60 | | | | | | | | | | | | | | | | 15 | | 15 | 30 | *5* | | | | | | | | | |
| 2 | Zaawansowane technologie baz danych | ZISiSI | Z | **15** | **0** | **15** | **15** | 45 | | | | | | | | | | | | | | | | 15 | | 15 | 15 | *4* | | | | | | | | | |
| 3 | Aplikacje webowe | ZISiSI | E4 | **15** | **0** | **30** | **30** | 75 | | | | | | | | | | | | | | | | 15 | | 30 | 30 | *5* | | | | | | | | | |
| 4 | Bezpieczeństwo systemów informacyjnych | ZISiSI | Z | **15** | **0** | **15** | **0** | 30 | | | | | | | | | | | | | | | | 15 | | 15 | | *3* | | | | | | | | | |
| 5 | Testowanie oprogramowania | ZIS | Z | **15** | **0** | **15** | **0** | 30 | | | | | | | | | | | | | | | | 15 | | 15 | | *2* | | | | | | | | | |
| 6 | Programowanie w środowisku Big Data | ZISiSI | Z | **15** | **0** | **15** | **15** | 45 | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | 15 | *4* | | | | | |
| 7 | Programowanie równoległe i rozproszone | ZISiSI | Z | **15** | **0** | **15** | **15** | 45 | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | 15 | *4* | | | | | |
| 8 | Projektowanie UX | ZIS | Z | **15** | **0** | **15** | **15** | 45 | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | 15 | *3* | | | | | |
| 9 | Zwinne metodyki zarządzania projektami informatycz | ZIS | Z | **15** | **0** | **15** | **0** | 30 | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | | *2* | | | | | |
| 10 | Techniki multimedialne | ZIS | Z | **15** | **0** | **15** | **0** | 30 | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | | *2* | | | | | |
| 11 | Podstawy podejmowania decyzji | ZISiSI | E5 | **15** | **0** | **15** | **0** | 30 | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | | *3* | | | | | |
| 12 | Projekt zespołowy IA I | WI | Z | **0** | **0** | **0** | **30** | 30 | | | | | | | | | | | | | | | | | | | | | | | | 30 | *2* | | | | | |
| 13 | Inteligencja obliczeniowa | ZPI | E6 | **15** | **0** | **15** | **0** | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | | *3* |
| 14 | Technologie chmur obliczeniowych | WE | Z | **15** | **0** | **15** | **15** | 45 | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | 15 | *3* |
| 15 | Projekt zespołowy IA II | WI | Z | **0** | **0** | **0** | **30** | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | *2* |
| 16 | Praktyka zawodowa IA | WI | Z | **0** | **0** | **0** | **960** | 960 | | | | | | | | | | | | | | | | | | | | | | | | | | 440 | | | | *15* |
| | **RAZEM - Inteligentne aplikacje** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Liczba godzin w semestrze (W,C,L,P) oraz ECTS | | | 810 | 480 | 705 | 1290 | 2325 | 150 | 105 | 120 | 15 | ***30*** | 165 | 105 | 135 | 30 | ***30*** | 150 | 105 | 150 | 30 | ***30*** | 120 | 90 | 120 | 105 | ***30*** | 150 | 30 | 120 | 105 | ***30*** | 75 | 30 | 60 | 45 | ***30*** | 0 | 15 | 0 | 0 | ***33*** |
| | Łączna liczba godzin w semestrze | | | | | | | | **390** | | | | | **435** | | | | | **435** | | | | | **435** | | | | | **405** | | | | | **210** | | | | | **15** | | | | |
| | Liczba egzaminów w semestrze | | | | | | | | 3 | | | | | 4 | | | | | 3 | | | | | 3 | | | | | 2 | | | | | 1 | | | | | 0 | | | | |
| | Liczba punktów ETCS przedmiotów wybieralnych | | | | | | | 30,0% 64 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Łączna liczba punktów ECTS w planie studiów | | | | | | | 213 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Oznaczenia: | W - wykład, C - ćwiczenia, L - laboratorium, P - projekt | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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*Plan studiów zatwierdzony przez Senat UMG dnia19 grudnia 2024 roku.*
*Obowiązuje od semestru zimowego roku akademickiego 2025/2026.*

Kierunek: **Informatyka**
Studia: **I stopnia** **Stacjonarne** Rok nabor **2025/2026**

| UMG/WI/Inf+PSA/st | | | | | | | | | ROK 1 | | | | | | | | | ROK 2 | | | | | | | | | ROK 3 | | | | | | | | | ROK 4 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Semestr I | | | | | Semestr II | | | | | Semestr III | | | | | Semestr IV | | | | | Semestr V | | | | | Semestr VI | | | | | Semestr VII | | | | |
| Lp. | Przedmiot | Katedra Zakład | Rygor | W | C | L | P | Liczba godzin | W | C | L | P | ECTS | W | C | L | P | ECTS | W | C | L | P | ECTS | W | C | L | P | ECTS | W | C | L | P | ECTS | W | C | L | P | ECTS | W | C | L | P | ECTS |
| | **Przedmioty ogólne i kierunkowe** | | | | | | | 1725 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Wychowanie fizyczne I, II, III, IV | SWFiS | Z | **0** | **90** | **0** | **0** | 90 | | 15 | | | *0* | | 15 | | | *0* | | 30 | | | *0* | | 30 | | | *0* | | | | | | | | | | | | | | |
| 2 | Język angielski I, II, III, IV, V | SJO | Z | **0** | **210** | **0** | **0** | 210 | | 45 | | | *3* | | 45 | | | *3* | | 45 | | | *3* | | 45 | | | *3* | | 30 | | | *2* | | | | | | | | | |
| 3 | Matematyka I | ZM | E1 | **30** | **30** | **0** | **0** | 60 | 30 | 30 | | | *5* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Fizyka | KF/WM | Z | **15** | **15** | **15** | **0** | 45 | 15 | 15 | 15 | | *4* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Technologie informacyjne | ZIS | Z | **15** | **0** | **15** | **0** | 30 | 15 | | 15 | | *3* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Wprowadzenie do programowania | ZPI | E1 | **30** | **0** | **30** | **15** | 75 | 30 | | 30 | 15 | *6* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Technika cyfrowa | ZSA | E1 | **30** | **0** | **30** | **0** | 60 | 30 | | 30 | | *5* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Sieci komputerowe | ZSA | Z | **15** | **0** | **30** | **0** | 45 | 15 | | 30 | | *3* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Bezpieczeństwo i higiena pracy | WI | Z | **15** | **0** | **0** | **0** | 15 | 15 | | | | *1* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Matematyka II | ZM | E2 | **15** | **30** | **0** | **0** | 45 | | | | | | 15 | 30 | | | *4* | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Matematyka dyskretna | ZM | Z | **15** | **15** | **0** | **0** | 30 | | | | | | 15 | 15 | | | *2* | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Systemy operacyjne | WE | Z | **15** | **0** | **30** | **0** | 45 | | | | | | 15 | | 30 | | *3* | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | Algorytmy i struktury danych | ZPI | E2 | **30** | **0** | **45** | **0** | 75 | | | | | | 30 | | 45 | | *5* | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | Bazy danych | ZPI | E2 | **30** | **0** | **15** | **15** | 60 | | | | | | 30 | | 15 | 15 | *4* | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | Automatyka i robotyka | ZSA | Z | **15** | **0** | **0** | **15** | 30 | | | | | | 15 | | | 15 | *2* | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | Systemy wbudowane I | ZSA | E2 | **30** | **0** | **30** | **0** | 60 | | | | | | 30 | | 30 | | *4* | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | Paradygmaty programowania | ZSA | Z | **15** | **0** | **15** | **0** | 30 | | | | | | 15 | | 15 | | *3* | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | Statystyka | ZM | E3 | **30** | **30** | **15** | **0** | 75 | | | | | | | | | | | 30 | 30 | 15 | | *6* | | | | | | | | | | | | | | | | | | |
| 19 | Programowanie obiektowe | ZIS | E3 | **30** | **0** | **30** | **0** | 60 | | | | | | | | | | | 30 | | 30 | | *5* | | | | | | | | | | | | | | | | | | |
| 20 | Technologie mobilne | WE | Z | **15** | **0** | **15** | **0** | 30 | | | | | | | | | | | 15 | | 15 | | *2* | | | | | | | | | | | | | | | | | | |
| 21 | Podstawy sztucznej inteligencji | ZPI | Z | **15** | **0** | **30** | **0** | 45 | | | | | | | | | | | 15 | | 30 | | *3* | | | | | | | | | | | | | | | | | | |
| 22 | Metody optymalizacji | ZSA | Z | **15** | **0** | **0** | **15** | 30 | | | | | | | | | | | 15 | | | 15 | *2* | | | | | | | | | | | | | | | | | | |
| 23 | Technologie internetowe | ZISiSI | E3 | **30** | **0** | **30** | **15** | 75 | | | | | | | | | | | 30 | | 30 | 15 | *5* | | | | | | | | | | | | | | | | | | |
| 24 | Grafika komputerowa i wizualizacja danych | WI | Z | **15** | **0** | **30** | **0** | 45 | | | | | | | | | | | 15 | | 30 | | *4* | | | | | | | | | | | | | | | | | | |
| 25 | Analiza i projektowanie systemów informatycznych | ZIS | Z | **15** | **0** | **15** | **15** | 45 | | | | | | | | | | | | | | | | 15 | | 15 | 15 | *3* | | | | | | | | | | | | |
| 26 | Uczenie maszynowe | ZISiSI | E4 | **15** | **0** | **15** | **15** | 45 | | | | | | | | | | | | | | | | 15 | | 15 | 15 | *3* | | | | | | | | | | | | |
| 27 | Zarządzanie dla informatyków | ZIS | Z | **15** | **15** | **0** | **0** | 30 | | | | | | | | | | | | | | | | 15 | 15 | | | *2* | | | | | | | | | | | | |
| 28 | Prawo w gospodarce elektronicznej | WI | Z | **15** | **0** | **0** | **0** | 15 | | | | | | | | | | | | | | | | | | | | | 15 | | | | *1* | | | | | | | | |
| 29 | Inżynieria oprogramowania | ZIS | E5 | **15** | **0** | **15** | **15** | 45 | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | 15 | *3* | | | | | | | | |
| 30 | Sztuczne sieci neuronowe | ZSA | Z | **15** | **0** | **15** | **15** | 45 | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | 15 | *3* | | | | | | | | |
| 31 | Proseminarium | WI | Z | **15** | **0** | **0** | **0** | 15 | | | | | | | | | | | | | | | | | | | | | 15 | | | | *1* | | | | | | | | |
| 32 | Wirtualizacja | ZSA | Z | **15** | **0** | **15** | **0** | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | | *2* | | | | |
| 33 | Cyberbezpieczeństwo | ZISiSI | Z | **15** | **0** | **15** | **0** | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | | *2* | | | | |
| 34 | Podstawy biznesu elektronicznego | ZIS | Z | **15** | **15** | **0** | **0** | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | 15 | | | *2* | | | | |
| 35 | Seminarium dyplomowe I | WI | Z | **0** | **15** | **0** | **0** | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | | *1* | | | |
| 36 | Seminarium dyplomowe II | WI | Z | **0** | **15** | **0** | **0** | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | *1* |
| 37 | Praca dyplomowa | WI | Z | **0** | **0** | **0** | **0** | 0 | Zaliczenie pracy dyplomowej odbywa się na ostatnim semestrze | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Przedmioty wybieralne (ścieżki kształcenia)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Programowanie Systemów Autonomicznych** | | | | | | | | **600** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Internet rzeczy | ZSA | Z | **15** | **0** | **15** | **15** | 45 | | | | | | | | | | | | | | | | 15 | | 15 | 15 | *4* | | | | | | | | | | | | |
| 2 | Technologia Digital Twin | ZSA | Z | **15** | **0** | **0** | **30** | 45 | | | | | | | | | | | | | | | | 15 | | | 30 | 5 | | | | | | | | | | | | |
| 3 | Systemy autonomiczne | ZSA | E4 | **15** | **0** | **15** | **30** | 60 | | | | | | | | | | | | | | | | 15 | | 15 | 30 | *5* | | | | | | | | | | | | |
| 4 | Systemy wbudowane II | ZSA | Z | **30** | **0** | **0** | **30** | 60 | | | | | | | | | | | | | | | | 30 | | | 30 | 5 | | | | | | | | | | | | |
| 5 | Programowanie urządzeń mobilnych | ZSA | Z | **15** | **0** | **15** | **30** | 60 | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | 30 | *4* | | | | | | | | |
| 6 | Programowanie niskopoziomowe | ZSA | Z | **15** | **0** | **30** | **0** | 45 | | | | | | | | | | | | | | | | | | | | | 15 | | 30 | | *4* | | | | | | | | |
| 7 | Rozproszone sieci przemysłowe | ZSA | E5 | **15** | **0** | **0** | **30** | 45 | | | | | | | | | | | | | | | | | | | | | 15 | | | 30 | *4* | | | | | | | | |
| 8 | Zarządzanie projektami informatycznymi | ZIS | Z | **15** | **0** | **15** | **0** | 30 | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | | *2* | | | | | | | | |
| 9 | Projektowanie systemów obliczeniowych | ZSA | E5 | **30** | **0** | **0** | **30** | 60 | | | | | | | | | | | | | | | | | | | | | 30 | | | 30 | *4* | | | | | | | | |
| 10 | Projekt zespołowy PSA I | WI | Z | **0** | **0** | **0** | **30** | 30 | | | | | | | | | | | | | | | | | | | | | | | | 30 | *2* | | | | | | | | |
| 11 | Bezpieczeństwo systemów wbudowanych | ZSA | Z | **15** | **0** | **0** | **15** | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | 15 | *2* | | | | |
| 12 | Przemysł 4.0 | ZSA | E6 | **15** | **0** | **15** | **30** | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | 15 | 30 | *4* | | | | |
| 13 | Projekt zespołowy PSA II | WI | Z | **0** | **0** | **0** | **30** | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | *2* | | | | |
| 14 | Praktyka zawodowa PSA | WI | Z | **0** | **0** | **0** | **960** | 960 | | | | | | | | | | | | | | | | | | | | | | | | | | | 440 | | | *15* | | 520 | | | *17* |
| | **RAZEM - Programowanie Systemów Autonomicznych** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Liczba godzin w semestrze (W,C,L,P) oraz ECTS | | | 810 | 480 | 600 | 1395 | **2325** | 150 | 105 | 120 | 15 | ***30*** | 165 | 105 | 135 | 30 | ***30*** | 150 | 105 | 150 | 30 | ***30*** | 120 | 90 | 60 | 135 | ***30*** | 150 | 30 | 90 | 150 | ***30*** | 75 | 30 | 45 | 75 | ***30*** | 0 | 15 | 0 | 0 | ***33*** |
| | Łączna liczba godzin w semestrze | | | | | | | | **390** | | | | | **435** | | | | | **435** | | | | | **405** | | | | | **420** | | | | | **225** | | | | | **15** | | | | |
| | Liczba egzaminów w semestrze | | | | | | | | 3 | | | | | 4 | | | | | 3 | | | | | 2 | | | | | 3 | | | | | 1 | | | | | 0 | | | | |
| | Liczba punktów ETCS przedmiotów wybieralnych | | | | | | | 30,0% 64 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Łączna liczba punktów ECTS w planie studiów | | | | | | | 213 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oznaczenia: | W - wykład, C - ćwiczenia, L - laboratorium, P - projekt | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |