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BACHELOR (B.SC.) SOFTWARE DEVELOPMENT

From smartphone apps to traffic light control, to complex ERP systems: more and more processes in business and society are based on software systems. According to the World Economic Forum, cloud computing, big data analysis, the Internet of Things, IT security, artificial intelligence, e-commerce and virtual reality will determine our future – topics that are all an integral part of your distance learning programme in software development. You will acquire programming and software engineering skills that will qualify you for key positions in the international IT industry.



Degree

Bachelor of Science (B.Sc.)



Duration

36, 48, or 72 months



Study start

Anytime



Credits

180 ECTS



Study model and accreditation

- Online studies
- German accredited institution, recognised by ZFU (German Central Office for Distance Learning)

Study Content (180 ECTS)

MODULE TITLE	SEMESTER	CREDITS (ECTS)	TEST TYPE
Software Engineering Principles	1	5 ECTS	E
Introduction to Academic Work		5 ECTS	BWB
Requirements Engineering		5 ECTS	E
Specification		5 ECTS	E
Object-oriented Programming with Java		5 ECTS	E
Database Modeling and Database Systems		5 ECTS	E
Data structures and Java Class Library	2	5 ECTS	E
Collaborative Work		5 ECTS	OA
Web Application Development		5 ECTS	AWB
Algorithms, Data Structures, and Programming Languages		5 ECTS	E/AWB
Software Quality Assurance		5 ECTS	E
IT Architecture Management		5 ECTS	E
Programming Information Systems with Java EE	3	5 ECTS	E
Ethics and Sustainability in IT		5 ECTS	WACS
IT Project Management		5 ECTS	E
Techniques and methods for agile software development		5 ECTS	E
Mobile Software Engineering I		5 ECTS	E
Seminar: Software Engineering		5 ECTS	WARE
Project: Agile Software Engineering	4	5 ECTS	WAPR
IT Infrastructure		5 ECTS	E
IT Service Management		5 ECTS	E
Project: Mobile Software Engineering		5 ECTS	PO
Cloud Programming		5 ECTS	PO
Introduction to Data Protection and Cyber Security		5 ECTS	E
DevOps and Continuous Delivery	5	5 ECTS	WACS
User Interface Design and Ergonomics		5 ECTS	E
Introduction to Programming with Python		5 ECTS	E
Project: Software Development		5 ECTS	OPR
Elective A and B		10 ECTS	
Elective A and B		10 ECTS	
Elective C	10 ECTS		
Bachelor Thesis	10 ECTS	T & CO	

CHOOSE YOUR ELECTIVES

Choose two electives from

“Electives A and B” list:

- Applied Sales
- Data Science and object-oriented programming with Python
- International Management and Leadership
- International Marketing and Branding
- Internet of Things and Embedded Systems
- Mathematics Basics
- Mathematics: Linear Algebra and Analysis
- Robotics and Production Engineering
- Statistics Basics
- Supply Chain Management

Choose one elective from

“Electives C” list:

- AI Specialist
- Augmented, Mixed and Virtual Reality
- Business Consulting
- Business Intelligence
- Data Engineer
- Digital Business
- Infrastructure and Operations
- IT Security Consulting
- Smart Devices
- Smart Factory
- Smart Mobility
- Smart Services
- Studium Generale
- User Experience

ELECTIVES

Here you can find out more about a selection of your elective modules in the Software Development degree programme.

BUSINESS INTELLIGENCE

Business Intelligence (BI) deals with the creation of information from company data that's relevant not only to selective management control, but also to the optimisation of company activities. The data warehouse installation often serves as a basis of a company or organisation. In the context of this course, techniques, procedures and models will be introduced and discussed, showing how data filing, the generation and analysis of information, and the distribution of this information are carried out.

AUGMENTED, MIXED AND VIRTUAL REALITY

Augmented, mixed and virtual reality (AR, MR and VR) technologies are becoming increasingly important in a variety of application areas. AR and VR systems can be realised in various ways. This course addresses different output forms, tracking methods and interaction possibilities. It also teaches selected approaches that are helpful in the design, prototyping and testing of AR and VR applications.

CAREER PROSPECTS

According to the WEF, the Software and Applications Developers are one of the ten most in-demand job qualifications – worldwide and across all industries. After graduation, many career opportunities are open to you, you will be able to fill key positions in the IT departments of larger companies or software companies. Depending on your interests and the specific focus of your Bachelor's degree in terms of electives, you will be able to focus on numerous current and future fields of application - including, for example, Artificial Intelligence, Data Science, Virtual or Augmented Reality or Industry 4.0.



ADMISSION

We try to keep admission as simple as possible at IU. To successfully enrol, there are just a few requirements we need you to prove.

ADMISSION REQUIREMENTS

- Higher Secondary School Leaving Certificate such as A-Levels or IB Diploma and your transcript of records.
- A subject-related higher education entrance qualification.

Depending on your qualifications, you might have to meet additional requirements, such as successfully passing a university entrance examination or one of the following programmes to make sure you are ready to study with us:

- Bachelor Entrance Examination (included in Scholarship Program)
- Pathway Programme (for on-campus studies)

Please get in touch with our Study Advisory Team to find out the exact requirements applicable for your application.

SCHOLARSHIP PROGRAMME

Start in our Scholarship Programme as a participant with immediate access to 50% of your courses. You can do this by taking our Entrance Examination which will be included in your course as part of the Scholarship Programme. Once admission and the courses are completed, you can finish your degree.

Questions? Speak to your study advisor, they will guide you through every step of the process.

PROOF OF ENGLISH LANGUAGE SKILLS

We therefore ask for proof of your English language skills*. If English is your native language or you graduated from an English-speaking school/university, you don't need to prove your English skills.

Accepted certifications:

- English Courses (complimentary when signing up with IU)**
- TOEFL (min. 80 points) or
- IELTS (min. Level 6.0 out of 9 points) or
- Duolingo English test (min. 95 points) or
- Cambridge Certificate (min. B grade overall) or
- Equivalent proof

*Proof must be provided before the start of the study and must not be older than five years.

**Please note that English Courses aren't accepted as a language certificate for on campus study programmes.

8 STEPS TO COMPLETE YOUR STUDIES

1

Register and apply online

2

Choose your course

3

Download your study scripts

4

Work independently with study scripts

5

Take part in Q&A sessions

6

Prepare for exams and take them either:

- directly online, or
- at an IU examination centre (remember to register in time).

7

Bachelor thesis and colloquium

8

Complete your studies with certificate