

PLAN STUDIÓW NIESTACJONARNYCH I stopnia
KIERUNEK: AUTOMATYKA I ROBOTYKA
PROFIL: PRAKTYCZNY

| Lp. | Nazwa przedmiotu | Forma zaliczenia | ROK I | | | | | | | | | | | | ROK II | | | | | | | | | | | | ROK III | | | | | | | | | | | | ROK IV | | | | | | | | | | | | Opisem | w tym: | | | | ECTS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|--|---------------------|------------|-----------|-----------|-----------|------------|-----------|-----------|-----------|------------|-----------|-----------|-----------|------------|-----------|-----------|-----------|------------|-----------|-----------|-----------|------------|-----------|-----------|-----------|------------|-----------|----------|------------|------------|-------------|------------|-----------|-----------|-----------|-----------|-------------|------------|------------|------------|------------|------------|--|--|--|--|--|--|--|------------|--------|--|--|--|------|--|--|--|--|--|--|-----------|--|--|--|--|--|--|--|--|--|--|--|------------|--|--|--|--|--|--|--|--|--|--|--|-----------|--|--|--|--|
| | | | 1 sem. | | | | 2 sem. | | | | 3 sem. | | | | 4 sem. | | | | 5 sem. | | | | 6 sem. | | | | 7 sem. | | | | w. | cw. | lab | p. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | w | cw | lab | p | ECTS | w | cw | lab | p | ECTS | w | cw | lab | p | ECTS | w | cw | lab | p | ECTS | w | cw | lab | p | ECTS | w | cw | lab | | | | | p | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A. Przedmioty podstawowe | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 306 | 104 | 174 | 28 | 0 | 33 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Język obcy | E III | 18 | | | 2 | | | | 18 | | | | 2 | | | | | | | | | | | | | | | | | | | | | 54 | 0 | 54 | 0 | 0 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Technologie informacyjne | z. o. I | | 18 | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 18 | 0 | 0 | 18 | 0 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | BHP | z. I | 4 | | | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 4 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Wprowadzenie do matematyki | z. o. I | 10 | 10 | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 20 | 10 | 10 | 0 | 0 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Podstawy kreatywności | z. o. I | 10 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 10 | 10 | 0 | 0 | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Fizyka | E II | 10 | 10 | | 2 | 10 | 10 | 10 | | | | | 3 | | | | | | | | | | | | | | | | | | | | 50 | 20 | 20 | 10 | 0 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Metodyka obliczeń inżynierskich | z. o. II | | | | | 15 | 18 | | | | | | 4 | | | | | | | | | | | | | | | | | | | | | 33 | 15 | 18 | 0 | 0 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Narzędzia analizy matematycznej | E III | | | | | | | | 15 | 18 | | | 4 | | | | | | | | | | | | | | | | | | | | 33 | 15 | 18 | 0 | 0 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Matematyka stosowana | z. o. IV | | | | | | | | | | | | | 10 | 18 | | | | | | | | | | | | | | | | | | 28 | 10 | 18 | 0 | 0 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Język obcy dla inżynierów | z. o. IV | | | | | | | | | | | | | | 18 | | | | | | | | | | | | | | | | | | 18 | 0 | 18 | 0 | 0 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Marketing dla inżynierów | z. o. V | | | | | | | | | | | | | | | | | | | | 10 | 18 | | | | | | | | | | | 28 | 10 | 18 | 0 | 0 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Ochrona własności intelektualnych | z. o. VI | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 10 | 10 | 0 | 0 | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B. Przedmioty kierunkowe | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 560 | 220 | 48 | 264 | 28 | 63 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Materiałoznawstwo | z. o. I | 10 | | 18 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 28 | 10 | 0 | 18 | 0 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Podstawy elektrotechniki i elektroniki | E I | 15 | 10 | 18 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 43 | 15 | 10 | 18 | 0 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Podstawy automatyki | E I | 15 | 18 | 10 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 43 | 15 | 0 | 18 | 10 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Rysunek techniczny i CAD | z. o. II | 10 | 18 | 18 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 46 | 10 | 18 | 18 | 0 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Podstawy robotyki | z. o. II | | | | | 15 | 18 | | | | | | 4 | | | | | | | | | | | | | | | | | | | | 33 | 15 | 0 | 18 | 0 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Przetwarzanie sygnałów | z. o. II | | | | | 15 | 10 | | | | | | 3 | | | | | | | | | | | | | | | | | | | | 25 | 15 | 10 | 0 | 0 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Materiały konstrukcyjne | z. o. II | | | | | 10 | 18 | | | | | | 3 | | | | | | | | | | | | | | | | | | | | 28 | 10 | 0 | 18 | 0 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Mechanika techniczna I | z. o. II | | | | | 10 | 18 | | | | | | 3 | | | | | | | | | | | | | | | | | | | | 28 | 10 | 0 | 18 | 0 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Mechanika płynów | z. o. III | | | | | | | | 15 | 10 | 10 | | 4 | | | | | | | | | | | | | | | | | | | | 35 | 15 | 10 | 10 | 0 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Mechanika techniczna II | E III | | | | | | | | 10 | 10 | | | 2 | | | | | | | | | | | | | | | | | | | | 20 | 10 | 0 | 10 | 0 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Sterowniki programowalne PLC | z. o. III | | | | | | | | 15 | 18 | | | 4 | | | | | | | | | | | | | | | | | | | | 33 | 15 | 0 | 18 | 0 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Metrologia | z. o. IV | | | | | | | | | | | | | 10 | 18 | | | | | | | | | | | | | | | | | | 28 | 10 | 0 | 18 | 0 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | Podstawy konstrukcji i eksploatacji maszyn | E IV | | | | | | | | | | | | | 15 | 10 | 18 | | | | | | | | | | | | | | | | | 43 | 15 | 0 | 10 | 18 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | Elementy sztucznej inteligencji | z. o. V | | | | | | | | | | | | | 15 | 18 | | | | | | | | | | | | | | | | | | 33 | 15 | 0 | 18 | 0 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | Elementy robotyki w przemyśle | z. o. VI | | | | | | | | | | | | | | | | | | | | 10 | 18 | | | | | | | | | | | 28 | 10 | 0 | 18 | 0 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | Zarządzanie projektami przemysłowymi | z. o. VII | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | 15 | 0 | 18 | 0 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | Podstawy inżynierii odwrotnej | z. o. VII | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | 15 | 0 | 18 | 0 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C. Moduł obieralny | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 556 | 210 | 0 | 262 | 84 | 65 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Moduł obieralny | | | | | | | | | 30 | 0 | 36 | 10 | 9 | 30 | 0 | 36 | 20 | 10 | 55 | 0 | 72 | 0 | 15 | 55 | 0 | 64 | 36 | 18 | 40 | 0 | 54 | 18 | 13 | 556 | 210 | 0 | 262 | 84 | 65 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D. Dyplomowanie i praktyka | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 54 | 0 | 0 | 54 | 49 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Seminarium dyplomowe | z. o. V, VI, VII | | | | | | | | | | | | | | | | | | | | 18 | 2 | | | | | | | | | | | | 54 | 0 | 0 | 0 | 54 | 49 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Praktyka zawodowa I | z. II | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Praktyka zawodowa II | z. IV | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Praktyka zawodowa III | z. VI | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RAZEM | | | 84 | 66 | 90 | 10 | 26 | 75 | 56 | 64 | 0 | 22 | 85 | 46 | 74 | 10 | 25 | 65 | 36 | 64 | 38 | 23 | 80 | 18 | 90 | 18 | 24 | 75 | 0 | 82 | 54 | 24 | 70 | 0 | 90 | 36 | 30 | 1476 | 534 | 222 | 554 | 166 | 210 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 250 | | | | 195 | | | | 215 | | | | 203 | | | | 206 | | | | 211 | | | | 196 | | | | 30 | 1476 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 445 | | | | | | | | | | | | 60 | | | | | | | | | | | | 418 | | | | | | | | | | | | 60 | | | | | | | | | | | | 417 | | | | | | | | | | | | 60 | | | | | | | | | | | | 196 | | | | | | | | | | | | 30 | | | | |

PLAN STUDIÓW NIESTACJONARNYCH I stopnia
KIERUNEK: AUTOMATYKA I ROBOTYKA
PROFIL: PRAKTYCZNY
Moduł obieralny: AUTOMATYKA

| Lp. | Nazwa przedmiotu | Forma zalicz. | ROK I | | | | | | | | ROK II | | | | | | | | ROK III | | | | | | | | ROK IV | | | | Ogółem | w tym: | | | | ECTS | | | | | | | | | | | | | | | |
|---------------------------------------|--|---------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|-----------|-----------|----------|-----------|----------|-----------|-----------|-----------|-----------|----------|-----------|----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|------------|------------|----------|------------|-----------|-----------|
| | | | 1 sem. | | | | 2 sem. | | | | 3 sem. | | | | 4 sem. | | | | 5 sem. | | | | 6 sem. | | | | 7 sem. | | | | | w. | cw | lab | p | | | | | | | | | | | | | | | | |
| | | | w. | cw | lab | p | ECTS | w. | cw | lab | p | ECTS | w. | cw | lab | p | ECTS | w. | cw | lab | p | ECTS | w. | cw | lab | p | ECTS | | | | | | | | | | | | | | | | | | | | | | | | |
| C. Moduł obieralny: AUTOMATYKA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Projektowanie przemysłowe | z. o. III | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 43 | 15 | 0 | 18 | 10 | 5 | | | | | | | | |
| 2 | Systemy wbudowane | E III | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 43 | 15 | 0 | 18 | 10 | 4 | | | | | | | | |
| 3 | Napędy pneumatyczne automatyki | z. o. IV | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 43 | 15 | 0 | 18 | 10 | 5 | | | | | | | | |
| 4 | Sensoryka w mechatronice | z. o. IV | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 43 | 15 | 0 | 18 | 10 | 5 | | | | | | | | |
| 5 | Przemysłowe bazy danych | z. o. V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | 15 | 0 | 18 | 0 | 4 | | | | | | | | |
| 6 | Zaawansowane programowanie sterowników | E V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 28 | 10 | 0 | 18 | 0 | 3 | | | | | | | | |
| 7 | Hydrauliczne urządzenia automatyki | z. o. V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | 15 | 0 | 18 | 0 | 4 | | | | | | | | |
| 8 | Projektowanie urządzeń elektronicznych | E VI | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 79 | 25 | 0 | 36 | 18 | 9 | | | | | | | | |
| 9 | Optymalizacja procesów przemysłowych | z. o. VI | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 43 | 15 | 0 | 10 | 18 | 5 | | | | | | | | |
| 10 | Przemysłowe systemy sterowania | E VI | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | 15 | 0 | 18 | 0 | 4 | | | | | | | | |
| 11 | materialy specjalnego przeznaczenia | z. o. VI | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | 15 | 0 | 18 | 0 | 4 | | | | | | | | |
| 12 | Modelowanie systemów przemysłowych | z. o. VII | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | 15 | 0 | 18 | 0 | 4 | | | | | | | | |
| 13 | Systemy rozproszone | z. o. VII | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | 15 | 0 | 18 | 0 | 4 | | | | | | | | |
| 14 | Projektowanie systemów automatyki | z. o. VII | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 46 | 10 | 0 | 18 | 18 | 5 | | | | | | | | |
| Razem liczba godzin | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 36 | 20 | 9 | 30 | 0 | 36 | 20 | 10 | 55 | 0 | 72 | 0 | 15 | 55 | 0 | 64 | 36 | 18 | 40 | 0 | 54 | 18 | 13 | 566 | 210 | 0 | 262 | 94 | 65 |

PLAN STUDIÓW NIESTACJONARNYCH I stopnia
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PROFIL: PRAKTYCZNY
Moduł obieralny: ROBOTYKA

| Lp. | Nazwa przedmiotu | Forma zajęć | ROK I | | | | ROK II | | | | ROK III | | | | ROK IV | | | | Ogółem | w tym: | | | | ECTS | | | | | | | | | | | | | | | | | |
|-------------------------------------|--|-------------|--------|----|--------|---|--------|----|--------|---|---------|----|--------|----|--------|----|----|----|--------|--------|----|-----|----|------|----|----|----|----|----|----|----|---|----|----|----|-----|-----|---|-----|----|----|
| | | | 1 sem. | | 2 sem. | | 3 sem. | | 4 sem. | | 5 sem. | | 6 sem. | | 7 sem. | | w. | cw | | lab | p | | | | | | | | | | | | | | | | | | | | |
| | | | w. | cw | lab | p | w. | cw | lab | p | w. | cw | lab | p | w. | cw | | | | | | lab | p | | | | | | | | | | | | | | | | | | |
| C. Moduł obieralny: ROBOTYKA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Komputerowe wspomaganie projektowania | z. o. III | | | | | 15 | 18 | 10 | 5 | | | | | | | | | | | | | 43 | 15 | 0 | 18 | 10 | 5 | | | | | | | | | | | | | |
| 2 | Systemy pomiarowe i sterujące | E III | | | | | 10 | 18 | 10 | 4 | | | | | | | | | | | | | 38 | 10 | 0 | 18 | 10 | 4 | | | | | | | | | | | | | |
| 3 | Sterowniki mikroprocesorowe | z. o. IV | | | | | | | | | 15 | 18 | 10 | 5 | | | | | | | | | 43 | 15 | 0 | 18 | 10 | 5 | | | | | | | | | | | | | |
| 4 | Robotyzacja przemysłu | z. o. IV | | | | | | | | | 15 | 18 | 10 | 5 | | | | | | | | | 43 | 15 | 0 | 18 | 10 | 5 | | | | | | | | | | | | | |
| 5 | Modele i systemy sterowania w robotyce | z. o. V | | | | | | | | | 15 | 18 | 4 | | | | | | | | | | 33 | 15 | 0 | 18 | 0 | 4 | | | | | | | | | | | | | |
| 6 | Systemy osadzone w robotyce | E V | | | | | | | | | 10 | 18 | 3 | | | | | | | | | | 28 | 10 | 0 | 18 | 0 | 3 | | | | | | | | | | | | | |
| 7 | Modelowanie i symulacja procesów produkcyjnych | z. o. V | | | | | | | | | 15 | 18 | 4 | | | | | | | | | | 33 | 15 | 0 | 18 | 0 | 4 | | | | | | | | | | | | | |
| 8 | Programowanie robotów | E VI | | | | | | | | | 15 | 18 | 4 | 10 | 18 | 18 | 5 | | | | | | 79 | 25 | 0 | 36 | 18 | 9 | | | | | | | | | | | | | |
| 9 | Nowoczesne techniki w robotyce | z. o. VI | | | | | | | | | | | | 15 | 10 | 18 | 5 | | | | | | 43 | 15 | 0 | 10 | 18 | 5 | | | | | | | | | | | | | |
| 10 | Zaawansowane metody programowania sterowników | E VI | | | | | | | | | | | | 15 | 18 | 4 | | | | | | | 33 | 15 | 0 | 18 | 0 | 4 | | | | | | | | | | | | | |
| 11 | Symulacja komputerowa układów robotyki | z. o. VI | | | | | | | | | | | | 15 | 18 | 4 | | | | | | | 33 | 15 | 0 | 18 | 0 | 4 | | | | | | | | | | | | | |
| 12 | Metody sztucznej inteligencji w robotyce | z. o. VII | | | | | | | | | | | | | 15 | 18 | 4 | | | | | | 33 | 15 | 0 | 18 | 0 | 4 | | | | | | | | | | | | | |
| 13 | Roboty mobilne | z. o. VII | | | | | | | | | | | | | 15 | 18 | 4 | | | | | | 33 | 15 | 0 | 18 | 0 | 4 | | | | | | | | | | | | | |
| 14 | Projektowanie robotów | z. o. VII | | | | | | | | | | | | | 10 | 18 | 18 | 5 | | | | | 46 | 10 | 0 | 18 | 18 | 5 | | | | | | | | | | | | | |
| Razem liczba godzin | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 36 | 20 | 9 | 30 | 0 | 36 | 20 | 10 | 55 | 0 | 72 | 0 | 15 | 55 | 0 | 64 | 36 | 18 | 40 | 0 | 54 | 18 | 13 | 561 | 205 | 0 | 262 | 94 | 65 |