

| Adattudomány MSc 2024 (Data Science MSc 2024) |                                           |             |               |       |              |             |        |          |                     |              |              |              |              |
|-----------------------------------------------|-------------------------------------------|-------------|---------------|-------|--------------|-------------|--------|----------|---------------------|--------------|--------------|--------------|--------------|
|                                               |                                           |             |               |       |              |             |        |          |                     |              |              |              |              |
| Compulsory subjects                           |                                           |             |               |       |              |             |        |          |                     |              |              |              |              |
| Code                                          | Subjects                                  | Lecture (L) | Practice (Pr) | Labor | Consultation | Requirement | Credit | Semester | Subject requirement | 1st Semester | 2nd Semester | 3rd Semester | 4th Semester |
| IPM-24ATDNDEG                                 | Deep Network Development                  | 2           | 0             | 2     | 2            | XE          | 6      | 1        |                     | 2+0+2+2      |              |              |              |
| IPM-24ATIDSEG                                 | Introduction to Data Science              | 2           | 0             | 2     | 2            | XE          | 6      | 1        |                     | 2+0+2+2      |              |              |              |
| IPM-24ATLEAE                                  | Legal and ethical aspects of DS and AI    | 2           | 0             | 0     | 2            | E           | 4      | 1        |                     | 2+0+0+2      |              |              |              |
| IPM-24ATRMEG                                  | Research methodology                      | 1           | 2             | 0     | 2            | XPG         | 5      | 1        |                     | 1+2+0+2      |              |              |              |
| IPM-24ATTAMEG                                 | Topics in Applied Mathematics             | 2           | 2             | 0     | 1            | XPG         | 5      | 1        |                     | 2+2+0+1      |              |              |              |
| IPM-24ATDSLAB1                                | Data Science Lab I.                       | 0           | 2             | 0     | 2            | PG          | 4      | 2        | IPM-24ATIDSEG       |              | 0+2+0+2      |              |              |
| IPM-24ATIDSE                                  | Introduction to Data Security             | 2           | 0             | 0     | 2            | E           | 4      | 2        |                     |              | 2+0+0+2      |              |              |
| IPM-24ATNMEG                                  | Numerical Methods for Optimization        | 2           | 0             | 2     | 2            | XE          | 6      | 2        | IPM-24ATTAMEG       |              | 2+0+2+2      |              |              |
| IPM-24ATMLEG                                  | Machine Learning                          | 2           | 0             | 2     | 2            | XE          | 6      | 2        | IPM-24ATIDSEG       |              | 2+0+2+2      |              |              |
| IPM-24ATAAE                                   | Audio Analysi                             | 2           | 0             | 0     | 1            | E           | 3      | 3        |                     |              |              | 2+0+0+1      |              |
| IPM-24ATDSLAB2                                | Data Science Lab II.                      | 0           | 2             | 0     | 4            | PG          | 6      | 3        |                     |              |              | 0+2+0+4      |              |
| IPM-24ATIAE                                   | Image Analysi                             | 2           | 0             | 0     | 1            | E           | 3      | 3        |                     |              |              | 2+0+0+1      |              |
| IPM-24ATOSTEG                                 | Open-source Technologies for Data Science | 2           | 0             | 2     | 2            | XE          | 6      | 3        |                     |              |              | 2+0+2+2      |              |
| IPM-24ATSMEG                                  | Stream Mining                             | 2           | 2             | 0     | 2            | XE          | 6      | 3        |                     |              |              | 2+2+0+2      |              |
| IPM-24ATTME                                   | Text Mining                               | 2           | 0             | 0     | 1            | E           | 3      | 3        |                     |              |              | 2+0+0+1      |              |
|                                               | Compulsory subjects credits               |             |               |       |              |             | 73     |          |                     | 26           | 20           | 27           |              |

| Compulsory elective subjects |                                                                      |             |               |       |              |             |                |          |                      |              |              |                |              |
|------------------------------|----------------------------------------------------------------------|-------------|---------------|-------|--------------|-------------|----------------|----------|----------------------|--------------|--------------|----------------|--------------|
| Code                         | Subject                                                              | Lecture (L) | Practice (Pr) | Labor | Consultation | Requirement | Credit         | Semester | Subject requirement  | 1st Semester | 2nd Semester | 3rd Semester   | 4th Semester |
| IPM-24ATPREPG                | Preparation course for master studies and developing learning skills | 0           | 3             | 0     | 0            | PG          | 2              | 1        |                      | 0+3+0+0      |              |                |              |
| IPM-24ATiSJEG                | Statistics for signal processing                                     | 2           | 0             | 1     | 1            | XPG         | 4              | 1        |                      | 2+0+1+1      |              |                |              |
| IPM-24ATICNAEG               | Introduction to Cloud Native Architectures                           | 2           | 0             | 2     | 2            | XPG         | 6              | 1,3      |                      | 2+0+2+2      |              | 2+0+2+2        |              |
| IPM-24ATIDEEG                | Introduction to Data Engineering                                     | 2           | 0             | 2     | 2            | XPG         | 6              | 1,3      |                      | 2+0+2+2      |              | 2+0+2+2        |              |
| IPM-24ATCTDSEG               | Commercial Technologies for Data Science                             | 1           | 0             | 2     | 1            | XE          | 4              | 2        |                      |              | 1+0+2+1      |                |              |
| IPM-24ATDMDBE                | Data models and database                                             | 2           | 0             | 0     | 1            | E           | 3              | 2        | IPM-24ATDMDBG (weak) |              | 2+0+0+1      |                |              |
| IPM-24ATDMDBG                | Data models and database                                             | 0           | 0             | 2     | 1            | PG          | 3              | 2        |                      |              | 0+0+2+1      |                |              |
| IPM-24ATDAAE                 | Design and analysis of algorithms                                    | 2           | 0             | 0     | 2            | E           | 4              | 2        |                      |              | 2+0+0+2      |                |              |
| IPM-24ATRSEG                 | Recommender Systems                                                  | 2           | 2             | 0     | 2            | XPG         | 6              | 2        |                      |              | 2+2+0+2      |                |              |
| IPM-24ATDOCEAEG              | DevOps and Cloud engineering on Azure                                | 2           | 0             | 2     | 2            | XPG         | 6              | 2        |                      |              | 2+0+2+2      |                |              |
| IPM-24ATADNDEG               | Advanced Deep Network Depeloment                                     | 2           | 2             | 0     | 2            | XE          | 6              | 3        | IPM-24ATDNDEG        |              |              | 2+2+0+2        |              |
| IPM-24ATNSEG                 | Network Science                                                      | 2           | 2             | 0     | 2            | XE          | 6              | 3        |                      |              |              | 2+2+0+2        |              |
|                              | Compulsory subjects credits                                          |             |               |       |              |             | 73             |          |                      | 26           | 20           | 27             |              |
|                              | Compulsory elective subjects credits                                 |             |               |       |              |             | 11             |          |                      | 2            | 6            | 3              |              |
| IPM-24ATERASMUS              | Erasmus mobility                                                     |             |               |       |              |             | max 24 credits | 3        |                      |              |              | max 24 credits |              |
|                              | Elective subjects                                                    |             |               |       |              |             | 6              | 1,2      |                      | 2+0+0        | 4+0+0        |                |              |

|                |                          |  |  |  |    |    |     |   |  |    |    |    |    |
|----------------|--------------------------|--|--|--|----|----|-----|---|--|----|----|----|----|
| IPM-24ATTHCONS | Thesis consultation      |  |  |  | 14 | PG | 30  | 4 |  |    |    |    | PG |
|                | Summa credit in semester |  |  |  |    |    |     |   |  | 30 | 30 | 30 | 30 |
|                | Summa credit             |  |  |  |    |    | 120 |   |  |    |    |    |    |

PG: Practice Grade   E: Exam Grade   XPG: Lecture+Practice with Practical Grade   XE: Lecture+Practice with Exam