## CURRICULUM – 1st YEAR 2023-2024

| UNIVERSITY             | George Emil Palade University of Medicine, Pharmacy,<br>Science, and Technology of Târgu Mureș | PROGRAMME OF STUDY                        | Artificial Intelligence                       |
|------------------------|--|---|---|
| FACULTY                | Faculty of Engineering and Information<br>Technologies   | TITLE AWARDED                             | Master degree                                 |
| FIELD OF STUDY         | Informatics  | OFFICIAL LENGHT OF THE PROGRAMME OF STUDY | 2 years                                       |
| LEVEL OF QUALIFICATION | 7  | NUMBER OF ECTS/SECT CREDITS               | 120 + 10 Preparation of the Disertation Paper |

|     |  | _ ,                |                         |       |                | 1st s          | emester | •                     |         |                |       |                |                | 2nd s          | emeste | r      |                |                | Tota  | al acad | lemic y         | ear  |
|-----|--|--------------------|-------------------------|-------|----------------|----------------|---------|-----------------------|---------|----------------|-------|----------------|----------------|----------------|--------|--------|----------------|----------------|-------|---------|-----------------|------|
| No. | Educational activities                                       | Code/              | 1st                     | modul | <b>e</b> (7 we | eks)           | 2n      | d mod                 | ule(7 w | reeks)         | 3rd   | modul          | <b>e</b> (7 we | eeks)          | 4th    | n modu | <b>le</b> (7 w | eeks)          |       |         | ,               |      |
| No. | Courses  | Type<br>Of courses | Cours                   | SLP   | ECTS           | Verif.<br>form | Cours   | SLP                   | ECTS    | Verif.<br>form | Cours | SLP            | ECTS           | Verif.<br>form | Cours  | SLP    | ECTS           | Verif.<br>form | Cours | SLP     | Indiv.<br>stud. | ECTS |
| 1.  | Automatic learning   | MINA101/DA         | 4                       | 2L    | 7              | Е              |         |                       |         |                |       |                |                |                |        |        |                |                | 28    | 14      | 133             | 7    |
| 2.  | Probabilities and statistics in medical systems              | MINA102/DS         | 4                       | 4L    | 8              | E              |         |                       |         |                |       |                |                |                |        |        |                |                | 28    | 28      | 144             | 8    |
| 3.  | Semantics and pragmatics of natural language                 | MINA103/DA         |                         |       |                |                | 4       | 4L                    | 8       | Е              |       |                |                |                |        |        |                |                | 28    | 28      | 144             | 8    |
| 4.  | Research Methodology   | MINA104/DS         |                         |       |                |                | 2       | <b>4</b> <sub>S</sub> | 7       | E              |       |                |                |                |        |        |                |                | 14    | 28      | 133             | 7    |
| 5.  | Data science using Python                                    | MINA105/DA         |                         |       |                |                |         |                       |         |                | 4     | 4 <sub>L</sub> | 7              | Е              |        |        |                |                | 28    | 28      | 119             | 7    |
| 6.  | Artificial intelligence tools in the Cloud                   | MINA106/DA         |                         |       |                |                |         |                       |         |                | 4     | 2L             | 6              | E              |        |        |                |                | 28    | 14      | 108             | 6    |
| 7.  | Ethics and academic integrity                                | MINA107/DS         |                         |       |                |                |         |                       |         |                | 2     | 0              | 3              | E              |        |        |                |                | 14    | 0       | 61              | 3    |
| 8.  | Advanced methods for data analysis                           | MINA108/DA         |                         |       |                |                |         |                       |         |                |       |                |                |                | 4      | 4L     | 7              | E              | 28    | 28      | 119             | 7    |
| 9.  | Methods of biological inspiration in artificial intelligence | MINA109/DS         |                         |       |                |                |         |                       |         |                |       |                |                |                | 4      | 2L     | 7              | E              | 28    | 14      | 133             | 7    |
|     | GENERAL TOTAL  | 9 Compulsory       | 8                       | 6     | 15             | 2E             | 6       | 8                     | 15      | 2E             | 10    | 6              | 16             | 3E             | 8      | 6      | 14             | 2E             | 224   | 182     | 1094            | 60   |
|     | TOTAL HOURS/ECTS   |                    | 14 hours/week ; 30 ECTS |       |                |                |         |                       |         | <u> </u>       | 15 hc | urs/w          | reek ; 3       | O ECTS         |        |        | 406            |                |       |         |                 |      |

| Forr | native categories  | Activities                    |
|------|--------------------|-------------------------------|
| DF   | Foundamental Cours | <b>c</b> Courses              |
| DD   | Technical Course   | <b>s</b> Seminars             |
| DS   | Specialized Course | <b>Ip</b> Practical exercises |
| DC   | Complementary Cour | <b>p</b> Project              |

## CURRICULUM – 2nd YEAR 2023-2024

| UNIVERSITY             | George Emil Palade University of Medicine, Pharmacy,<br>Science, and Technology of Târgu Mureș | PROGRAMME OF STUDY                        | Artificial Intelligence                       |
|------------------------|--|---|---|
| FACULTY                | Faculty of Engineering and Information<br>Technologies   | TITLE AWARDED                             | Master degree                                 |
| FIELD OF STUDY         | Informatics  | OFFICIAL LENGHT OF THE PROGRAMME OF STUDY | 2 years                                       |
| LEVEL OF QUALIFICATION | 7  | NUMBER OF ECTS/SECT CREDITS               | 120 + 10 Preparation of the Disertation Paper |

|     |  |                              |       |                  |                | 1st ser        | neste  | •      |          |                |       |                       |         | 2nd se         | mester   |        |                |                | Tot   | al acad | lemic y         | vear |
|-----|--|------------------------------|-------|------------------|----------------|----------------|--------|--------|----------|----------------|-------|-----------------------|---------|----------------|----------|--------|----------------|----------------|-------|---------|-----------------|------|
| No. | Educational activities                                   | Code/                        | 1st   | modul            | <b>e</b> (7 we | eeks)          | 2n     | d modu | ıle(7 we | eks)           | 3rd   | modu                  | le (7 w | eeks)          | Mo       | dul I\ | <b>/</b> (7 we | eks)           |       |         |                 |      |
| NO. | Courses  | Type<br>Of courses           | Cours | SLP              | ECTS           | Verif.<br>form | Cours  | SLP    | ECTS     | Verif.<br>form | Cours | SLP                   | ECTS    | Verif.<br>form | Cours    | SLP    | ECTS           | Verif.<br>form | Cours | SLP     | Indiv.<br>stud. | ECTS |
| 1.  | Intelligent systems                                      | MINA201/DS                   | 4     | 2 <sub>L</sub> , | 7              | Е              |        |        |          |                |       |                       |         |                |          |        |                |                | 28    | 14      | 133             | 7    |
| 2.  | Artificial intelligence in image processing              | MINA202/DA                   | 4     | 41 <sub>P</sub>  | 8              | E              |        |        |          |                |       |                       |         |                |          |        |                |                | 28    | 28      | 144             | 8    |
| 3.  | Neural computation                                       | MINA203/DA                   |       |                  |                |                | 4      | 21     | 7        | Е              |       |                       |         |                |          |        |                |                | 28    | 14      | 133             | 7    |
| 4.  | Advanced Scientific Research leading to the Dissertation | MINA204/DA                   |       |                  |                |                |        |        |          |                | 4     | <b>2</b> <sub>s</sub> | 5       | С              |          |        |                |                | 28    | 14      | 83              | 5    |
| 5.  | Preparation of the Disertation Paper                     | MINA205/DA                   |       |                  |                |                |        |        |          |                |       | 51                    |         |                |          | 51     | 10             | С              | -     | 70      | 180             | 10   |
| 6.  | On site Training   | MINA206/DA                   |       |                  |                |                |        |        |          |                |       | 5p                    |         |                |          | 5p     | 10             | С              | -     | 70      | 180             | 10   |
| 7.  | Artificial intelligence in IT security systems           | MINA207/DS                   |       |                  |                |                | 4      | 41     | 8        | Е              |       |                       |         |                |          |        |                |                | 28    | 28      | 144             | 8    |
| 8.  | IT entrepreneurship                                      | MINA208/DS                   |       |                  |                |                |        |        |          |                | 4     | 21                    | 5       | С              |          |        |                |                | 28    | 14      | 83              | 5    |
|     | GENERAL TOTAL  | 6 Compulsory;<br>2 optional. | 8     | 6                | 15             | 2E             | 8      | 6      | 15       | 2E             | 8     | 9+5                   | 10      | 2C             |          | 5+5    | 20             | 2C             | 168   | 252     | 1080            | 60   |
|     | TOTAL HOURS/ECTS   |                              |       |                  | 14 h           | ours/we        | ek ; 3 | 0 ECTS |          |                |       |                       | 11+5    | hours/w        | reek; 30 | ECTS   |                |                | 728   |         |                 |      |

| Forn | native categories  | Activities                    |
|------|--------------------|-------------------------------|
| DF   | Foundamental Cours | <b>c</b> Courses              |
| DD   | Technical Course   | <b>s</b> Seminars             |
| DS   | Specialized Course | <b>Ip</b> Practical exercises |
| DC   | Complementary Cour | <b>p</b> Project              |