Introduction to MSc Bioinformatics
Summer Semester 2022

Prof. Daniel Huson
Chair of the Board of Examiners
BSc/MSc Bioinformatics
Welcome!

Department of Computer Science, University of Tübingen
The COVID-19 Pandemic...

Summer Semester 2021/22 will take place, but ...

- There are rules aimed at reducing the risk of infection (masks + distancing)
- Courses will take place most in-person.
- Some courses offered by CS department as in-person lectures will be recorded and made available online.
- Exams will take place in-person at the end of the semester.
Getting Information

• Important website:
  http://www.informatik.uni-tuebingen.de/

• Information on studies
• Information on the department
• Information on the different research groups
Organizational Details

• Webpage on individual programs (in German):
  • http://www.informatik.uni-tuebingen.de/studium/studiengaenge/

• Information on computer science programs (in German):
  • http://www.informatik.uni-tuebingen.de/studium/downloads/informationen-und-formulare/
Student Representatives & Mailing List

• Student representatives ("Fachschaft"):  
  - Represent all students  
  - http://www.fsi.uni-tuebingen.de  
  - Provide information and support

• Mailing list: info-studium  
  - https://www.fsi.uni-tuebingen.de/studium/mailinglisten  
  - You have to signup yourself  
  - Important information about studies

• This mailing list is the only way that we can reach all students  
  ⇒ Please subscribe to it!
Alma, Course Pages, Ilias and Moodle

- Catalog of courses Alma:
  - [https://alma.uni-tuebingen.de](https://alma.uni-tuebingen.de)
  - Contains all courses offered at the University
  - Is newly installed and its helpfulness is currently very limited
  - Alma pages contain links to individual course webpages and pages on the learning platforms Ilias and Moodle.

- Learning platform Ilias:
  - [https://ovidius.uni-tuebingen.de](https://ovidius.uni-tuebingen.de)

- Learning platform Moodle:
  - [https://moodle.zdv.uni-tuebingen.de](https://moodle.zdv.uni-tuebingen.de)
Alma, Course Pages, Ilias and Moodle

Bioinformatics I/Sequence Bioinformatics | BIOINF4110 | Veranstaltung

Term: Winter 2021/22

Title: Bioinformatics I/Sequence Bioinformatics
Number: BIOINF4110
Target Audience: 9 LP
Organizational unit: Department of Computer Science (person responsible)
Eventtype: Lecture/Exercise
Frequency of offer: jedes 2. Semester

Recommendation:
More information available on the course website here.
BIOINF4110 Sequence Bioinformatics

Lecturer: Prof. Dr. Daniel Huson

Lectures: Mondays, Wednesdays 10-12h. (Venue: F122, Sand 6/7)
Lectures will be held in person and also recorded and uploaded to Ilias.
Please visit Ilias to check rules on who may attend lectures in-person.

Assignments: Will be made available on Wednesdays and are due 7 days later on Wednesday, 10 a.m.

Tutorials: A: Mondays, 8-10, online
           B: Wednesdays, 8-10, F122, Sand 6/7
           C: Thursdays, 8-10, F122, Sand 6/7

Exams: Written exam, time and place to be announced.

Audience: Master students bioinformatics, 9 LP

Language: English

Links: Alma, Ilias
Enrolling in Courses

In most cases, you will have to enroll in a course in two separate ways:

• First, most course require that you enroll in the course via Ilias or Moodle to get access to materials, assignments and tutorials.

• Second, you must use Alma (or in some cases via the board of examiners secretary) to register for the courses exam.
• The “Prüfungs- und Studienordnung der Universität Tübingen für die Studiengänge Bioinformatik, … und Medizininformatik … Master of Science (M.Sc.) 2021” (PO) contains the regulations for the MSc Bioinformatics program.

• The PO lists the modules that need to be taken.

• The module handbook contains the details of the modules.

https://www.wsi.uni-tuebingen.de/studium
Who is Who

• Board of Examiners BSc/MSc Bioinformatics
  - Secretary: Spyridoula Georgatou, Haußerstr. 11, R 203
  - spyridoula.georgatou@uni-tuebingen.de
  - Chair: Prof. Daniel Huson
  - daniel.huson@uni-tuebingen.de

• Studies Advisor and Counsellor
  - Prof. Kay Nieselt
  - kay.nieselt@uni-tuebingen.de
IBMI - Programming Helpdesk

• For Bioinformatics and Medical Informatics, with a focus on students with a biology background

• Offers basic help with problems in Java or Python

• Implemented as an ILIAS course, ie register via ILIAS.
MSc Bioinformatics

- PO 2021
- 120 ECTS
- Duration: 4 Semesters
- Max. duration: 7 Semesters
- Courses in Bioinformatics, Computer Science and Life Sciences
- Three variants:
  - A - for BSc Bioinformatics
  - B - for BSc Biology
  - C - for BSc Computer Science

Master thesis
- 30 ECTS, 6 months
- Thesis is jointly posed and examined by two professors, one from bioinformatics and the other from life sciences
- Concluded with a presentation
# MSc Bioinformatics Variant A

For students with a BSc in Bioinformatics - can be studied in English

<table>
<thead>
<tr>
<th>Module/Study</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module Sequence Bioinformatics</td>
<td>9</td>
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<tr>
<td>Module Structure Bioinformatics</td>
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<tr>
<td>Seminar Bioinformatics (BIO-SEM)</td>
<td>3</td>
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<tr>
<td>Studies in Practical Bioinformatics (BIO-PRAK)</td>
<td>6</td>
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<tr>
<td>Studies in Bioinformatics (BIO-BIO)</td>
<td>15</td>
</tr>
<tr>
<td>Studies in Practical Computer Science (INFO-PRAK)</td>
<td>6</td>
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<tr>
<td>Studies in Theoretical Computer Science (INFO-THEO)</td>
<td>6</td>
</tr>
<tr>
<td>Studies in Computer Science (INFO-INFO)</td>
<td>18</td>
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<tr>
<td>Studies in Life Sciences (BIO-LIFE)</td>
<td>18</td>
</tr>
<tr>
<td>Master thesis and presentation</td>
<td>30</td>
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</tbody>
</table>
MSc Bioinformatics Variant B

For students with a BSc in Biology (or similar) - requires both English and German

- Foundations of Computer Science (BIO-INFO)  27
- Module Sequence Bioinformatics  9
- Module Structure Bioinformatics  9
- Seminar Bioinformatics (BIO-SEM)  3
- Studies in Practical Bioinformatics (BIO-PRAK)  15
- Studies in Bioinformatics (BIO-BIO)  9
- Studies in Computer Science (INFO-INFO)  12
- Studies in Life Sciences (BIO-LIFE)  30
- Master thesis and presentation
MSc Bioinformatics Variant C

For students with a BSc in computer science (or similar) - requires both English and German

ECTS

- Foundations of Life Sciences (BIO-BASIC) 24
- Module Sequence Bioinformatics 9
- Module Structure Bioinformatics 9
- Seminar Bioinformatics (BIO-SEM) 3
- Studies in Practical Bioinformatics (BIO-PRAK) 6
- Studies in Bioinformatics (BIO-BIO) 15
- Studies in Computer Science (INFO-INFO) 12
- Studies in Life Sciences (BIO-LIFE) 12
- Master thesis and presentation 30
Welcome to Tübingen and good luck with your studies!