



Plan studiów niestacjonarnych I stopnia inżynierskich

| L.p.                            | Nazwa przedmiotu                                            | Realizacja | ECTS | L. egzaminów | L. zaliczeń | Ogólne liczby godzin |       |     |      | semestr |      |   |   |     |    |   | semestr |      |    |   |     |    |   | semestr |      |   |   |    |    |    | semestr |      |   |   |    |   |   | semestr |      |   |   |    |   |   | semestr |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
|---------------------------------|-------------------------------------------------------------|------------|------|--------------|-------------|----------------------|-------|-----|------|---------|------|---|---|-----|----|---|---------|------|----|---|-----|----|---|---------|------|---|---|----|----|----|---------|------|---|---|----|---|---|---------|------|---|---|----|---|---|---------|------|---|---|---|---|---|---|------|---|---|---|---|---|---|
|                                 |                                                             |            |      |              |             | Razem                | w tym |     |      |         | I    |   |   |     |    |   |         | II   |    |   |     |    |   |         | III  |   |   |    |    |    |         | IV   |   |   |    |   |   |         | V    |   |   |    |   |   |         | VI   |   |   |   |   |   |   | VII  |   |   |   |   |   |   |
|                                 |                                                             |            |      |              |             |                      | wykl. | ćw. | lab. | proj.   | ECTS | E | Z | W   | C  | L | P       | ECTS | E  | Z | W   | C  | L | P       | ECTS | E | Z | W  | C  | L  | P       | ECTS | E | Z | W  | C | L | P       | ECTS | E | Z | W  | C | L | P       | ECTS | E | Z | W | C | L | P | ECTS | E | Z | W | C | L | P |
| <b>A. Przedmioty podstawowe</b> |                                                             |            |      |              |             |                      |       |     |      |         |      |   |   |     |    |   |         |      |    |   |     |    |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| <b>A.1</b>                      | <b>Matematyka i badania operacyjne</b>                      |            |      |              |             |                      |       |     |      |         |      |   |   |     |    |   |         |      |    |   |     |    |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| 1.1                             | Matematyka                                                  | IM         | 7    | 1            | 1           | 54                   | 36    | 18  |      |         |      |   |   |     | 7  | 1 | 1       | 36   | 18 |   |     |    |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| 1.2                             | Wybrane zagadnienia z matematyki                            | IM         | 3    | 1            | 1           | 27                   | 18    | 9   |      |         |      |   |   |     |    |   |         | 3    | 1  | 1 | 18  | 9  |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| 1.3                             | Badania operacyjne                                          | ISS        | 3    | 1            | 1           | 27                   | 18    | 9   |      |         |      |   |   |     |    |   |         |      |    |   |     |    |   |         |      |   | 3 | 1  | 1  | 18 | 9       |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| <b>A.2</b>                      | <b>Informatyka</b>                                          |            |      |              |             |                      |       |     |      |         |      |   |   |     |    |   |         |      |    |   |     |    |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| 2.1                             | Wprowadzenie do informat.                                   | WILiI      | 2    |              | 1           | 9                    | 9     |     |      |         |      |   |   | 2   |    | 1 | 9       |      |    |   |     |    |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| 2.2                             | Techniki informatyczne                                      | WILiI      | 3    |              | 2           | 18                   | 9     |     |      |         |      | 9 |   |     |    |   |         |      |    |   |     |    |   |         |      |   |   | 3  |    | 2  | 9       |      | 9 |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| <b>A.3</b>                      | <b>Materiałoznawstwo</b>                                    |            |      |              |             |                      |       |     |      |         |      |   |   |     |    |   |         |      |    |   |     |    |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| 3.1                             | Metaloznawstwo z obr.c.                                     | IR         | 3    | 1            | 1           | 27                   | 18    |     |      |         |      | 9 |   |     |    |   |         | 3    | 1  | 1 | 18  | 9  |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| 3.2                             | Materiały niemetalowe                                       | IR         | 1    |              | 1           | 9                    | 9     |     |      |         |      |   |   |     |    |   |         | 1    |    | 1 | 9   |    |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| 3.3                             | Materiały eksploatacyjne                                    | IR         | 3    | 1            | 1           | 18                   | 9     |     |      |         |      | 9 |   |     |    |   |         |      |    |   |     |    |   |         |      |   |   |    |    |    |         | 3    | 1 | 1 | 9  | 9 |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| <b>A.4</b>                      | <b>Fizyka</b>                                               |            |      |              |             |                      |       |     |      |         |      |   |   |     |    |   |         |      |    |   |     |    |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| 4.1                             | Fizyka                                                      | IF         | 6    | 1            | 1           | 27                   | 18    | 9   |      |         |      |   |   | 6   | 1  | 1 | 18      | 9    |    |   |     |    |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| 4.2                             | Zagadnienia fizyki współczesnej                             | ISS        | 1    |              | 1           | 9                    | 9     |     |      |         |      |   |   |     |    |   |         | 1    |    | 1 | 9   |    |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| 4.3                             | Fizyczne aspekty materiałoznawstwa                          | IKm        | 2    |              | 2           | 18                   | 18    |     |      |         |      |   |   | 2   |    | 2 | 18      |      |    |   |     |    |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| <b>A.5</b>                      | <b>Mechanika techniczna</b>                                 |            |      |              |             |                      |       |     |      |         |      |   |   |     |    |   |         |      |    |   |     |    |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| 5.1                             | Mechanika techniczna                                        | IMs        | 2    | 1            | 1           | 18                   | 9     | 9   |      |         |      |   |   |     |    |   |         | 2    | 1  | 1 | 9   | 9  |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| 5.2                             | Wytrzymałość materiałów                                     | IMs        | 3    | 1            | 1           | 27                   | 9     | 18  |      |         |      |   |   |     |    |   |         |      |    |   |     |    |   |         | 3    | 1 | 1 | 9  | 18 |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| 5.3                             | Elementy termodynamiki i mechaniki płynów                   | IEc        | 3    |              | 3           | 27                   | 9     | 9   | 9    |         |      |   |   |     |    |   |         |      |    |   |     |    |   |         | 3    |   | 3 | 9  | 9  | 9  |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| <b>A.6</b>                      | <b>Marketing w transporcie</b>                              | IT         | 1    |              | 1           | 9                    | 9     |     |      |         |      |   |   | 1   |    | 1 | 9       |      |    |   |     |    |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| <b>A.7</b>                      | <b>Prawo transportowe</b>                                   | IT         | 1    |              | 1           | 9                    | 9     |     |      |         |      |   |   | 1   |    | 1 | 9       |      |    |   |     |    |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| <b>A.8</b>                      | <b>Bezpieczeństwo w transporcie</b>                         | IT         | 2    |              | 2           | 18                   | 9     | 9   |      |         |      |   |   | 2   |    | 2 | 9       | 9    |    |   |     |    |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| <b>A.9</b>                      | <b>Przygotowanie do prowadzenia badań naukowych</b>         | IR         | 1    |              | 1           | 9                    | 9     |     |      |         |      |   |   |     |    |   |         |      |    |   |     |    |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| <b>A.10</b>                     | <b>Zagadnienia osób z niepełnosprawnością w transporcie</b> | IT         | 2    |              | 2           | 27                   | 18    |     |      |         |      | 9 |   |     |    |   |         | 2    |    | 2 | 18  |    |   |         |      |   |   |    |    |    |         |      |   |   |    |   |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| <b>A.11</b>                     | <b>Proseminarium</b>                                        | IR         | 1    |              | 1           | 9                    | 9     |     |      |         |      |   |   |     |    |   |         |      |    |   |     |    |   |         |      |   |   |    |    |    |         |      |   | 1 | 1  | 9 |   |         |      |   |   |    |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| Razem w grupie A                |                                                             |            | 50   | 8            | 26          | 396                  | 261   | 90  | 36   | 9       | 21   | 2 | 9 | 108 | 36 |   |         | 12   | 3  | 7 | 81  | 18 | 9 | 9       | 6    | 1 | 4 | 18 | 27 | 9  |         |      |   |   |    | 7 | 1 | 4       | 36   | 9 | 9 | 4  | 1 | 2 | 18      | 9    |   |   |   |   |   |   |      |   |   |   |   |   |   |
| Liczba godzin tygodniowo        |                                                             |            |      |              |             |                      |       |     |      |         |      |   |   | 144 |    |   |         |      |    |   | 117 |    |   |         |      |   |   | 54 |    |    |         |      |   |   | 54 |   |   |         |      |   |   | 27 |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |
| Liczba godz. w semestrze        |                                                             |            |      |              |             |                      |       |     |      |         |      |   |   | 144 |    |   |         |      |    |   | 117 |    |   |         |      |   |   | 54 |    |    |         |      |   |   | 54 |   |   |         |      |   |   | 27 |   |   |         |      |   |   |   |   |   |   |      |   |   |   |   |   |   |



**Ekologia transportu**  
**studia niestacjonarne I stopnia inżynierskie**

| L.p.                       | Nazwa przedmiotu                                       | Realizacja | ECTS      | L. egzaminów | L. zaliczeń | Ogólne liczby godzin |            |          |           | semestr V |          |          |          |           |   | semestr VI |           |          |          |           |          | semestr VII |           |          |          |           |    |           |          |   |   |  |  |
|----------------------------|--------------------------------------------------------|------------|-----------|--------------|-------------|----------------------|------------|----------|-----------|-----------|----------|----------|----------|-----------|---|------------|-----------|----------|----------|-----------|----------|-------------|-----------|----------|----------|-----------|----|-----------|----------|---|---|--|--|
|                            |                                                        |            |           |              |             | Razem                | w tym      |          |           |           | ECTS     | E        | Z        | W         | C | L          | P         | ECTS     | E        | Z         | W        | C           | L         | P        | ECTS     | E         | Z  | W         | C        | L | P |  |  |
|                            |                                                        |            |           |              |             |                      | wykl.      | ćw.      | lab.      | proj.     |          |          |          |           |   |            |           |          |          |           |          |             |           |          |          |           |    |           |          |   |   |  |  |
|                            |                                                        |            |           |              |             |                      | W          | C        | L         | P         |          |          |          |           |   |            |           |          |          |           |          |             |           |          |          |           |    |           |          |   |   |  |  |
| <b>D. Blok przedmiotów</b> |                                                        |            |           |              |             |                      |            |          |           |           |          |          |          |           |   |            |           |          |          |           |          |             |           |          |          |           |    |           |          |   |   |  |  |
| 1                          | Silniki spalinowe trakcyjne                            | ISS        | 4         | 1            | 1           | 27                   | 18         |          | 9         |           | 4        | 1        | 1        | 18        |   | 9          |           |          |          |           |          |             |           |          |          |           |    |           |          |   |   |  |  |
|                            | Niskoemisyjne napędy w transporcie                     | ISS        | 2         |              | 2           | 18                   | 9          |          | 9         |           | 2        |          | 2        | 9         |   | 9          |           |          |          |           |          |             |           |          |          |           |    |           |          |   |   |  |  |
| 2                          | Eksploatacja środków transportu                        | IR         | 2         | 1            | 2           | 36                   | 18         | 9        | 9         |           |          |          |          |           |   |            | 2         | 1        | 2        | 18        | 9        | 9           |           |          |          |           |    |           |          |   |   |  |  |
| 3                          | Pojazdy szynowe                                        | ISS        | 2         |              | 2           | 27                   | 18         |          | 9         |           |          |          |          |           |   |            | 2         |          | 2        | 18        |          | 9           |           |          |          |           |    |           |          |   |   |  |  |
| 4                          | Badania transportowych zanieczyszczeń środowiska       | ISS        | 1         |              | 2           | 18                   | 9          |          | 9         |           |          |          |          |           |   |            | 1         |          | 2        | 9         |          | 9           |           |          |          |           |    |           |          |   |   |  |  |
| 5                          | Badania jednostek napędowych pojazdów                  | ISS        | 1         |              | 2           | 18                   | 9          |          | 9         |           |          |          |          |           |   |            | 1         |          | 2        | 9         |          | 9           |           |          |          |           |    |           |          |   |   |  |  |
| 6                          | Praca przejściowa - ekologiczny transport              | ISS        | 5         |              | 1           |                      |            |          |           |           |          |          |          |           |   |            | 5         |          | 1        |           |          |             |           |          |          |           |    |           |          |   |   |  |  |
| 7                          | Paliwa alternatywne w transporcie                      | ISS        | 4         | 1            | 1           | 27                   | 18         |          | 9         |           |          |          |          |           |   |            |           |          |          |           |          |             |           | 4        | 1        | 1         | 18 |           | 9        |   |   |  |  |
| 8                          | Ekologiczne aspekty i diagnostyka układów napędowych   | ISS        | 4         |              | 2           | 27                   | 9          |          | 18        |           |          |          |          |           |   |            |           |          |          |           |          |             |           | 4        |          | 2         | 9  |           | 18       |   |   |  |  |
| 9                          | Proekologia technologii wytwarzania i obsługi pojazdów | ISS        | 4         |              | 2           | 27                   | 9          |          | 18        |           |          |          |          |           |   |            |           |          |          |           |          |             |           | 4        |          | 2         | 9  |           | 18       |   |   |  |  |
| 10                         | Seminarium dyplomowe                                   | ISS        | 15        |              | 1           | 9                    |            |          | 9         |           |          |          |          |           |   |            |           |          |          |           |          |             |           | 15       |          | 1         |    |           |          | 9 |   |  |  |
| <b>Razem w bloku D</b>     |                                                        |            | <b>44</b> | <b>3</b>     | <b>18</b>   | <b>234</b>           | <b>117</b> | <b>9</b> | <b>99</b> | <b>9</b>  | <b>6</b> | <b>1</b> | <b>3</b> | <b>27</b> |   | <b>18</b>  | <b>11</b> | <b>1</b> | <b>9</b> | <b>54</b> | <b>9</b> | <b>36</b>   | <b>27</b> | <b>1</b> | <b>6</b> | <b>36</b> |    | <b>45</b> | <b>9</b> |   |   |  |  |
| Liczba godzin tygodniowo   |                                                        |            |           |              |             |                      |            |          |           |           |          |          |          |           |   | 45         |           |          |          |           |          | 99          |           |          |          |           |    | 90        |          |   |   |  |  |
| Liczba godz. w semestrze   |                                                        |            |           |              |             |                      |            |          |           |           |          |          |          |           |   | 45         |           |          |          |           |          | 99          |           |          |          |           |    | 90        |          |   |   |  |  |

**Logistyka transportu**  
**studia niestacjonarne I stopnia inżynierskie**

| L.p.                       | Nazwa przedmiotu                                  | Realizacja | ECTS | L. egzaminów | L. zaliczeń | Ogólne liczby godzin |       |     |      | semestr V |      |   |   |    |    |    | semestr VI |      |    |    |   |    |    | semestr VII |      |   |    |   |    |   |   |
|----------------------------|---------------------------------------------------|------------|------|--------------|-------------|----------------------|-------|-----|------|-----------|------|---|---|----|----|----|------------|------|----|----|---|----|----|-------------|------|---|----|---|----|---|---|
|                            |                                                   |            |      |              |             | Razem                | w tym |     |      |           | ECTS | E | Z | W  | C  | L  | P          | ECTS | E  | Z  | W | C  | L  | P           | ECTS | E | Z  | W | C  | L | P |
|                            |                                                   |            |      |              |             |                      | wykl. | ćw. | lab. | proj.     |      |   |   |    |    |    |            |      |    |    |   |    |    |             |      |   |    |   |    |   |   |
|                            |                                                   |            |      |              |             |                      | W     | C   | L    | P         |      |   |   |    |    |    |            |      |    |    |   |    |    |             |      |   |    |   |    |   |   |
| <b>D. Blok przedmiotów</b> |                                                   |            |      |              |             |                      |       |     |      |           |      |   |   |    |    |    |            |      |    |    |   |    |    |             |      |   |    |   |    |   |   |
| 1                          | Eksploatacja środków transportu i magazynowania   | IR         | 4    | 1            | 1           | 27                   | 18    |     | 9    |           | 4    | 1 | 1 | 18 |    | 9  |            |      |    |    |   |    |    |             |      |   |    |   |    |   |   |
| 2                          | Zarządzanie procesami transportowo-logistycznymi  | IR         | 2    |              | 2           | 18                   | 9     |     | 9    |           | 2    |   | 2 | 9  |    | 9  |            |      |    |    |   |    |    |             |      |   |    |   |    |   |   |
| 3                          | Gospodarka magazynowa                             | IR         | 2    | 1            | 2           | 36                   | 18    | 9   | 9    |           |      |   |   |    |    |    | 2          | 1    | 2  | 18 | 9 | 9  |    |             |      |   |    |   |    |   |   |
| 4                          | Analiza ekonom. w transporcie                     | IR         | 2    |              | 2           | 27                   | 18    |     | 9    |           |      |   |   |    |    |    | 2          |      | 2  | 18 |   | 9  |    |             |      |   |    |   |    |   |   |
| 5                          | Metody optymalizacji w transporcie i logistyce I  | IR         | 1    |              | 2           | 18                   | 9     |     | 9    |           |      |   |   |    |    |    | 1          |      | 2  | 9  |   | 9  |    |             |      |   |    |   |    |   |   |
| 6                          | Metody optymalizacji w transporcie i logistyce II | IR         | 1    |              | 2           | 18                   | 9     |     | 9    |           |      |   |   |    |    |    | 1          |      | 2  | 9  |   | 9  |    |             |      |   |    |   |    |   |   |
| 7                          | Praca przejściowa - logistyka transportu          | IR         | 5    |              | 1           |                      |       |     |      |           |      |   |   |    |    |    | 5          |      | 1  |    |   |    |    |             |      |   |    |   |    |   |   |
| 8                          | Systemy informatyczne w transporcie               | IR         | 4    | 1            | 1           | 27                   | 18    |     | 9    |           |      |   |   |    |    |    |            |      |    |    |   |    |    | 4           | 1    | 1 | 18 |   | 9  |   |   |
| 9                          | Inteligentne systemy transportowe                 | IR         | 4    |              | 2           | 27                   | 9     |     | 18   |           |      |   |   |    |    |    |            |      |    |    |   |    |    | 4           |      | 2 | 9  |   | 18 |   |   |
| 10                         | Przetwarzanie danych w logistyce                  |            | 4    |              | 2           | 27                   | 9     |     | 18   |           |      |   |   |    |    |    |            |      |    |    |   |    |    | 4           |      | 2 | 9  |   | 18 |   |   |
| 11                         | Seminarium dyplomowe                              | IR         | 15   |              | 1           | 9                    |       |     | 9    |           |      |   |   |    |    |    |            |      |    |    |   |    |    | 15          |      | 1 |    |   | 9  |   |   |
| Razem w bloku D            |                                                   |            | 44   | 3            | 18          | 234                  | 117   | 9   | 99   | 9         | 6    | 1 | 3 | 27 |    | 18 | 11         | 1    | 9  | 54 | 9 | 36 |    | 27          | 1    | 6 | 36 |   | 45 | 9 |   |
| Liczba godzin tygodniowo   |                                                   |            |      |              |             |                      |       |     |      |           |      |   |   |    | 45 |    |            |      | 99 |    |   |    | 90 |             |      |   |    |   |    |   |   |
| Liczba godz. w semestrze   |                                                   |            |      |              |             |                      |       |     |      |           |      |   |   |    | 45 |    |            |      | 99 |    |   |    | 90 |             |      |   |    |   |    |   |   |

\*\* tematy prac przejściowych

**POLITECHNIKA POZNAŃSKA**  
**WYDZIAŁ INŻYNIERII LĄDOWEJ I TRANSPORTU**

Kierunek: **TRANSPORT**

**Transport drogowy**  
**studia niestacjonarne I stopnia inżynierskie**

| L.p.                       | Nazwa przedmiotu                                | Realizacja | ECTS      | L. egzaminów | L. zaliczeń | Ogólne liczby godzin |            |          |           | semestr V |          |          |          | semestr VI |   |           |           | semestr VII |          |           |          |           |           |           |          |           |    |           |          |   |   |
|----------------------------|-------------------------------------------------|------------|-----------|--------------|-------------|----------------------|------------|----------|-----------|-----------|----------|----------|----------|------------|---|-----------|-----------|-------------|----------|-----------|----------|-----------|-----------|-----------|----------|-----------|----|-----------|----------|---|---|
|                            |                                                 |            |           |              |             | Razem                | w tym      |          |           |           | ECTS     | E        | Z        | W          | C | L         | P         | ECTS        | E        | Z         | W        | C         | L         | P         | ECTS     | E         | Z  | W         | C        | L | P |
|                            |                                                 |            |           |              |             |                      | wykl.      | ćw.      | lab.      | proj.     |          |          |          |            |   |           |           |             |          |           |          |           |           |           |          |           |    |           |          |   |   |
|                            |                                                 |            |           |              |             |                      | W          | C        | L         | P         |          |          |          |            |   |           |           |             |          |           |          |           |           |           |          |           |    |           |          |   |   |
| <b>D. Blok przedmiotów</b> |                                                 |            |           |              |             |                      |            |          |           |           |          |          |          |            |   |           |           |             |          |           |          |           |           |           |          |           |    |           |          |   |   |
| 1                          | Budowa pojazdów drogowych                       | IR         | 4         | 1            | 1           | 27                   | 18         |          | 9         |           | 4        | 1        | 1        | 18         |   | 9         |           |             |          |           |          |           |           |           |          |           |    |           |          |   |   |
| 2                          | Organizacja i zarządzanie zapleczem technicznym | IR         | 2         |              | 2           | 18                   | 9          |          | 9         |           | 2        |          | 2        | 9          |   | 9         |           |             |          |           |          |           |           |           |          |           |    |           |          |   |   |
| 3                          | Technologia obsługi i napraw                    | IR         | 2         | 1            | 2           | 36                   | 18         | 9        | 9         |           |          |          |          |            |   |           | 2         | 1           | 2        | 18        | 9        | 9         |           |           |          |           |    |           |          |   |   |
| 4                          | Badania nieniszczące                            | IR         | 2         |              | 2           | 27                   | 18         |          | 9         |           |          |          |          |            |   |           | 2         |             | 2        | 18        |          | 9         |           |           |          |           |    |           |          |   |   |
| 5                          | Modelowanie i symulacja ruchu - cz. 1           | IR         | 1         |              | 2           | 18                   | 9          |          | 9         |           |          |          |          |            |   |           | 1         |             | 2        | 9         |          | 9         |           |           |          |           |    |           |          |   |   |
| 6                          | Inżynieria jakości                              | IR         | 1         |              | 2           | 18                   | 9          |          | 9         |           |          |          |          |            |   |           | 1         |             | 2        | 9         |          | 9         |           |           |          |           |    |           |          |   |   |
| 7                          | Praca przejściowa - transport drogowy           | IR         | 5         |              | 1           |                      |            |          |           |           |          |          |          |            |   |           | 5         |             | 1        |           |          |           |           |           |          |           |    |           |          |   |   |
| 8                          | Optymalizacja zasobów w transporcie drogowym    | IR         | 4         | 1            | 1           | 27                   | 18         |          | 9         |           |          |          |          |            |   |           |           |             |          |           |          |           |           | 4         | 1        | 1         | 18 |           | 9        |   |   |
| 9                          | Modelowanie i symulacja ruchu - cz. 2           | IR         | 4         |              | 2           | 27                   | 9          |          | 18        |           |          |          |          |            |   |           |           |             |          |           |          |           |           | 4         |          | 2         | 9  |           | 18       |   |   |
| 10                         | Diagnostyka pojazdów                            |            | 4         |              | 2           | 27                   | 9          |          | 18        |           |          |          |          |            |   |           |           |             |          |           |          |           |           | 4         |          | 2         | 9  |           | 18       |   |   |
| 11                         | Seminarium dyplomowe                            | IR         | 15        |              | 1           | 9                    |            |          |           | 9         |          |          |          |            |   |           |           |             |          |           |          |           |           | 15        |          | 1         |    |           | 9        |   |   |
| <b>Razem w bloku D</b>     |                                                 |            | <b>44</b> | <b>3</b>     | <b>18</b>   | <b>234</b>           | <b>117</b> | <b>9</b> | <b>99</b> | <b>9</b>  | <b>6</b> | <b>1</b> | <b>3</b> | <b>27</b>  |   | <b>18</b> | <b>11</b> | <b>1</b>    | <b>9</b> | <b>54</b> | <b>9</b> | <b>36</b> | <b>27</b> | <b>1</b>  | <b>6</b> | <b>36</b> |    | <b>45</b> | <b>9</b> |   |   |
| Liczba godzin tygodniowo   |                                                 |            |           |              |             |                      |            |          |           |           |          |          |          |            |   | <b>45</b> |           |             |          | <b>99</b> |          |           |           | <b>90</b> |          |           |    |           |          |   |   |
| Liczba godz. w semestrze   |                                                 |            |           |              |             |                      |            |          |           |           |          |          |          |            |   | <b>45</b> |           |             |          | <b>99</b> |          |           |           | <b>90</b> |          |           |    |           |          |   |   |

\*\* tematy prac przejściowych

**Transport szynowy**  
**studia niestacjonarne I stopnia inżynierskie**

| L.p.                       | Nazwa przedmiotu                                | Realizacja | ECTS      | L. egzaminów | L. zaliczeń | Ogólne liczby godzin |            |          |           | semestr V |          |          |          | semestr VI |           |           |          | semestr VII |           |           |           |           |          |           |           |           |          |   |    |   |   |
|----------------------------|-------------------------------------------------|------------|-----------|--------------|-------------|----------------------|------------|----------|-----------|-----------|----------|----------|----------|------------|-----------|-----------|----------|-------------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|----------|---|----|---|---|
|                            |                                                 |            |           |              |             | Razem                | w tym      |          |           |           | ECTS     | E        | Z        | W          | C         | L         | P        | ECTS        | E         | Z         | W         | C         | L        | P         | ECTS      | E         | Z        | W | C  | L | P |
|                            |                                                 |            |           |              |             |                      | wykl.      | ćw.      | lab.      | proj.     |          |          |          |            |           |           |          |             |           |           |           |           |          |           |           |           |          |   |    |   |   |
|                            |                                                 |            |           |              |             |                      | W          | C        | L         | P         |          |          |          |            |           |           |          |             |           |           |           |           |          |           |           |           |          |   |    |   |   |
| <b>D. Blok przedmiotów</b> |                                                 |            |           |              |             |                      |            |          |           |           |          |          |          |            |           |           |          |             |           |           |           |           |          |           |           |           |          |   |    |   |   |
| 1                          | Budowa pojazdów szynowych                       | ISS        | 4         | 1            | 1           | 27                   | 18         |          | 9         |           | 4        | 1        | 1        | 18         | 9         |           |          |             |           |           |           |           |          |           |           |           |          |   |    |   |   |
| 2                          | Technologie wytwarzania pojazdów szynowych      | ISS        | 2         |              | 2           | 18                   | 9          |          | 9         |           | 2        |          | 2        | 9          | 9         |           |          |             |           |           |           |           |          |           |           |           |          |   |    |   |   |
| 3                          | Organizacja transportu kolejowego               | ISS        | 2         | 1            | 2           | 36                   | 18         | 9        | 9         |           |          |          |          |            |           |           | 2        | 1           | 2         | 18        | 9         | 9         |          |           |           |           |          |   |    |   |   |
| 4                          | Infrastruktura transportu szynowego             | ISS        | 2         |              | 2           | 27                   | 18         |          | 9         |           |          |          |          |            |           |           | 2        |             | 2         | 18        |           | 9         |          |           |           |           |          |   |    |   |   |
| 5                          | Metody diagnozowania pojazdów szynowych         | ISS        | 1         |              | 2           | 18                   | 9          |          | 9         |           |          |          |          |            |           |           | 1        |             | 2         | 9         |           | 9         |          |           |           |           |          |   |    |   |   |
| 6                          | Organizacja transportu miejskiego               | ISS        | 1         |              | 2           | 18                   | 9          |          | 9         |           |          |          |          |            |           |           | 1        |             | 2         | 9         |           | 9         |          |           |           |           |          |   |    |   |   |
| 7                          | Praca przejściowa - transport szynowy           | ISS        | 5         |              | 1           |                      |            |          |           |           |          |          |          |            |           |           | 5        |             | 1         |           |           |           |          |           |           |           |          |   |    |   |   |
| 8                          | Technologie przewozów                           | ISS        | 4         | 1            | 1           | 27                   | 18         |          | 9         |           |          |          |          |            |           |           |          |             |           |           |           |           |          | 4         | 1         | 1         | 18       |   | 9  |   |   |
| 9                          | Monitorowanie działalności podmiotów kolejowych | ISS        | 4         |              | 2           | 27                   | 9          |          | 18        |           |          |          |          |            |           |           |          |             |           |           |           |           |          | 4         |           | 2         | 9        |   | 18 |   |   |
| 10                         | Techniki napraw pojazdów szynowych              | ISS        | 4         |              | 2           | 27                   | 9          |          | 18        |           |          |          |          |            |           |           |          |             |           |           |           |           |          | 4         |           | 2         | 9        |   | 18 |   |   |
| 11                         | Seminarium dyplomowe                            | ISS        | 15        |              | 1           | 9                    |            |          |           | 9         |          |          |          |            |           |           |          |             |           |           |           |           |          | 15        |           | 1         |          |   | 9  |   |   |
| <b>Razem w bloku D</b>     |                                                 |            | <b>44</b> | <b>3</b>     | <b>18</b>   | <b>234</b>           | <b>117</b> | <b>9</b> | <b>99</b> | <b>9</b>  | <b>6</b> | <b>1</b> | <b>3</b> | <b>27</b>  | <b>18</b> | <b>11</b> | <b>1</b> | <b>9</b>    | <b>54</b> | <b>9</b>  | <b>36</b> | <b>27</b> | <b>1</b> | <b>6</b>  | <b>36</b> | <b>45</b> | <b>9</b> |   |    |   |   |
| Liczba godzin tygodniowo   |                                                 |            |           |              |             |                      |            |          |           |           |          |          |          |            |           | <b>45</b> |          |             |           | <b>99</b> |           |           |          | <b>90</b> |           |           |          |   |    |   |   |
| Liczba godz. w semestrze   |                                                 |            |           |              |             |                      |            |          |           |           |          |          |          |            |           | <b>45</b> |          |             |           | <b>99</b> |           |           |          | <b>90</b> |           |           |          |   |    |   |   |

\*\* tematy prac przejściowych

**POLITECHNIKA POZNAŃSKA**  
**WYDZIAŁ INŻYNIERII LĄDOWEJ I TRANSPORTU**

Kierunek: **TRANSPORT**

**Transport żywności**  
**studia niestacjonarne I stopnia inżynierskie**

| L.p.                       | Nazwa przedmiotu                                         | Realizacja | ECTS      | L. egzaminów | L. zaliczeń | Ogólne liczby godzin |            |          |           | semestr V |          |          |          | semestr VI |           |           |          | semestr VII |           |           |           |           |          |           |           |           |          |   |   |   |   |
|----------------------------|----------------------------------------------------------|------------|-----------|--------------|-------------|----------------------|------------|----------|-----------|-----------|----------|----------|----------|------------|-----------|-----------|----------|-------------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|----------|---|---|---|---|
|                            |                                                          |            |           |              |             | Razem                | w tym      |          |           |           | ECTS     | E        | Z        | W          | C         | L         | P        | ECTS        | E         | Z         | W         | C         | L        | P         | ECTS      | E         | Z        | W | C | L | P |
|                            |                                                          |            |           |              |             |                      | wykl.      | ćw.      | lab.      | proj.     |          |          |          |            |           |           |          |             |           |           |           |           |          |           |           |           |          |   |   |   |   |
|                            |                                                          |            |           |              |             |                      | W          | C        | L         | P         |          |          |          |            |           |           |          |             |           |           |           |           |          |           |           |           |          |   |   |   |   |
| <b>D. Blok przedmiotów</b> |                                                          |            |           |              |             |                      |            |          |           |           |          |          |          |            |           |           |          |             |           |           |           |           |          |           |           |           |          |   |   |   |   |
| 1                          | Komputerowe wspomaganie projektowania środków transportu | IR         | 4         | 1            | 1           | 27                   | 18         |          | 9         |           | 4        | 1        | 1        | 18         | 9         |           |          |             |           |           |           |           |          |           |           |           |          |   |   |   |   |
| 2                          | Zarządzanie systemami transportu                         | IR         | 2         |              | 2           | 18                   | 9          |          | 9         |           | 2        |          | 2        | 9          | 9         |           |          |             |           |           |           |           |          |           |           |           |          |   |   |   |   |
| 3                          | Podstawy chłodnictwa                                     | IR         | 2         | 1            | 2           | 36                   | 18         | 9        | 9         |           |          |          |          |            |           | 2         | 1        | 2           | 18        | 9         | 9         |           |          |           |           |           |          |   |   |   |   |
| 4                          | Podstawy wiedzy o bezpieczeństwie żywności               | IR         | 2         |              | 2           | 27                   | 18         |          | 9         |           |          |          |          |            |           | 2         |          | 2           | 18        |           | 9         |           |          |           |           |           |          |   |   |   |   |
| 5                          | Organizacja i wyposażenie magazynów żywności             | IR         | 1         |              | 2           | 18                   | 9          |          | 9         |           |          |          |          |            |           | 1         |          | 2           | 9         |           | 9         |           |          |           |           |           |          |   |   |   |   |
| 6                          | Automatyka chłodnicza                                    | IR         | 1         |              | 2           | 18                   | 9          |          | 9         |           |          |          |          |            |           | 1         |          | 2           | 9         |           | 9         |           |          |           |           |           |          |   |   |   |   |
| 7                          | Praca przejściowa - transport żywności                   | IR         | 5         |              | 1           |                      |            |          |           |           |          |          |          |            |           | 5         |          | 1           |           |           |           |           |          |           |           |           |          |   |   |   |   |
| 8                          | Technologia napraw pojazdów do transportu żywności       | IR         | 4         | 1            | 1           | 27                   | 18         |          | 9         |           |          |          |          |            |           |           |          |             |           |           |           | 4         | 1        | 1         | 18        |           | 9        |   |   |   |   |
| 9                          | Projektowanie nadwozi chłodniczych                       | IR         | 4         |              | 2           | 27                   | 9          |          | 18        |           |          |          |          |            |           |           |          |             |           |           |           | 4         |          | 2         | 9         |           | 18       |   |   |   |   |
| 10                         | Użytkowanie nadwozi chłodniczych                         | IR         | 4         |              | 2           | 27                   | 9          |          | 18        |           |          |          |          |            |           |           |          |             |           |           |           | 4         |          | 2         | 9         |           | 18       |   |   |   |   |
| 11                         | Seminarium dyplomowe                                     | IR         | 15        |              | 1           | 9                    |            |          | 9         |           |          |          |          |            |           |           |          |             |           |           |           | 15        |          | 1         |           |           |          | 9 |   |   |   |
| <b>Razem w bloku D</b>     |                                                          |            | <b>44</b> | <b>3</b>     | <b>18</b>   | <b>234</b>           | <b>117</b> | <b>9</b> | <b>99</b> | <b>9</b>  | <b>6</b> | <b>1</b> | <b>3</b> | <b>27</b>  | <b>18</b> | <b>11</b> | <b>1</b> | <b>9</b>    | <b>54</b> | <b>9</b>  | <b>36</b> | <b>27</b> | <b>1</b> | <b>6</b>  | <b>36</b> | <b>45</b> | <b>9</b> |   |   |   |   |
| Liczba godzin tygodniowo   |                                                          |            |           |              |             |                      |            |          |           |           |          |          |          |            |           | <b>45</b> |          |             |           | <b>99</b> |           |           |          | <b>90</b> |           |           |          |   |   |   |   |
| Liczba godz. w semestrze   |                                                          |            |           |              |             |                      |            |          |           |           |          |          |          |            |           | <b>45</b> |          |             |           | <b>99</b> |           |           |          | <b>90</b> |           |           |          |   |   |   |   |

\*\* tematy prac przejściowych



Plan studiów niestacjonarnych I stopnia inżynierskich

| L.p. | Nazwa przedmiotu                     | ECTS | L. egzaminów | L. zaliczeń | Ogólne liczby godzin |     |      |       | semestr I |    |   |    | semestr II |    |   |      | semestr III |    |    |    | semestr IV |    |      |    | semestr V |    |    |   | semestr VI |      |    |    | semestr VII |    |    |    |      |   |    |    |    |   |    |      |   |    |    |    |   |   |   |   |   |   |  |  |
|------|--------------------------------------|------|--------------|-------------|----------------------|-----|------|-------|-----------|----|---|----|------------|----|---|------|-------------|----|----|----|------------|----|------|----|-----------|----|----|---|------------|------|----|----|-------------|----|----|----|------|---|----|----|----|---|----|------|---|----|----|----|---|---|---|---|---|---|--|--|
|      |                                      |      |              |             | w tym                |     |      |       | ECTS      | E  | Z | W  | C          | L  | P | ECTS | E           | Z  | W  | C  | L          | P  | ECTS | E  | Z         | W  | C  | L | P          | ECTS | E  | Z  | W           | C  | L  | P  | ECTS | E | Z  | W  | C  | L | P  | ECTS | E | Z  | W  | C  | L | P |   |   |   |   |  |  |
|      |                                      |      |              |             | wykl.                | ćw. | lab. | proj. |           |    |   |    |            |    |   |      |             |    |    |    |            |    |      |    |           |    |    |   |            |      |    |    |             |    |    |    |      |   |    |    |    |   |    |      |   |    |    |    |   |   | W | C | L | P |  |  |
| 1.   | Przedmioty kształcenia ogólnego (Og) | 18   | 1            | 10          | 135                  | 54  | 81   |       |           | 2  | 3 | 18 |            |    | 3 | 3    | 18          | 9  |    |    | 4          | 1  | 36   |    |           | 4  | 1  | 1 | 36         |      |    |    |             |    | 3  | 1  |      |   |    |    | 2  | 1 | 18 |      |   |    |    |    |   |   |   |   |   |   |  |  |
| 2.   | Przedmioty podstawowe (A)            | 50   | 8            | 26          | 396                  | 261 | 90   | 36    | 9         | 21 | 2 | 9  | 108        | 36 |   | 12   | 3           | 7  | 81 | 18 | 9          | 9  | 6    | 1  | 4         | 18 | 27 | 9 |            |      |    |    |             | 7  | 1  | 4  | 36   | 9 | 9  |    | 4  | 1 | 2  | 18   |   | 9  |    |    |   |   |   |   |   |   |  |  |
| 3.   | Przedmioty kierunkowe (B)            | 98   | 9            | 51          | 702                  | 405 | 135  | 135   | 27        | 7  |   | 3  | 27         |    | 9 | 15   | 10          | 81 | 27 | 18 |            | 20 | 2    | 11 | 72        | 27 | 27 | 9 | 26         | 2    | 11 | 90 | 45          | 27 | 18 | 17 | 3    | 8 | 81 | 18 | 27 |   | 12 | 2    | 7 | 45 | 18 | 27 |   | 1 | 1 | 9 |   |   |  |  |

Ekologia transportu

|   |                          |     |    |     |      |     |     |     |    |    |   |     |     |    |   |    |   |    |     |    |    |   |    |   |     |     |    |    |   |    |   |     |     |    |    |    |    |     |     |     |    |     |     |   |    |     |    |     |     |    |   |    |    |  |    |   |
|---|--------------------------|-----|----|-----|------|-----|-----|-----|----|----|---|-----|-----|----|---|----|---|----|-----|----|----|---|----|---|-----|-----|----|----|---|----|---|-----|-----|----|----|----|----|-----|-----|-----|----|-----|-----|---|----|-----|----|-----|-----|----|---|----|----|--|----|---|
| 4 | Blok przedmiotów (D)     | 44  | 3  | 18  | 234  | 117 | 9   | 99  | 9  |    |   |     |     |    |   |    |   |    |     |    |    |   |    |   |     |     |    |    |   |    |   |     | 6   | 1  | 3  | 27 |    | 18  |     | 11  | 1  | 9   | 54  | 9 | 36 |     | 27 | 1   | 6   | 36 |   | 45 | 9  |  |    |   |
|   | Razem                    | 210 | 21 | 105 | 1467 | 837 | 315 | 270 | 45 | 30 | 2 | 15  | 153 | 36 | 9 | 30 | 3 | 20 | 180 | 54 | 27 | 9 | 30 | 3 | 16  | 90  | 90 | 36 | 9 | 30 | 3 | 12  | 90  | 81 | 27 | 18 | 30 | 5   | 15  | 144 | 27 | 54  | 30  | 4 | 19 | 117 | 27 | 72  |     | 30 | 1 | 8  | 63 |  | 45 | 9 |
|   | Liczba godzin tygodniowo |     |    |     |      |     |     |     |    |    |   |     | 198 |    |   |    |   |    | 270 |    |    |   |    |   |     | 225 |    |    |   |    |   |     | 216 |    |    |    |    |     | 225 |     |    |     | 216 |   |    |     |    |     | 117 |    |   |    |    |  |    |   |
|   | Liczba godz. w semestrze |     |    |     |      |     |     |     |    |    |   | 198 |     |    |   |    |   |    | 270 |    |    |   |    |   | 225 |     |    |    |   |    |   | 216 |     |    |    |    |    | 225 |     |     |    | 216 |     |   |    |     |    | 117 |     |    |   |    |    |  |    |   |

Logistyka transportu

|   |                          |     |    |     |      |     |     |     |    |    |   |     |     |    |   |    |   |    |     |    |    |   |    |   |     |     |    |    |   |    |   |     |     |    |    |    |    |     |     |     |    |     |     |    |    |     |    |     |     |    |    |   |    |  |    |   |
|---|--------------------------|-----|----|-----|------|-----|-----|-----|----|----|---|-----|-----|----|---|----|---|----|-----|----|----|---|----|---|-----|-----|----|----|---|----|---|-----|-----|----|----|----|----|-----|-----|-----|----|-----|-----|----|----|-----|----|-----|-----|----|----|---|----|--|----|---|
| 4 | Blok przedmiotów (D)     | 44  | 3  | 18  | 234  | 117 | 9   | 99  | 9  |    |   |     |     |    |   |    |   |    |     |    |    |   |    |   |     |     |    |    |   |    |   | 6   | 1   | 3  | 27 |    | 18 |     | 11  | 1   | 9  | 54  | 9   | 36 |    | 27  | 1  | 6   | 36  |    | 45 | 9 |    |  |    |   |
|   | Razem                    | 210 | 21 | 105 | 1467 | 837 | 315 | 270 | 45 | 30 | 2 | 15  | 153 | 36 | 9 | 30 | 3 | 20 | 180 | 54 | 27 | 9 | 30 | 3 | 16  | 90  | 90 | 36 | 9 | 30 | 3 | 12  | 90  | 81 | 27 | 18 | 30 | 5   | 15  | 144 | 27 | 54  | 30  | 4  | 19 | 117 | 27 | 72  |     | 30 | 1  | 8 | 63 |  | 45 | 9 |
|   | Liczba godzin tygodniowo |     |    |     |      |     |     |     |    |    |   |     | 198 |    |   |    |   |    | 270 |    |    |   |    |   |     | 225 |    |    |   |    |   |     | 216 |    |    |    |    |     | 225 |     |    |     | 216 |    |    |     |    |     | 117 |    |    |   |    |  |    |   |
|   | Liczba godz. w semestrze |     |    |     |      |     |     |     |    |    |   | 198 |     |    |   |    |   |    | 270 |    |    |   |    |   | 225 |     |    |    |   |    |   | 216 |     |    |    |    |    | 225 |     |     |    | 216 |     |    |    |     |    | 117 |     |    |    |   |    |  |    |   |

Transport drogowy

|   |                          |     |    |     |      |     |     |     |    |    |   |     |     |    |   |    |   |    |     |    |    |   |    |   |     |     |    |    |   |    |   |     |     |    |    |    |    |     |     |     |    |     |     |    |    |     |    |     |     |    |    |   |    |  |    |   |
|---|--------------------------|-----|----|-----|------|-----|-----|-----|----|----|---|-----|-----|----|---|----|---|----|-----|----|----|---|----|---|-----|-----|----|----|---|----|---|-----|-----|----|----|----|----|-----|-----|-----|----|-----|-----|----|----|-----|----|-----|-----|----|----|---|----|--|----|---|
| 4 | Blok przedmiotów (D)     | 44  | 3  | 18  | 234  | 117 | 9   | 99  | 9  |    |   |     |     |    |   |    |   |    |     |    |    |   |    |   |     |     |    |    |   |    |   | 6   | 1   | 3  | 27 |    | 18 |     | 11  | 1   | 9  | 54  | 9   | 36 |    | 27  | 1  | 6   | 36  |    | 45 | 9 |    |  |    |   |
|   | Razem                    | 210 | 21 | 105 | 1467 | 837 | 315 | 270 | 45 | 30 | 2 | 15  | 153 | 36 | 9 | 30 | 3 | 20 | 180 | 54 | 27 | 9 | 30 | 3 | 16  | 90  | 90 | 36 | 9 | 30 | 3 | 12  | 90  | 81 | 27 | 18 | 30 | 5   | 15  | 144 | 27 | 54  | 30  | 4  | 19 | 117 | 27 | 72  |     | 30 | 1  | 8 | 63 |  | 45 | 9 |
|   | Liczba godzin tygodniowo |     |    |     |      |     |     |     |    |    |   |     | 198 |    |   |    |   |    | 270 |    |    |   |    |   |     | 225 |    |    |   |    |   |     | 216 |    |    |    |    |     | 225 |     |    |     | 216 |    |    |     |    |     | 117 |    |    |   |    |  |    |   |
|   | Liczba godz. w semestrze |     |    |     |      |     |     |     |    |    |   | 198 |     |    |   |    |   |    | 270 |    |    |   |    |   | 225 |     |    |    |   |    |   | 216 |     |    |    |    |    | 225 |     |     |    | 216 |     |    |    |     |    | 117 |     |    |    |   |    |  |    |   |

Transport szynowy

|   |                          |     |    |     |      |     |     |     |    |    |   |     |     |    |   |    |   |    |     |    |    |   |    |   |     |     |    |    |   |    |   |     |     |    |    |    |    |     |     |     |    |     |     |    |    |     |    |     |     |    |    |   |    |  |    |   |
|---|--------------------------|-----|----|-----|------|-----|-----|-----|----|----|---|-----|-----|----|---|----|---|----|-----|----|----|---|----|---|-----|-----|----|----|---|----|---|-----|-----|----|----|----|----|-----|-----|-----|----|-----|-----|----|----|-----|----|-----|-----|----|----|---|----|--|----|---|
| 4 | Blok przedmiotów (D)     | 44  | 3  | 18  | 234  | 117 | 9   | 99  | 9  |    |   |     |     |    |   |    |   |    |     |    |    |   |    |   |     |     |    |    |   |    |   | 6   | 1   | 3  | 27 |    | 18 |     | 11  | 1   | 9  | 54  | 9   | 36 |    | 27  | 1  | 6   | 36  |    | 45 | 9 |    |  |    |   |
|   | Razem                    | 210 | 21 | 105 | 1467 | 837 | 315 | 270 | 45 | 30 | 2 | 15  | 153 | 36 | 9 | 30 | 3 | 20 | 180 | 54 | 27 | 9 | 30 | 3 | 16  | 90  | 90 | 36 | 9 | 30 | 3 | 12  | 90  | 81 | 27 | 18 | 30 | 5   | 15  | 144 | 27 | 54  | 30  | 4  | 19 | 117 | 27 | 72  |     | 30 | 1  | 8 | 63 |  | 45 | 9 |
|   | Liczba godzin tygodniowo |     |    |     |      |     |     |     |    |    |   |     | 198 |    |   |    |   |    | 270 |    |    |   |    |   |     | 225 |    |    |   |    |   |     | 216 |    |    |    |    |     | 225 |     |    |     | 216 |    |    |     |    |     | 117 |    |    |   |    |  |    |   |
|   | Liczba godz. w semestrze |     |    |     |      |     |     |     |    |    |   | 198 |     |    |   |    |   |    | 270 |    |    |   |    |   | 225 |     |    |    |   |    |   | 216 |     |    |    |    |    | 225 |     |     |    | 216 |     |    |    |     |    | 117 |     |    |    |   |    |  |    |   |

Transport żywności

|   |                          |     |    |     |      |     |     |     |    |    |   |     |     |    |   |    |   |    |     |    |    |   |    |   |     |     |    |    |   |    |   |     |     |    |    |    |    |     |     |     |    |     |     |    |    |     |    |     |     |    |    |   |    |  |    |   |
|---|--------------------------|-----|----|-----|------|-----|-----|-----|----|----|---|-----|-----|----|---|----|---|----|-----|----|----|---|----|---|-----|-----|----|----|---|----|---|-----|-----|----|----|----|----|-----|-----|-----|----|-----|-----|----|----|-----|----|-----|-----|----|----|---|----|--|----|---|
| 4 | Blok przedmiotów (D)     | 44  | 3  | 18  | 234  | 117 | 9   | 99  | 9  |    |   |     |     |    |   |    |   |    |     |    |    |   |    |   |     |     |    |    |   |    |   | 6   | 1   | 3  | 27 |    | 18 |     | 11  | 1   | 9  | 54  | 9   | 36 |    | 27  | 1  | 6   | 36  |    | 45 | 9 |    |  |    |   |
|   | Razem                    | 210 | 21 | 105 | 1467 | 837 | 315 | 270 | 45 | 30 | 2 | 15  | 153 | 36 | 9 | 30 | 3 | 20 | 180 | 54 | 27 | 9 | 30 | 3 | 16  | 90  | 90 | 36 | 9 | 30 | 3 | 12  | 90  | 81 | 27 | 18 | 30 | 5   | 15  | 144 | 27 | 54  | 30  | 4  | 19 | 117 | 27 | 72  |     | 30 | 1  | 8 | 63 |  | 45 | 9 |
|   | Liczba godzin tygodniowo |     |    |     |      |     |     |     |    |    |   |     | 198 |    |   |    |   |    | 270 |    |    |   |    |   |     | 225 |    |    |   |    |   |     | 216 |    |    |    |    |     | 225 |     |    |     | 216 |    |    |     |    |     | 117 |    |    |   |    |  |    |   |
|   | Liczba godz. w semestrze |     |    |     |      |     |     |     |    |    |   | 198 |     |    |   |    |   |    | 270 |    |    |   |    |   | 225 |     |    |    |   |    |   | 216 |     |    |    |    |    | 225 |     |     |    | 216 |     |    |    |     |    | 117 |     |    |    |   |    |  |    |   |