

**Computer Science MSc (Software Architecture Specialization 2022), Spring semester**

**Compulsory subjects**

| <b>Code</b>     | <b>Subject</b>   | <b>Lecture (L)</b> | <b>Practice (Pr)</b> | <b>Labor</b> | <b>Consultation</b> | <b>Requirement</b> | <b>Credit</b> | <b>Semester</b> | <b>Subject requirement</b> | <b>1st Semester</b> | <b>2nd Semester</b> | <b>3rd Semester</b> | <b>4th Semester</b> |
|-----------------|--|--------------------|----------------------|--------------|---------------------|--------------------|---------------|-----------------|----------------------------|---------------------|---------------------|---------------------|---------------------|
| IPM-22fRMEG     | Research methodology L+Pr.   | 1                  | 2                    | 0            | 2                   | XPG                | 5             | 1               |                            | 1+2+0+2             |                     |                     |                     |
| IPM-22fASTE     | Advanced Software Technology L.                                      | 2                  | 0                    | 0            | 2                   | E                  | 4             | 1               |                            | 2+0+0+2             |                     |                     |                     |
| IPM-22fDAAE     | Design and analysis of algorithms L.                                 | 2                  | 0                    | 0            | 2                   | E                  | 4             | 1               |                            | 2+0+0+2             |                     |                     |                     |
| IPM-22fPRG      | Internship   |                    |                      |              |                     |                    | 0             | 2-4             |                            |                     |                     |                     | 240 hours           |
| IPM-22fesxDAAG  | Design and analysis of algorithms                                    | 0                  | 2                    | 0            | 1                   | PG                 | 3             | 1               |                            | 0+2+0+1             |                     |                     |                     |
| IPM-22fesxDAMSG | Preparation course for master studies and developing learning skills | 0                  | 3                    | 0            | 0                   | PG                 | 2             | 1               |                            | 0+3+0+0             |                     |                     |                     |

|                       |                                    |   |          |   |           |           |                           |          |                           |         |           |           |                           |                  |
|-----------------------|------------------------------------|---|----------|---|-----------|-----------|---------------------------|----------|---------------------------|---------|-----------|-----------|---------------------------|------------------|
| IPM-22feszsALAB1      | Software Technology Lab I.         | 0 | 0        | 4 | 1         | PG        | 5                         | 1        |                           | 0+0+4+1 |           |           |                           |                  |
| IPM-22feszsDDSE       | Design of Distributed Systems      | 2 | 0        | 0 | 1         | E         | 3                         | 2        | IPM-22feszsDDSG           |         | 2+0+0+1   |           |                           |                  |
| IPM-22feszsDDSG       | Design of Distributed Systems      | 0 | 0        | 2 | 1         | PG        | 3                         | 2        |                           |         | 0+0+2+1   |           |                           |                  |
| IPM-22fspiPME         | Project Management                 | 2 | 0        | 0 | 0         | E         | 2                         | 2        |                           |         | 2+0+0+0   |           |                           |                  |
| IPM-22feszsTPE        | Theory of programming              | 2 | 0        | 0 | 1         | E         | 3                         | 2        | IPM-22feszsTPG<br>(week)  |         | 2+0+0+1   |           |                           |                  |
| IPM-22feszsTPG        | Theory of programming              | 0 | 2        | 0 | 1         | PG        | 3                         | 2        |                           |         | 0+2+0+1   |           |                           |                  |
| IPM-22feszsFSE        | Formal semantics                   | 2 | 0        | 0 | 1         | E         | 3                         | 3        | IPM-22feszsFSG<br>(week)  |         |           | 2+0+0+1   |                           |                  |
| IPM-22feszsFSG        | Formal semantics                   | 0 | 2        | 0 | 1         | PG        | 3                         | 3        |                           |         |           | 0+2+0+1   |                           |                  |
| IPM-22feszsSQTE       | Software quality and testing       | 2 | 0        | 0 | 1         | E         | 3                         | 3        | IPM-22feszsSQTG<br>(week) |         |           | 2+0+0+1   |                           |                  |
| IPM-22feszsSQTG       | Software quality and testing       | 0 | 0        | 2 | 1         | PG        | 3                         | 3        |                           |         |           | 0+0+2+1   |                           |                  |
| IPM-22feszsALAB2      | Software Technology Lab II.        | 0 | 0        | 4 | 1         | PG        | 5                         | 4        |                           |         |           |           | 0+0+4+1                   |                  |
|                       | <b>Compulsory credits</b>          |   |          |   |           |           | <b>54</b>                 |          |                           |         | <b>23</b> | <b>14</b> | <b>12</b>                 | <b>5</b>         |
|                       | <b>Compulsory elective credits</b> |   |          |   |           |           | <b>30</b>                 |          |                           |         | <b>6</b>  | <b>12</b> | <b>12</b>                 |                  |
| <b>IPM-22fERASMUS</b> | <b>Erasmus mobility</b>            |   |          |   |           |           | <b>max 24<br/>credits</b> | <b>3</b> |                           |         |           |           | <b>max 24<br/>credits</b> |                  |
|                       | <b>Elective credits</b>            |   |          |   |           |           | <b>6</b>                  | <b>3</b> |                           |         |           |           | <b>6+0+0</b>              |                  |
| <b>IPM-24fTHCONS</b>  | <b>Thesis consultation</b>         |   | <b>5</b> |   | <b>10</b> | <b>PG</b> | <b>30</b>                 | <b>4</b> |                           |         |           |           |                           | <b>signature</b> |

|  |                                 |  |  |  |  |  |            |  |  |           |           |           |           |
|--|---------------------------------|--|--|--|--|--|------------|--|--|-----------|-----------|-----------|-----------|
|  | <b>Summa credit in semester</b> |  |  |  |  |  |            |  |  | <b>29</b> | <b>26</b> | <b>30</b> | <b>35</b> |
|  | <b>Summa credit</b>             |  |  |  |  |  | <b>120</b> |  |  |           |           |           |           |

### 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-22fes>IDSEG | Introduction to Data Science      | 2           | 0             | 2     | 2            | XE          | 6      | 1        |                          | 2+0+2+2      |              |              |              |
| IPM-22fes>AJPE  | Advanced Java programming         | 2           | 0             | 0     | 1            | E           | 3      | 2        | IPM-22fes>AJPG<br>(weak) |              | 2+0+0+1      |              |              |
| IPM-22fes>AJPG  | Advanced Java programming         | 0           | 0             | 2     | 1            | PG          | 3      | 2        |                          |              | 0+0+2+1      |              |              |
| IPM-22fes>AAE   | Advanced Algorithms               | 2           | 0             | 0     | 1            | E           | 3      | 2        | IPM-22fes>AAG<br>(weak)  |              | 2+0+0+1      |              |              |
| IPM-22fes>AAG   | Advanced Algorithms               | 0           | 2             | 0     | 1            | PG          | 3      | 2        |                          |              | 0+2+0+1      |              |              |
| IPM-22fes>ADSEG | Analysis of distributed systems   | 2           | 2             | 0     | 2            | XPG         | 6      | 2        |                          |              | 2+2+0+2      |              |              |
| IPM-22fes>ICSE  | Introduction to Computer Security | 2           | 0             | 0     | 1            | E           | 3      | 2        | IPM-22fes>ICSG<br>(weak) |              | 2+0+0+1      |              |              |

|                   |                                       |   |   |   |   |    |   |   |                            |  |         |         |  |
|-------------------|---------------------------------------|---|---|---|---|----|---|---|----------------------------|--|---------|---------|--|
| IPM-22fesziCSG    | Introduction to Computer Security     | 0 | 0 | 2 | 1 | PG | 3 | 2 |                            |  | 0+0+2+1 |         |  |
| IPM-22fesziMCE    | Models of Computation                 | 2 | 0 | 0 | 0 | E  | 2 | 2 | IPM-22fesziMCG<br>(weak)   |  | 2+0+0+0 |         |  |
| IPM-22fesziMCG    | Models of Computation                 | 0 | 2 | 0 | 1 | PG | 3 | 2 |                            |  | 0+2+0+1 |         |  |
| IPM-22fesziMTAIEG | Methods and tools for AI applications | 2 | 0 | 2 | 2 | XE | 6 | 2 |                            |  | 2+0+2+2 |         |  |
| IPM-22fesziPAIEG  | Principles of artificial intelligence | 2 | 0 | 2 | 2 | XE | 6 | 2 |                            |  | 2+0+2+2 |         |  |
| IPM-22fesziSEAPE  | Scalable enterprise applications      | 2 | 0 | 0 | 1 | E  | 3 | 2 | IPM-22fesziSEAPG<br>(weak) |  | 2+0+0+1 |         |  |
| IPM-22fesziSEAPG  | Scalable enterprise applications      | 0 | 0 | 2 | 1 | PG | 3 | 2 |                            |  | 0+0+2+1 |         |  |
| IPM-22fesziCISE   | Complex information systems           | 2 | 0 | 0 | 1 | E  | 3 | 3 | IPM-22fesziCISG<br>(weak)  |  |         | 2+0+0+1 |  |
| IPM-22fesziCISG   | Complex information systems           | 0 | 0 | 2 | 1 | PG | 3 | 3 |                            |  |         | 0+0+2+1 |  |
| IPM-22fesziFUNLEG | Functional Languages                  | 2 | 0 | 2 | 2 | XE | 6 | 3 |                            |  |         | 2+0+2+2 |  |
| IPM-22fesziMLEG   | Machine Learning                      | 2 | 0 | 2 | 2 | XE | 6 | 3 | IPM-22fesziIDSEG           |  |         | 2+0+2+2 |  |
| IPM-22fesziSESCE  | Service Science                       | 2 | 0 | 0 | 1 | E  | 3 | 3 | IPM-22fesziSESCG<br>(weak) |  |         | 2+0+0+1 |  |
| IPM-22fesziSESCG  | Service Science                       | 0 | 2 | 0 | 1 | PG | 3 | 3 |                            |  |         | 0+2+0+1 |  |

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