

## Computer Science BSc 2018 (in English, for Foreign students)

| Subject Code   | Subject  | Lecture (L) | Practice (Pr) | Laboratory | Consultation | Form of assessment | Credit | Semester             |                              |              |              |              |              |              |              |  |
|----------------|--|-------------|---------------|------------|--------------|--------------------|--------|----------------------|------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--|
|                |  |             |               |            |              |                    |        | Recommended Semester | Prerequisite                 | 1st Semester | 2nd Semester | 3rd Semester | 4th Semester | 5th Semester | 6th Semester |  |
| IP-18fSZGREG   | <a href="#">Computer systems</a>                 | 2           | 0             | 2          | 1            | XCP                | 5      | 1                    |                              |              | 2+0+2+1      |              |              |              |              |  |
| IP-18fPROGEG   | <a href="#">Programming</a>                      | 2           | 0             | 3          | 1            | XCP                | 6      | 1                    |                              |              | 2+0+3+1      |              |              |              |              |  |
| IP-18fIMPROGEG | <a href="#">Imperative programming</a>           | 2           | 0             | 3          | 0            | XCP                | 5      | 1                    |                              |              | 2+0+3+0      |              |              |              |              |  |
| IP-18fFUNPEG   | Functional programming                           | 2           | 0             | 2          | 1            | XE                 | 5      | 1                    |                              |              | 2+0+2+1      |              |              |              |              |  |
| IP-18fMATAG    | <a href="#">Basic Mathematics</a>                | 0           | 4             | 0          | 0            | CP                 | 4      | 1                    |                              |              | 0+4+0+0      |              |              |              |              |  |
| IP-18fTMKG     | <a href="#">Learning Methodology</a>             | 0           | 1             | 0          | 0            | P                  | 1      | 1                    |                              |              | 0+1+0+0      |              |              |              |              |  |
| IP-18fIVMEG    | <a href="#">Business fundamentals</a>            | 1           | 2             | 0          | 0            | XP                 | 3      | 1                    |                              |              | 1+2+0+0      |              |              |              |              |  |
| IP-18fPNYEG    | <a href="#">Programming languages</a>            | 2           | 0             | 2          | 2            | XCP                | 6      | 2                    | IP-18fIMPROGEG               |              | 2+0+2+2      |              |              |              |              |  |
| IP-18fOEPROGEG | <a href="#">Object-oriented programming</a>      | 2           | 0             | 3          | 1            | XCP                | 6      | 2                    | IP-18fPROGEG                 |              | 2+0+3+1      |              |              |              |              |  |
| IP-18fWF1EG    | <a href="#">Web development</a>                  | 1           | 0             | 2          | 0            | XCP                | 3      | 2                    | IP-18fSZGREG<br>(weak)       |              | 1+0+2+0      |              |              |              |              |  |
| IP-18fAA1E     | <a href="#">Algorithms and data structures I</a> | 2           | 0             | 0          | 0            | E                  | 2      | 2                    | IP-18fAA1G (weak)            |              | 2+0+0+0      |              |              |              |              |  |
| IP-18fAA1G     | <a href="#">Algorithms and data structures I</a> | 0           | 2             | 0          | 1            | P                  | 3      | 2                    | IP-18fMATAG,<br>IP-18fPROGEG |              | 0+2+0+1      |              |              |              |              |  |
| IP-18fDM1E     | <a href="#">Discrete mathematics I</a>           | 2           | 0             | 0          | 0            | E                  | 2      | 2                    | IP-18fDM1G (weak)            |              | 2+0+0+0      |              |              |              |              |  |

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|---------------|---|---|---|---|---|-----|---|---|--------------------|--|---------|---------|----------|--|--|--|
| IP-18fDM1G    | <a href="#">Discrete mathematics I</a>                  | 0 | 2 | 0 | 1 | CP  | 3 | 2 | IP-18fMATAG        |  | 0+2+0+1 |         |          |  |  |  |
| IP-18fAN1E    | <a href="#">Analysis I</a>                              | 2 | 0 | 0 | 0 | E   | 2 | 2 | IP-18fAN1G (weak)  |  | 2+0+0+0 |         |          |  |  |  |
| IP-18fAN1G    | <a href="#">Analysis I</a>                              | 0 | 2 | 0 | 1 | P   | 3 | 2 | IP-18fMATAG        |  | 0+2+0+1 |         |          |  |  |  |
| IP-18fAA2E    | <a href="#">Algorithms and data structures II</a>       | 2 | 0 | 0 | 0 | E   | 2 | 3 | IP-18fAA2G (weak)  |  |         | 2+0+0+0 |          |  |  |  |
| IP-18fAA2G    | <a href="#">Algorithms and data structures II</a>       | 0 | 2 | 0 | 1 | P   | 3 | 3 | IP-18fAA1E         |  |         | 0+2+0+1 |          |  |  |  |
| IP-18fWPEG    | <a href="#">Web programming</a>                         | 1 | 0 | 2 | 1 | XCP | 4 | 3 | IP-18fWF1EG        |  |         | 1+0+2+1 |          |  |  |  |
| IP-18fPROGTEG | <a href="#">Programming technology</a>                  | 2 | 0 | 2 | 1 | XCP | 5 | 3 | IP-18fOEPROGEG     |  |         | 2+0+2+1 |          |  |  |  |
| IP-18fAN2E    | <a href="#">Analysis II</a>                             | 2 | 0 | 0 | 0 | E   | 2 | 3 | IP-18fAN2G (weak)  |  |         | 2+0+0+0 |          |  |  |  |
| IP-18fAN2G    | <a href="#">Analysis II</a>                             | 0 | 2 | 0 | 1 | P   | 3 | 3 | IP-18fAN1E         |  |         | 0+2+0+1 |          |  |  |  |
| IP-18fDMAG    | Application of discrete models                          | 0 | 0 | 2 | 1 | P   | 3 | 3 | IP-18fDM1E         |  |         | 0+0+2+1 |          |  |  |  |
| IP-18fOPREG   | <a href="#">Operating systems</a>                       | 1 | 0 | 1 | 1 | XP  | 3 | 4 | IP-18fSZGREG       |  |         |         | 1++0+1+1 |  |  |  |
| IP-18fAB1E    | <a href="#">Databases I</a>                             | 2 | 0 | 0 | 0 | E   | 2 | 4 | IP-18fAB1G (weak)  |  |         |         | 2+0+0+0  |  |  |  |
| IP-18fAB1G    | <a href="#">Databases I</a>                             | 0 | 0 | 2 | 0 | P   | 2 | 4 | IP-18fAA1E         |  |         |         | 0+0+2+0  |  |  |  |
| IP-18fSZTE    | <a href="#">Software technology***</a>                  | 2 | 0 | 0 | 0 | E   | 2 | 4 | IP-18fSZTG (weak)  |  |         |         | 2+0+0+0  |  |  |  |
| IP-18fSZTG    | <a href="#">Software technology***</a>                  | 0 | 0 | 2 | 1 | P   | 3 | 4 | IP-18fPROGTEG      |  |         |         | 0+0+2+1  |  |  |  |
| IP-18fSZTEG   | <a href="#">Software technology</a>                     | 2 | 0 | 2 | 1 | XCP | 5 | 4 | IP-18fPROGTEG      |  |         |         | 2+0+2+1  |  |  |  |
| IP-18fSZA1E   | <a href="#">Fundamentals of theory of computation I</a> | 2 | 0 | 0 | 0 | E   | 2 | 4 | IP-18fSZA1G (weak) |  |         |         | 2+0+0+0  |  |  |  |
| IP-18fSZA1G   | <a href="#">Fundamentals of theory of computation I</a> | 0 | 2 | 0 | 1 | P   | 3 | 4 | IP-18fDM1E         |  |         |         | 0+2+0+1  |  |  |  |
| IP-18fNM1E    | <a href="#">Numerical methods</a>                       | 2 | 0 | 0 | 0 | E   | 2 | 4 | IP-18fNM1G (weak)  |  |         |         | 2+0+0+0  |  |  |  |
| IP-18fNM1G    | <a href="#">Numerical methods</a>                       | 0 | 2 | 0 | 1 | P   | 3 | 4 | IP-18fAN2E         |  |         |         | 0+2+0+1  |  |  |  |

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|----------------|--|---|---|---|---|-----|---|------------|---------------------|--|-----------|-----------|-----------|-----------|-----------|
| IP-18fKPROGEG  | <a href="#">Concurrent programming</a>                   | 1 | 0 | 1 | 1 | XCP | 3 | 5          | IP-18fPNYEG         |  |           |           |           | 1+0+1+1   |           |
| IP-18fTKHE     | <a href="#">Telecommunication networks</a>               | 2 | 0 | 0 | 0 | E   | 2 | 5          | IP-18fTKHG (weak)   |  |           |           |           | 2+0+0+0   |           |
| IP-18fTKHG     | <a href="#">Telecommunication networks</a>               |   | 0 | 2 | 1 | P   | 3 | 5          | IP-18fOEPROGEG      |  |           |           |           | 0+0+2+1   |           |
| IP-18fMIAE     | <a href="#">Artificial intelligence</a>                  | 2 | 0 | 0 | 1 | E   | 3 | 5          | IP-18fAA2E (weak)   |  |           |           |           | 2+0+0+1   |           |
| IP-18fAB2E     | <a href="#">Databases II</a>                             | 2 | 0 | 0 | 0 | E   | 2 | 5          | IP-18fAB2G          |  |           |           |           | 2+0+0+0   |           |
| IP-18fAB2G     | <a href="#">Databases II</a>                             | 0 | 0 | 2 | 1 | P   | 3 | 5          | IP-18fAB1E          |  |           |           |           | 0+0+2+1   |           |
| IP-18fSZA2E    | <a href="#">Fundamentals of theory of computation II</a> | 2 | 0 | 0 | 0 | E   | 2 | 5          | IP-18fSZA2G (weak)  |  |           |           |           | 2+0+0+0   |           |
| IP-18fSZA2G    | <a href="#">Fundamentals of theory of computation II</a> | 0 | 2 | 0 | 1 | P   | 3 | 5          | IP-18fSZA1E         |  |           |           |           | 0+2+0+1   |           |
| IP-18fVSZG     | <a href="#">Probability and statistics</a>               | 0 | 0 | 2 | 1 | P   | 3 | 5          | IP-18fAN2E          |  |           |           |           | 0+0+2+1   |           |
|                | <b>Compulsories</b>                                      |   |   |   |   |     |   | <b>127</b> |                     |  | <b>29</b> | <b>30</b> | <b>22</b> | <b>22</b> | <b>24</b> |
|                | <b>Compulsory Electives:</b>                             |   |   |   |   |     |   |            |                     |  |           |           |           |           |           |
| IP-18fKVGPUPEG | <a href="#">GPU programming****</a>                      | 1 | 0 | 2 | 0 | XP  | 3 | 3,4,5      | IP-18fMATAG         |  |           | 1+0+2+0   | 1+0+2+0   | 1+0+2+0   |           |
| IP-18fKVKRBE   | <a href="#">Cryptography and security</a>                | 2 | 0 | 0 | 0 | E   | 2 | 4,5        | IP-18fKVKRBG (weak) |  |           |           | 2+0+0+0   |           | 2+0+0+0   |
| IP-18fKVKRBG   | <a href="#">Cryptography and security</a>                | 0 | 0 | 2 | 1 | P   | 3 | 4,5        | IP-18fDM1E          |  |           |           | 0+0+2+1   |           | 0+0+2+1   |
| IP-18fKVBGTE   | <a href="#">Introduction to machine learning</a>         | 2 | 0 | 0 | 1 | E   | 3 | 3          | IP-18fMATAG         |  |           | 2+0+0+1   |           |           |           |
| IP-18fKVPREE   | <a href="#">Programming theory</a>                       | 2 | 0 | 0 | 0 | E   | 2 | 3,5        | IP-18fKVFPG (weak)  |  |           | 2+0+0+0   |           | 2+0+0+0   |           |
| IP-18fKVPREG   | <a href="#">Programming theory</a>                       | 0 | 2 | 0 | 1 | P   | 3 | 3,5        | IP-18fMATAG         |  |           | 0+2+0+1   |           | 0+2+0+1   |           |
| IP-18KVPRJG    | <a href="#">Tools of software projects</a>               | 0 | 2 | 0 | 1 | CP  | 3 | 5          | IP-18fPNYEG         |  |           |           |           | 0+2+0+1   |           |
| IP-18fKVFE     | Compilers  | 2 | 0 | 0 | 1 | E   | 3 | 5          | IP-18fKVFPG (weak)  |  |           |           |           | 2+0+0+1   |           |
| IP-18fKVFPG    | Compilers  | 0 | 0 | 2 | 0 | P   | 2 | 5          | IP-18fOEPROGEG      |  |           |           |           | 0+0+2+0   |           |
| IP-18fKVADA    | ADA  | 2 | 0 | 2 | 1 | XP  | 5 | 5,6        | IP-18fIMPROGEG      |  |           |           |           | 2+0+2+1   | 2+0+2+1   |
| IP-18fKVPYEG   | <a href="#">Python</a>                                   | 2 | 0 | 2 | 1 | XE  | 5 | 3,4,5,6    |                     |  |           | 2+0+2+1   | 2+0+2+1   | 2+0+2+1   | 2+0+2+1   |

|                  |  |   |   |   |   |          |            |     |                             |           |           |           |           |           |           |
|------------------|--|---|---|---|---|----------|------------|-----|-----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| IP-18fKVIADSE    | <a href="#">Applied Data Science</a>       | 2 | 0 | 0 | 0 | <i>E</i> | <b>2</b>   | 3,5 |                             |           |           | 2+0+0+0   |           | 2+0+0+0   |           |
| IP-24fKVSZKBIZTE | <a href="#">Cybersecurity basic</a>        | 2 | 0 | 0 | 2 | <i>E</i> | <b>4</b>   | 2   | IP-18fWF1EG (weak)          |           | 2+0+0+2   |           |           |           |           |
| IP-24fKVSZGE     | Computer graphics                          | 2 | 0 | 0 | 1 | <i>E</i> | <b>3</b>   | 3,5 | IP-24fKVSZGG (weak)         |           |           | 2+0+0+1   |           | 2+0+0+1   |           |
| IP-24fKVSZGG     | Computer graphics                          | 0 | 0 | 2 | 1 | <i>P</i> | <b>3</b>   | 3,5 | IP-18fMATAG, IP-18fIMPROGEG |           |           | 0+0+2+1   |           | 0+0+2+1   |           |
| IP-24fKVKHSZGG   | Intermediate Computer Graphics             | 0 | 0 | 2 | 1 | <i>P</i> | <b>3</b>   | 4,6 | IP-24fKVSZGG                |           |           |           | 0+0+2+1   |           | 0+0+2+1   |
|                  | <b>Compulsory electives</b>                |   |   |   |   |          | <b>23</b>  |     |                             |           |           | <b>9</b>  | <b>0</b>  | <b>6</b>  | <b>8</b>  |
|                  | <b>Compulsories + compulsory electives</b> |   |   |   |   |          | <b>150</b> |     |                             | 29        | 30        | 31        | 22        | 30        | 8         |
|                  | <b>Electives</b>                           |   |   |   |   |          | <b>10</b>  |     |                             |           |           |           | 8         |           | 2         |
| IP-24fSZD        | Thesis consultation                        |   |   |   |   |          | <b>20</b>  |     |                             |           |           |           |           |           | 20        |
|                  | <b>Summa credit in semester</b>            |   |   |   |   |          |            |     |                             | <b>29</b> | <b>30</b> | <b>31</b> | <b>30</b> | <b>30</b> | <b>30</b> |
|                  | <b>Summa credit</b>                        |   |   |   |   |          | <b>180</b> |     |                             |           |           |           |           |           |           |

\*\*\* Discontinued subject

**P: form of assessment is practice grade**

**E: form of assessment is Exam**

**C: Practice with continuous assessment (at least 5 independent tests/assessments during the study period)**

**X: mixed subject (lecture + practice)**

**End of the subject code:**

**EG: Lecture + Practice course under the same subject code**

**E: Lecture**

**G: Practice**