Application areas completely in English

for

Master in Informatik/Computer Science

September 2016
As sometimes we are not notified about changes in the curriculum of a subject (like change of course name, change of ECTS credits etc.), we ask you to inform us if you learn about some modifications to the following study plans.

A short version (in German) for all the courses (English and German) for Master of Computer Science is available here:
http://www.tf.uni-freiburg.de/studium/studiengaenge/master/studienplaene.html
Application Area for M.Sc. Informatik/Computer Science

Bioinformatics

(in English)

Last Update SS 16

Credits: 18 ECTS

Course Catalogue: HISinOne (https://campus.uni-freiburg.de)
Course registration function in use: yes

You have to complete the following lectures:

<table>
<thead>
<tr>
<th>Course</th>
<th>Course type</th>
<th>Mandatory / elective</th>
<th>ECTS</th>
<th>Exam / pass or fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioinformatics I</td>
<td>Lecture + exercise</td>
<td>mandatory</td>
<td>6</td>
<td>exam</td>
</tr>
<tr>
<td>Bioinformatics II</td>
<td>Lecture + exercise</td>
<td>mandatory</td>
<td>6</td>
<td>exam</td>
</tr>
<tr>
<td>Specialization in Bioinformatics</td>
<td>Lecture + exercise</td>
<td>mandatory</td>
<td>6</td>
<td>exam</td>
</tr>
</tbody>
</table>

Contact person at the department:

Prof. Dr. Rolf Backofen
Department of Computer Science
Georges-Köhler-Allee 106, room 02-007
79110 Freiburg im Breisgau

phone: 0761 203 7461
email: backofen@informatik.uni-freiburg.de
web: http://www.bioinf.uni-freiburg.de/
Application Area for M.Sc. Informatik / Computer Science

Microsystems Engineering (MSE)

(in English)

Last Update SS 16

Credits: at least 18 ECTS credit points

Course Catalog: HISinOne (https://campus.uni-freiburg.de)

Course registration function in use: yes

Students choose courses (considering the prerequisites) from the various concentrations areas in Microsystems Engineering amounting to at least 18 ECTS credits:

- Circuits and systems
- Design and simulation
- Life sciences: Biomedical engineering
- Life sciences: Lab-on-a-chip
- Materials
- MEMS processing
- Personal profile
- Photonics
- Sensors and actuators

If you do not have any basic knowledge in any engineering fields, yet, we strongly recommend the following curriculum as a foundation of your planning:

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Type</th>
<th>Mandatory / elective</th>
<th>ECTS</th>
<th>Exam / pass or fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>MST technologies and processes</td>
<td>Lecture + exercise</td>
<td>Mandatory</td>
<td>5</td>
<td>Exam</td>
</tr>
<tr>
<td>Assembly and packaging technologies</td>
<td>Lecture + exercise</td>
<td>Mandatory</td>
<td>5</td>
<td>Exam</td>
</tr>
<tr>
<td>Signal processing</td>
<td>Lecture + exercise</td>
<td>Mandatory</td>
<td>5</td>
<td>Exam</td>
</tr>
<tr>
<td>Lecture from the Concentrations areas in MSE</td>
<td>Lecture</td>
<td>Elective</td>
<td>3</td>
<td>Exam</td>
</tr>
</tbody>
</table>
Contact person at the department:

Dr. Oswald Prucker
Department of Microsystems Engineering
Georges-Köhler-Allee 103, room 103 00 105
79110 Freiburg im Breisgau

phone: 0761 203 7164
email: studienberatung@imtek.uni-freiburg.de
web: http://www.imtek.de/studium/studienberatung
Application Area for M.Sc. Informatik/Computer Science

Neuroscience

(in English)

Last Update SS 16

Credits: 18 ECTS

Course Catalogue: HISinOne (http://campus.uni-freiburg.de)
Course registration function in use: no information available

In the area of neuroscience there has been built a special curriculum for Computer Science students with 18 ECTS credits by modifying the module “Computational Neuroscience” (for biology students) according to suggestions from the respective department. The courses, you have to take, are listed in the table below.

As the Practical exercise and the Seminar are held as compact courses (where it is not possible to participate in the usual weekly courses (lectures, exercises, labs etc.) in Computer Science), we recommend to do those at the same time as the master project.

<table>
<thead>
<tr>
<th>Course</th>
<th>Course type</th>
<th>Mandatory / elective</th>
<th>ECTS</th>
<th>Exam / pass or fail</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroscience – The Basics: Basic and Systems Neurobiology</td>
<td>lecture</td>
<td>mandatory</td>
<td>4</td>
<td>Pass or fail (mandatory attendance)</td>
<td>WS</td>
</tr>
<tr>
<td>Models of Neurons and Networks</td>
<td>Lecture + exercise</td>
<td>mandatory</td>
<td>7</td>
<td>exam</td>
<td>SS</td>
</tr>
<tr>
<td>Simulation of Biological Neuronal Networks</td>
<td>Practical exercise</td>
<td>mandatory</td>
<td>5</td>
<td>exam</td>
<td>SS</td>
</tr>
<tr>
<td>Current Research Topics in Systems Neuroscience</td>
<td>Seminar</td>
<td>mandatory</td>
<td>2</td>
<td>exam</td>
<td>SS</td>
</tr>
</tbody>
</table>

Contact person at the department:

Dr. Birgit Ahrens
Albert-Ludwigs-Universität, Bernstein-Center
Hansastraße 9a
79104 Freiburg im Breisgau
phone: 0761 203 9575
email: birgit.ahrens@bcf.uni-freiburg.de
web: http://www.bcf.uni-freiburg.de/people/details/ahrens
Application Area for M.Sc. Informatik/Computer Science

Economics

(in English)

Last Update SS 16

Credits: at least 18 ECTS credit points

Course Catalog: HISinOne (https://campus.uni-freiburg.de)
Course registration function in use: No

Beforehand: Registration with study advisor Martina Nopper is required!!
Please write an e-mail containing your name, matriculation number and study semester to studienberatung@informatik.uni-freiburg.de

<table>
<thead>
<tr>
<th>Course</th>
<th>Course type</th>
<th>ECTS</th>
<th>Semester</th>
<th>Exam / pass or fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic Markets</td>
<td>Lecture + exercise</td>
<td>6</td>
<td>SS</td>
<td>exam</td>
</tr>
<tr>
<td>Computational Economics</td>
<td>Lecture + exercise</td>
<td>6</td>
<td>WS</td>
<td>exam</td>
</tr>
<tr>
<td>Business Analytics</td>
<td>Lecture</td>
<td>4</td>
<td>WS</td>
<td>exam</td>
</tr>
<tr>
<td>Futures and Options</td>
<td>Lecture + exercise</td>
<td>6</td>
<td>SS</td>
<td>exam</td>
</tr>
<tr>
<td>Principles of Finance</td>
<td>Lecture + exercise</td>
<td>6</td>
<td>SS</td>
<td>exam</td>
</tr>
<tr>
<td>Advanced Financial Modelling</td>
<td>Lecture + exercise</td>
<td>6</td>
<td>WS</td>
<td>exam</td>
</tr>
<tr>
<td>Computational Finance</td>
<td>Lecture + exercise</td>
<td>6</td>
<td>WS</td>
<td>exam</td>
</tr>
<tr>
<td>Seminars at Chair for Information Systems Research</td>
<td>Seminar</td>
<td>4 or 6</td>
<td>WS or SS</td>
<td>exam or pass or fail</td>
</tr>
</tbody>
</table>

For more information see the resp. Professors’ websites:

Chair of Information Systems Research (Prof. Dr. Dirk Neumann):
http://www.is.uni-freiburg.de/lehre-en/ueberblick

Department of Quantitative Finance (Prof. Dr. Eva Lütkebohmert-Holtz):