

| No specialisation, Start: Summer Semester |                                                             |    |            |    |    |    |    |          |           |  |
|-------------------------------------------|-------------------------------------------------------------|----|------------|----|----|----|----|----------|-----------|--|
|                                           |                                                             | MG | ECTS/Modul |    |    |    |    | ECTS/Sem | ECTS kum. |  |
| 1.Sem                                     |                                                             |    | A1         | A2 | A3 | A4 | A5 | 30       | 30        |  |
| Theory                                    | AlgoK-Algo-M Algorithms <sup>1</sup>                        |    | 6          |    |    |    |    |          |           |  |
| Systems                                   | DSG-DistrSys-M Distributed Systems                          |    | 6          |    |    |    |    |          |           |  |
| Software                                  | MOBI-ADM-M Advanced Data Management                         |    | 6          |    |    |    |    |          |           |  |
|                                           | Elective A1 (S1-S3) or A2 <sup>2</sup>                      |    |            | 6  |    |    |    |          |           |  |
|                                           | German as a foreign language intensive 1 (A1) <sup>3</sup>  |    |            |    |    |    | 6  |          |           |  |
|                                           |                                                             |    | 18         | 6  | 0  | 0  | 6  |          |           |  |
|                                           |                                                             |    | 18         | 6  | 0  | 0  | 6  |          |           |  |
| 2.Sem                                     |                                                             |    |            |    |    |    |    | 30       | 60        |  |
|                                           | Elective A1 (S1-S3)                                         |    | 6          |    |    |    |    |          |           |  |
|                                           | Elective A1 (S1-S3) or A2                                   |    | 6          |    |    |    |    |          |           |  |
|                                           | Elective A1 (S1-S3) or A2                                   |    |            | 6  |    |    |    |          |           |  |
|                                           | Elective A1 (S1-S3) or A2                                   |    | 6          |    |    |    |    |          |           |  |
|                                           | German as a foreign language intensive 2 (A1)               |    |            |    |    |    | 6  |          |           |  |
|                                           |                                                             |    | 18         | 6  | 0  | 0  | 6  |          |           |  |
|                                           |                                                             |    | 36         | 12 | 0  | 0  | 12 |          |           |  |
| 3.Sem                                     |                                                             |    |            |    |    |    |    | 30       | 90        |  |
|                                           | Elective A1 (S1-S3)                                         |    | 6          |    |    |    |    |          |           |  |
|                                           | ISoSySc-Sem-M Master's Seminar in Software Systems Science  |    |            | 3  |    |    |    |          |           |  |
|                                           | ISoSySc-Proj-M Master's Project in Software Systems Science |    |            | 6  |    |    |    |          |           |  |
|                                           | SSS-PraktIntKon-M Internship                                |    |            |    |    |    | 12 |          |           |  |
|                                           | German Language Course B1                                   |    |            |    |    |    | 3  |          |           |  |
|                                           |                                                             |    | 6          | 0  | 9  | 0  | 15 |          |           |  |
|                                           |                                                             |    | 42         | 12 | 9  | 0  | 27 |          |           |  |
| 4.Sem                                     |                                                             |    |            |    |    |    |    | 30       | 120       |  |
|                                           | SSS-Thesis-M Master's Thesis                                |    |            |    |    | 30 |    |          |           |  |
|                                           |                                                             |    |            |    |    |    |    |          |           |  |
|                                           |                                                             |    | 0          | 0  | 0  | 30 | 0  |          |           |  |
|                                           |                                                             |    | 42         | 12 | 9  | 30 | 27 |          |           |  |
| Total A1 + A2                             |                                                             |    | 54         |    |    |    |    | 120      |           |  |

Note: This plan covers the minimum of 6 ECTS in each specialisation area S1-S3 in the first semester; all other A1 modules can be chosen freely. If you want a specialisation shown on your degree certificate, follow one of the plans S1-S3 (§ 36 StuFPO, on application to the examination board).

<sup>1</sup> Alternatively GdI-FPRS-M Functional Programming of Reactive Systems (SS). Note: If you have no prior knowledge of functional programming, the Study Advice recommends taking GdI-IFP-M Introduction to Functional Programming (WS) before GdI-FPRS-M (MSc ISoSySc Study Advice (WS 25/26), section IV.F (GdI), p. 5). Starting in the summer semester, this order is not possible.

<sup>2</sup> Bachelor modules: In module groups A1 and A2 (all electives marked 'Elective A1 (S1-S3) or A2') you can also take modules from module groups A2-A4 of the BSc Software Systems Science or BSc Informatik at the University of Bamberg, up to 15 ECTS in total (§ 40(2) StuFPO). This applies to modules that provide the prerequisites for master's modules in A1 or A2; they are listed under 'Recommended prior knowledge' in the module handbook. Other bachelor modules require an application to the examination board. In both cases you need a learning agreement before the exam registration period. The learning agreement procedure is announced by the helpdesk each semester in the VC course 'MSc International Software Systems Science'. Recommendations (e.g. PSI-IntroSP-B, GdI-MTL-B, AlgoK-TAG, ESE-SRE-B): MSc ISoSySc Study Advice (WS 25/26), section IV.

<sup>3</sup> Module group A5 (International Experience) requires only 12 ECTS, e.g. the internship. Credits not used in A5 can be taken in A1/A2 instead (A1 + A2: 54-69 ECTS). For international students, we strongly recommend the internship and as many German language courses as possible, as shown in this plan.

| Specialisation: Theory, Start: Summer Semester |                                                                      |    |            |    |    |    |    |          |           |  |
|------------------------------------------------|----------------------------------------------------------------------|----|------------|----|----|----|----|----------|-----------|--|
|                                                |                                                                      | MG | ECTS/Modul |    |    |    |    | ECTS/Sem | ECTS kum. |  |
| 1.Sem                                          |                                                                      |    | A1         | A2 | A3 | A4 | A5 | 30       | 30        |  |
| Theory                                         | Gdl-FPRS-M Functional Programming of Reactive Systems <sup>1</sup>   |    | 6          |    |    |    |    |          |           |  |
| Systems                                        | DSG-DistrSys-M Distributed Systems                                   |    | 6          |    |    |    |    |          |           |  |
| Software                                       | MOBI-ADM-M Advanced Data Management                                  |    | 6          |    |    |    |    |          |           |  |
|                                                | Elective A1 (S1-S3) or A2 <sup>2</sup>                               |    |            | 6  |    |    |    |          |           |  |
|                                                | German as a foreign language intensive 1 (A1) <sup>3</sup>           |    |            |    |    |    | 6  |          |           |  |
|                                                |                                                                      |    | 18         | 6  | 0  | 0  | 6  |          |           |  |
|                                                |                                                                      |    | 18         | 6  | 0  | 0  | 6  |          |           |  |
| 2.Sem                                          |                                                                      |    |            |    |    |    |    | 30       | 60        |  |
| Theory                                         | Gdl-IFP-M Introduction to Functional Programming                     |    | 6          |    |    |    |    |          |           |  |
|                                                | Elective A1 - recommended: S1 Theory (buffer for the specialisation) |    | 6          |    |    |    |    |          |           |  |
|                                                | Elective A1 (S1-S3) or A2                                            |    |            | 6  |    |    |    |          |           |  |
|                                                | Elective A1 (S1-S3) or A2                                            |    | 6          |    |    |    |    |          |           |  |
|                                                | German as a foreign language intensive 2 (A1)                        |    |            |    |    |    | 6  |          |           |  |
|                                                |                                                                      |    | 18         | 6  | 0  | 0  | 6  |          |           |  |
|                                                |                                                                      |    | 36         | 12 | 0  | 0  | 12 |          |           |  |
| 3.Sem                                          |                                                                      |    |            |    |    |    |    | 30       | 90        |  |
| Theory                                         | AlgoK-Algo-M Algorithms                                              |    | 6          |    |    |    |    |          |           |  |
| Theory                                         | ISoSySc-Sem-M Master's Seminar in Software Systems Science           |    |            | 3  |    |    |    |          |           |  |
| Theory                                         | ISoSySc-Proj-M Master's Project in Software Systems Science          |    |            | 6  |    |    |    |          |           |  |
|                                                | SSS-PraktIntKon-M Internship                                         |    |            |    |    |    | 12 |          |           |  |
|                                                | German Language Course B1                                            |    |            |    |    |    | 3  |          |           |  |
|                                                |                                                                      |    | 6          | 0  | 9  | 0  | 15 |          |           |  |
|                                                |                                                                      |    | 42         | 12 | 9  | 0  | 27 |          |           |  |
| 4.Sem                                          |                                                                      |    |            |    |    |    |    | 30       | 120       |  |
| Theory                                         | SSS-Thesis-M Master's Thesis                                         |    |            |    |    | 30 |    |          |           |  |
|                                                |                                                                      |    | 0          | 0  | 0  | 30 | 0  |          |           |  |
|                                                |                                                                      |    | 42         | 12 | 9  | 30 | 27 |          |           |  |
| Total A1 + A2                                  |                                                                      |    | 54         |    |    |    |    | 120      |           |  |

Note: The specialisation is shown on the degree certificate only on application to the examination board (§ 36 StuFPO). Requirements: master's thesis (A4), a seminar or a project (A3) and at least 18 ECTS from module group A1 in the same specialisation area.

<sup>1</sup> Order of modules: If you have no prior knowledge of functional programming, the Study Advice recommends taking Gdl-IFP-M Introduction to Functional Programming (WS) before Gdl-FPRS-M (MSc ISoSySc Study Advice (WS 25/26), section IV.F (Gdl), p. 5). Starting in the summer semester, this order is not possible. Alternatively, take AlgoK-Algo-M Algorithms (SS) in your first semester and Gdl-FPRS-M later.

<sup>2</sup> Bachelor modules: In module groups A1 and A2 (all electives marked 'Elective A1 (S1-S3) or A2') you can also take modules from module groups A2–A4 of the BSc Software Systems Science or BSc Informatik at the University of Bamberg, up to 15 ECTS in total (§ 40(2) StuFPO). This applies to modules that provide the prerequisites for master's modules in A1 or A2; they are listed under 'Recommended prior knowledge' in the module handbook. Other bachelor modules require an application to the examination board. In both cases you need a learning agreement before the exam registration period. The learning agreement procedure is announced by the helpdesk each semester in the VC course 'MSc International Software Systems Science'. Recommendations (e.g. PSI-IntroSP-B. Gdl-MTL-B. AlgoK-TAG. ESE-SRE-B): MSc ISoSySc Studv Advice (WS 25/26). section IV.

<sup>3</sup> Module group A5 (International Experience) requires only 12 ECTS, e.g. the internship. Credits not used in A5 can be taken in A1/A2 instead (A1 + A2: 54–69 ECTS). For international students, we strongly recommend the internship and as many German language courses as possible, as shown in this plan.

| Specialisation: Systems, Start: Summer Semester |                                                                       |    |            |    |    |    |    |          |            |  |
|-------------------------------------------------|-----------------------------------------------------------------------|----|------------|----|----|----|----|----------|------------|--|
|                                                 |                                                                       | MG | ECTS/Modul |    |    |    |    | ECTS/Sem | ECTS kum.  |  |
| 1.Sem                                           |                                                                       |    | A1         | A2 | A3 | A4 | A5 | 30       | 30         |  |
| Systems                                         | DSG-DistrSys-M Distributed Systems                                    |    | 6          |    |    |    |    |          |            |  |
| Theory                                          | Gdl-FPRS-M Functional Programming of Reactive Systems <sup>1</sup>    |    | 6          |    |    |    |    |          |            |  |
| Software                                        | MOBI-ADM-M Advanced Data Management                                   |    | 6          |    |    |    |    |          |            |  |
|                                                 | Elective A1 (S1-S3) or A2 <sup>2</sup>                                |    |            | 6  |    |    |    |          |            |  |
|                                                 | German as a foreign language intensive 1 (A1) <sup>3</sup>            |    |            |    |    |    | 6  |          |            |  |
|                                                 |                                                                       |    | 18         | 6  | 0  | 0  | 6  |          |            |  |
|                                                 |                                                                       |    | 18         | 6  | 0  | 0  | 6  |          |            |  |
| 2.Sem                                           |                                                                       |    |            |    |    |    |    | 30       | 60         |  |
| Systems                                         | COMNET-NES-M Networked Embedded Systems                               |    | 6          |    |    |    |    |          |            |  |
|                                                 | Elective A1 – recommended: S2 Systems (buffer for the specialisation) |    | 6          |    |    |    |    |          |            |  |
|                                                 | Elective A1 (S1-S3) or A2                                             |    |            | 6  |    |    |    |          |            |  |
|                                                 | Elective A1 (S1-S3) or A2                                             |    | 6          |    |    |    |    |          |            |  |
|                                                 | German as a foreign language intensive 2 (A1)                         |    |            |    |    |    | 6  |          |            |  |
|                                                 |                                                                       |    | 18         | 6  | 0  | 0  | 6  |          |            |  |
|                                                 |                                                                       |    | 36         | 12 | 0  | 0  | 12 |          |            |  |
| 3.Sem                                           |                                                                       |    |            |    |    |    |    | 30       | 90         |  |
| Systems                                         | COMNET-CN-M Computer Networks                                         |    | 6          |    |    |    |    |          |            |  |
| Systems                                         | ISoSySc-Sem-M Master's Seminar in Software Systems Science            |    |            | 3  |    |    |    |          |            |  |
| Systems                                         | ISoSySc-Proj-M Master's Project in Software Systems Science           |    |            | 6  |    |    |    |          |            |  |
|                                                 | SSS-PraktIntKon-M Internship                                          |    |            |    |    |    | 12 |          |            |  |
|                                                 | German Language Course B1                                             |    |            |    |    |    | 3  |          |            |  |
|                                                 |                                                                       |    | 6          | 0  | 9  | 0  | 15 |          |            |  |
|                                                 |                                                                       |    | 42         | 12 | 9  | 0  | 27 |          |            |  |
| 4.Sem                                           |                                                                       |    |            |    |    |    |    | 30       | 120        |  |
| Systems                                         | SSS-Thesis-M Master's Thesis                                          |    |            |    |    | 30 |    |          |            |  |
|                                                 |                                                                       |    |            |    |    |    |    |          |            |  |
|                                                 |                                                                       |    | 0          | 0  | 0  | 30 | 0  |          |            |  |
|                                                 |                                                                       |    | 42         | 12 | 9  | 30 | 27 |          |            |  |
| Total A1 + A2                                   |                                                                       |    | 54         |    |    |    |    |          | <u>120</u> |  |

Note: The specialisation is shown on the degree certificate only on application to the examination board (§ 36 StuFPO). Requirements: master's thesis (A4), a seminar or a project (A3) and at least 18 ECTS from module group A1 in the same specialisation area.

<sup>1</sup> Order of modules: If you have no prior knowledge of functional programming, the Study Advice recommends taking Gdl-IFP-M Introduction to Functional Programming (WS) before Gdl-FPRS-M (MSc ISoSySc Study Advice (WS 25/26), section IV.F (Gdl), p. 5). Starting in the summer semester, this order is not possible. Alternatively, take AlgoK-Algo-M Algorithms (SS) in your first semester and Gdl-FPRS-M later.

<sup>2</sup> Bachelor modules: In module groups A1 and A2 (all electives marked 'Elective A1 (S1-S3) or A2') you can also take modules from module groups A2–A4 of the BSc Software Systems Science or BSc Informatik at the University of Bamberg, up to 15 ECTS in total (§ 40(2) StuFPO). This applies to modules that provide the prerequisites for master's modules in A1 or A2; they are listed under 'Recommended prior knowledge' in the module handbook. Other bachelor modules require an application to the examination board. In both cases you need a learning agreement before the exam registration period. The learning agreement procedure is announced by the helpdesk each semester in the VC course 'MSc International Software Systems Science'. Recommendations (e.g. PSI-IntroSP-B, Gdl-MTL-B, AlgoK-TAG, ESE-SRE-B): MSc ISoSySc Studv Advice (WS 25/26), section IV.

<sup>3</sup> Module group A5 (International Experience) requires only 12 ECTS, e.g. the internship. Credits not used in A5 can be taken in A1/A2 instead (A1 + A2: 54–69 ECTS). For international students, we strongly recommend the internship and as many German language courses as possible, as shown in this plan.

| Specialisation: Software, Start: Summer Semester |                                                                        |    |            |    |    |    |    |          |           |  |
|--------------------------------------------------|------------------------------------------------------------------------|----|------------|----|----|----|----|----------|-----------|--|
|                                                  |                                                                        | MG | ECTS/Modul |    |    |    |    | ECTS/Sem | ECTS kum. |  |
| 1.Sem                                            |                                                                        |    | A1         | A2 | A3 | A4 | A5 | 30       | 30        |  |
| Software                                         | DT-DBCPU-M Database Systems for modern CPU                             |    | 6          |    |    |    |    |          |           |  |
| Theory                                           | Gdl-FPRS-M Functional Programming of Reactive Systems <sup>1</sup>     |    | 6          |    |    |    |    |          |           |  |
| Systems                                          | DSG-DistrSys-M Distributed Systems                                     |    | 6          |    |    |    |    |          |           |  |
|                                                  | Elective A1 (S1-S3) or A2 <sup>2</sup>                                 |    |            | 6  |    |    |    |          |           |  |
|                                                  | German as a foreign language intensive 1 (A1) <sup>3</sup>             |    |            |    |    |    | 6  |          |           |  |
|                                                  |                                                                        |    | 18         | 6  | 0  | 0  | 6  |          |           |  |
|                                                  |                                                                        |    | 18         | 6  | 0  | 0  | 6  |          |           |  |
| 2.Sem                                            |                                                                        |    |            |    |    |    |    | 30       | 60        |  |
| Software                                         | ESE-ESEng-M Evidence-based Software Engineering                        |    | 6          |    |    |    |    |          |           |  |
|                                                  | Elective A1 – recommended: S3 Software (buffer for the specialisation) |    | 6          |    |    |    |    |          |           |  |
|                                                  | Elective A1 (S1-S3) or A2                                              |    |            | 6  |    |    |    |          |           |  |
|                                                  | Elective A1 (S1-S3) or A2                                              |    | 6          |    |    |    |    |          |           |  |
|                                                  | German as a foreign language intensive 2 (A1)                          |    |            |    |    |    | 6  |          |           |  |
|                                                  |                                                                        |    | 18         | 6  | 0  | 0  | 6  |          |           |  |
|                                                  |                                                                        |    | 36         | 12 | 0  | 0  | 12 |          |           |  |
| 3.Sem                                            |                                                                        |    |            |    |    |    |    | 30       | 90        |  |
| Software                                         | SWT-ASV-M Applied Software Verification                                |    | 6          |    |    |    |    |          |           |  |
| Software                                         | ISoSySc-Sem-M Master's Seminar in Software Systems Science             |    |            |    | 3  |    |    |          |           |  |
| Software                                         | ISoSySc-Proj-M Master's Project in Software Systems Science            |    |            |    | 6  |    |    |          |           |  |
|                                                  | SSS-PraktIntKon-M Internship                                           |    |            |    |    |    | 12 |          |           |  |
|                                                  | German Language Course B1                                              |    |            |    |    |    | 3  |          |           |  |
|                                                  |                                                                        |    | 6          | 0  | 9  | 0  | 15 |          |           |  |
|                                                  |                                                                        |    | 42         | 12 | 9  | 0  | 27 |          |           |  |
| 4.Sem                                            |                                                                        |    |            |    |    |    |    | 30       | 120       |  |
| Software                                         | SSS-Thesis-M Master's Thesis                                           |    |            |    |    | 30 |    |          |           |  |
|                                                  |                                                                        |    |            |    |    |    |    |          |           |  |
|                                                  |                                                                        |    | 0          | 0  | 0  | 30 | 0  |          |           |  |
|                                                  |                                                                        |    | 42         | 12 | 9  | 30 | 27 |          |           |  |
| Total A1 + A2                                    |                                                                        |    | 54         |    |    |    |    |          | 120       |  |

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<sup>1</sup> Order of modules: If you have no prior knowledge of functional programming, the Study Advice recommends taking Gdl-IFP-M Introduction to Functional Programming (WS) before Gdl-FPRS-M (MSc ISoSySc Study Advice (WS 25/26), section IV.F (Gdl), p. 5). Starting in the summer semester, this order is not possible. Alternatively, take AlgoK-Algo-M Algorithms (SS) in your first semester and Gdl-FPRS-M later.

<sup>2</sup> Bachelor modules: In module groups A1 and A2 (all electives marked 'Elective A1 (S1-S3) or A2') you can also take modules from module groups A2–A4 of the BSc Software Systems Science or BSc Informatik at the University of Bamberg, up to 15 ECTS in total (§ 40(2) StuFPO). This applies to modules that provide the prerequisites for master's modules in A1 or A2; they are listed under 'Recommended prior knowledge' in the module handbook. Other bachelor modules require an application to the examination board. In both cases you need a learning agreement before the exam registration period. The learning agreement procedure is announced by the helpdesk each semester in the VC course 'MSc International Software Systems Science'. Recommendations (e.g. PSI-IntroSP-B, Gdl-MTL-B, AlgoK-TAG, ESE-SRE-B): MSc ISoSySc Studv Advice (WS 25/26), section IV.

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