SPACE FOR BIOINFORMATICS.

Bachelor’s and Master’s Degree Programs
Bioinformatics is an exciting, truly interdisciplinary field that brings ‘Life Sciences’ (biology, genetics, medicine, pharmaceutics) together with ‘Computational Sciences’ (computer sciences, mathematics, and statistics). Graduates of the program will be able to analyze, interpret, visualize and simulate biological data using methodological approaches in computer sciences and mathematics. These methods and techniques play a key role in understanding an organism’s molecular biology.

To The Point

MARIANA ŠATROVÁ
Bachelor’s Student in Bioinformatics

‘Studying in Budweis and Linz has been an amazing experience! The faculty members are friendly and always willing to help. There is a great sense of community. Everyone helps each other and also has fun together.’

LISA ANDEXLINGER
Bachelor’s Student in Bioinformatics

‘Being able to study in two cities is a very unique and interesting experience. You get to know two cultures well and can call two cities your home. I made great friends and memories in both Linz and in Budweis.’

INTERESTING FACT

The Johannes Kepler University is the first Austrian university to offer a complete Bachelor’s and Master’s degree program in Bioinformatics. The program is international, interdisciplinary, and research-oriented.
Educational Objectives

Bioinformatics is the science of interpreting, visualizing, and simulating biological data by applying methodological approaches in Computer Sciences and Mathematics to gain an understanding of an organism’s molecular biology. Expertise in Bioinformatics opens the door to opportunities and applications in the following fields:

- In biology, to understand cell function
- In medicine, to develop diagnostic and preventative procedures as well as treatments
- In genetics, to find genetic causes of illnesses and study the evolutionary development of humans
- In pharmaceutics, to develop new drugs

The research-oriented program focuses on current topics and provides students with individual attention and support services. Early on in the program, students develop problem-solving skills, focus on current scientific issues, and are individually integrated into the institute’s academic activities.

Job Opportunities

The academic degree program in Bioinformatics is versatile, future-oriented, and interdisciplinary, preparing students for a variety of innovative professions that require expertise and skills in both life sciences and IT. Graduates can pursue careers in the pharmaceutical industry, the chemical field, in food technology, or at biotechnology companies. In addition, graduates can pursue a career at companies that create software for use in biology, physics, medicine or chemistry.
The Bachelor’s degree program in Bioinformatics is a cross-border, English-language program offered together with the University of South Bohemia Budweis (USB), Czech Republic. Students complete the first year in Budweis, the second year in Linz, and can individually schedule classes during the third year. After successful completion of the program, students are awarded two diplomas; one from each university (double degree). The Bachelor’s degree program is versatile and future-oriented, allowing students to pursue future professions in exciting fields such as pharmaceutical research, bio-medical research, genetics, biotechnologies, etc.

Graduates of the Bachelor’s program in Bioinformatics are eligible to enroll in the Master’s program in Bioinformatics at the JKU Linz.

**Chart of Interdisciplinary Topics**

- Computer Science: 23%
- Mathematics/Statistics: 19%
- Chemistry: 16%
- Biology/Genetics: 21%
- Bioinformatics: 12%
- Soft Skills: 9%

**YOUR BENEFITS**
- Broad, base-knowledge education
- Interdisciplinary and international degree program
- Individual support
- Outstanding career prospects
- Earn two degrees
Bachelor’s Degree Program.

Subject Areas

As part of the Bachelor’s degree program, students are required to complete courses totaling 180 ECTS credits in the following areas:

<table>
<thead>
<tr>
<th>SEMESTER</th>
<th>USB</th>
<th>JKU</th>
<th>JKU USB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Science</td>
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<td>●</td>
</tr>
<tr>
<td>Mathematics/Statistics</td>
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<td>●</td>
<td></td>
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<tr>
<td>Biology/Genetics</td>
<td>●</td>
<td>●</td>
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<tr>
<td>Bioinformatics</td>
<td>●</td>
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<tr>
<td>Chemistry</td>
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<td>●</td>
</tr>
<tr>
<td>Soft Skills</td>
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</tr>
<tr>
<td>Area of Specialisation</td>
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<td>●</td>
<td>●</td>
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<tr>
<td>Free Electives</td>
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<tr>
<td>Bachelor’s Thesis</td>
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<td></td>
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<tr>
<td>Bachelor’s Examination (USB)</td>
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<td>●</td>
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</tbody>
</table>

See: jku.at/studienrichtung, the curriculum, or visit the Student Information and Advising Services (SIBS) for detailed information.

Additional Information

- Admission requirements to the Bachelor’s degree program: General university entry qualifications (such as an Austrian ‘Matura’ diploma)

  See: jku.at/studienrichtung or contact the Admissions Office for detailed information about the admission requirements.

- Complete the program at two universities: 1st, 2nd semester: USB Budweis (CZ) 3rd, 4th semester: JKU Linz (A) 5th, 6th semester: JKU Linz (A), USB Budweis (CZ)

  Students earn a degree at each university (double degree program).

  Newly enrolled students can attend special preparation courses. (s. page 6)

Advance Degrees at the JKU

- Master's Degree Program in Bioinformatics
During the last year of high school, many students in the graduating class begin to ask themselves: How do I get my dream job? What is the best way to reach my career goals? Where do I begin? The JKU can help. We provide academic advising and counseling services to answer your questions and help you choose a major that is right for you.

ACADEMIC ASSESSMENT TESTING
Take advantage of academic assessment testing to find a major that best fits your own personal interests and skills. See: jku.at/studienwahlberatung for details and information.

STUDENT FOR A DAY
Our ‘Student-for-a-Day’ program gives prospective students a taste of campus life. Attend a lecture together with a JKU student who is studying in a degree program you are interested in. See: jku.at/1tagstudieren for detailed information.

CAMPUS TOUR
Get a feel for the university by taking part in a campus tour and learning about the university’s programs and services. We can also organize tours of the JKU Science Park, lecture halls, research facilities, the JKU main campus library, or the Law School building. See: jku.at/campusfuehrung for details and information.

MENTORING PROGRAM
University faculty members meet with small groups of newly enrolled students and provide tips and advice about studying at the JKU. See: jku.at/tnf_mentoring for detailed information and how to register.

PREPARATION COURSES
These courses have been designed for newly enrolled students. Preparation courses review and recapitulate material taught at higher level secondary schools and prepare students for university-level lectures. Attendance is optional. See: jku.at/tnf_vorbereitungskurse for detailed information about the courses and how to register.
Versatile and future-oriented, the Master’s degree program prepares students to pursue exciting professions in pharmaceutical research, biomedical research, genetics, biotechnologies, data analysis, and software development. Students receive individual support and are integrated into research activities early on by starting graduate thesis work during project seminars and focusing on current scientific tasks. The program focuses specifically on recent machine learning methods that not only have a wide range of applications in bioinformatics, but have recently revolutionized the entire IT sector and are being viewed as key future technologies by Google, Facebook, Microsoft and many others. The Master’s program is also open to applicants who hold undergraduate degrees in Biology, Chemistry, Computer Sciences, Mathematics, Mechatronics, Physics, Statistics, or Business Informatics.

To The Point

KRISTINA PREUER BSc MSc
Graduate in Bioinformatics

‘During my undergraduate studies in Biological Chemistry I attended a lecture in Bioinformatics and was so fascinated by the subject area that I decided to enroll in the graduate degree program in Bioinformatics. The exceptional academic environment is the reason I am now pursuing a doctorate degree in Bioinformatics in Linz.’

LUM RAMABAJA
Bachelor’s Student in Bioinformatics

‘Bioinformatics is a truly interesting field. The program has inspired me to apply what I have learned and help people by starting a company that diagnoses malaria.’
Master’s Degree Program.

Subject Areas

As part of the Master’s degree program, students are required to complete courses totaling 120 ECTS credits in the following areas:

<table>
<thead>
<tr>
<th>SEMESTER</th>
<th>1</th>
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<th>3</th>
<th>4</th>
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</thead>
<tbody>
<tr>
<td>Complementary Subjects</td>
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<tr>
<td>Bioinformatics and Machine Learning</td>
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<tr>
<td>Area of Specialisation</td>
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<tr>
<td>Seminar Bioinformatics</td>
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<tr>
<td>Project Bioinformatics</td>
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<td>Free Electives</td>
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<tr>
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<td>Master’s Thesis</td>
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<tr>
<td>Master’s Seminar/Master’s Examination</td>
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</tbody>
</table>

See: jku.at/studienrichtung, the curriculum, or visit the Student Information and Advising Services (SIBS) for detailed information.

Additional Information

- Admission requirements to the Master’s degree program: Bachelor’s or Diploma degree in Bioinformatics (JKU), Computer Science (JKU), Business Informatics (JKU), Technical Mathematics (JKU), Technical Physics (JKU), Biological Chemistry (JKU), Technical Chemistry or a program equivalent in content and scope.

  See: jku.at/studienrichtung or contact the Admissions Office for detailed information about the admission requirements.

- The program has been created to accept applicants holding different undergraduate degrees and includes a block of ‘complementary subjects’ worth 30 ECTS credits as part of the base-knowledge requirements in the event that certain subjects were not covered in the student’s undergraduate program.

Advance Degrees at the JKU

- Doctorate Degree Program in Natural Sciences
We Are Here For You.

Academic Advising

STUDENT INFORMATION AND ADVISING SERVICES (SIBS)
Lecture Tract, Hall A
+43 732 2468 3450
studium@jku.at
jku.at/sibs

AUSTRIAN STUDENT UNION LINZ – OFFICE OF ACADEMIC ADVISING
Main Campus Library (ground floor) and the Lecture Tract
+43 732 2468 1122
studienberatung@oeh.jku.at
oeh.jku.at

ADMISSIONS OFFICE
Bank Building, 1st Floor, Rm. 113 A/B
+43 732 2468 3180, -3181, -3271
admission@jku.at
jku.at/admission

WOMEN IN TECHNOLOGY (FIT)
Hochschulfonds Building (first floor), Rm. HF 131
+43 732 2468 3224
fit@jku.at
jku.at/fit

Dates and Deadlines

See: jku.at/termine for important dates and deadlines (such as the start/end of the semester, admissions deadline, holiday schedule, and lecture free days)

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