



# COMPUTER SCIENCE

PROFILE: PRACTICAL | DEGREE: MASTER | PROGRAM FOR 2024/2025 INTAKE



## FULL-TIME STUDIES




1.5-year second-cycle studies – 3 semesters

### TOTAL NUMBER OF HOURS AND ECTS

ECTS credits: 90  
No. of hours: 1706

**LEGEND**

**FORM OF CREDIT: E** – Exam, **ZO** – Graded credit, **Z** – Non-graded credit

|  <br><b>COURSE TITLE</b>  | <b>SEMESTER I</b>        |                |   |              |                       |
|---|--------------------------|----------------|---|--------------|-----------------------|
|   | <b>FULL-TIME STUDIES</b> |                |   |              |                       |
|   | <b>ECTS</b>              | <b>Lecture</b> | <b>Practical classes<br/>(eg. workshop)</b> | <b>Other</b> | <b>Form of credit</b> |
| Introduction Module: <ul style="list-style-type: none"> <li>• Introduction to Vistula University</li> <li>• OHS training;</li> <li>• Library training;</li> <li>• Business etiquette;</li> <li>• Introduction to Intercultural Communication</li> </ul> | 2                        |                |   | 60           | Z                     |
| Master Diploma Project I  | 2                        |                |   | 50           | Z                     |
| Management in IT  | 2                        | 30             | 15  | 3            | E                     |
| Foreign Language 1  | 4                        |                | 30  | 63           | Z                     |
|  <b>SET OF ELECTIVE SUBJECTS TO CHOOSE</b>  |                          |                |   |              |                       |
| SET1:   |                          |                |   |              |                       |
| Python for Artificial Intelligence-IT Elective I  | 5                        | 30             | 30  | 23           | E                     |
| Applied Machine Learning-IT Elective III  | 5                        | 30             | 30  | 23           | E                     |
| SET2:   |                          |                |   |              |                       |
| Linux/Ubuntu Operating Systems-IT Elective I  | 5                        | 30             | 30  | 23           | E                     |
| Introduction to Cloud Technologies-IT Elective II   | 5                        | 30             | 30  | 23           | E                     |
| SET3:   |                          |                |   |              |                       |
| One of the other specialization course-IT Elective I  | 5                        | 30             | 30  | 23           | E                     |
| One of the other specialization course-IT Elective II   | 5                        | 30             | 30  | 23           | E                     |



# SEMESTR I

## FULL-TIME STUDIES

COURSE TITLE

ECTS

Lecture

Practical classes  
(eg. workshop)

Other

Form of credit

### SPECIALIZATIONS TO CHOOSE

#### **SPECIALIZATION** Design and applications of wireless networks for the Internet of Things

|  |   |    |    |    |   |
|--|---|----|----|----|---|
| Introduction to microprocessor systems | 5 | 30 | 30 | 23 | E |
|--|---|----|----|----|---|

|  |   |    |    |    |   |
|--|---|----|----|----|---|
| Software design for microprocessor systems | 5 | 30 | 30 | 23 | E |
|--|---|----|----|----|---|

#### **SPECIALIZATION** Design and applications of mobile applications

|   |   |    |    |    |   |
|---|---|----|----|----|---|
| Introduction to the design of mobile applications | 5 | 30 | 30 | 23 | E |
|---|---|----|----|----|---|

|   |   |    |    |    |   |
|---|---|----|----|----|---|
| Architectural patterns of websites for mobile devices | 5 | 30 | 30 | 23 | E |
|---|---|----|----|----|---|

#### **SPECIALIZATION** Cybersecurity and reliability of information and industrial systems

|   |   |    |    |    |   |
|---|---|----|----|----|---|
| Introduction to cybersecurity and reliability | 5 | 30 | 30 | 23 | E |
|---|---|----|----|----|---|

|  |   |    |    |    |   |
|--|---|----|----|----|---|
| Methods of risk analysis and information and industrial systems design | 5 | 30 | 30 | 23 | E |
|--|---|----|----|----|---|

#### **SPECIALIZATION** Applied Data Science and AI

|  |   |    |    |    |   |
|--|---|----|----|----|---|
| Deep Learning and Reinforcement Learning | 5 | 30 | 30 | 23 | E |
|--|---|----|----|----|---|

|  |   |    |    |    |   |
|--|---|----|----|----|---|
| Statistics & Mathematics for Artificial Intelligence | 5 | 30 | 30 | 23 | E |
|--|---|----|----|----|---|

**TOTAL: 30**

**TOTAL: 150**

**TOTAL: 165**

**TOTAL: 268**



## SEMESTR II

### FULL-TIME STUDIES

**COURSE TITLE**

**ECTS**

**Lecture**

**Practical classes  
(eg. workshop)**

**Other**

**Form of credit**

Master Diploma Seminar I

4

60

Z

Proseminar

5

Z

Entrepreneurship in IT

2

30

15

3

E

Business and Education for IT

45

Z

Foreign Language 2

4

30

63

E

 **SET OF ELECTIVE SUBJECTS TO CHOOSE**

SET1:

Signal Processing-IT Elective II

5

30

30

23

E

Data Analytics & Visualization with Python-IT Elective IV

5

30

30

23

E

SET2:

Designing the wireless network infrastructure-IT Elective III

5

30

30

23

E

Security of wireless and mobile systems-IT Elecetive IV

5

30

30

23

E

SET3:

One of the other specialization course-IT Elective III

5

30

30

23

E

One of the other specialization course-IT Elective IV

5

30

30

23

E



## SEMESTR II

### FULL-TIME STUDIES

COURSE TITLE

ECTS

Lecture

Practical classes  
(eg. workshop)

Other

Form of credit

#### SPECIALIZATIONS TO CHOOSE

##### **SPECIALIZATION** Design and applications of wireless networks for the Internet of Things

Specification and simulation of communication protocols

5

30

30

23

E

Applications of sensor networks

5

30

30

23

E

##### **SPECIALIZATION** Design and applications of mobile applications

Graphic interfaces for mobile devices

5

30

30

23

E

Mobile application testing

5

30

30

23

E

##### **SPECIALIZATION** Cybersecurity and reliability of information and industrial systems

Cybersecurity and reliability management for information and industrial systems

5

30

30

23

E

Digital forensics and malware analysis

5

30

30

23

E

##### **SPECIALIZATION** Applied Data Science and AI

NLP and Large Language Models

5

30

30

23

E

Big Data Analytics

5

30

30

23




E

**TOTAL: 30**

**TOTAL: 150**

**TOTAL: 165**

**TOTAL: 268**

|  <br>COURSE TITLE | SEMESTR III       |                 |                                     |                   |                |
|---|-------------------|-----------------|-------------------------------------|-------------------|----------------|
|   | FULL-TIME STUDIES |                 |                                     |                   |                |
|   | ECTS              | Lecture         | Practical classes<br>(eg. workshop) | Other             | Form of credit |
| Master Diploma Seminar II   | 11                |                 |                                     | 60                | Z              |
|  <b>INTERNSHIP</b>  |                   |                 |                                     |                   |                |
| Professional Practice   | 19                |                 |                                     | 480               | Z              |
|   | <b>TOTAL: 30</b>  | <b>TOTAL: 0</b> | <b>TOTAL: 0</b>                     | <b>TOTAL: 540</b> |                |