

# Bachelor in Innovative Healthcare B.Sc. - Hof University — Hof University

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As part of your studies, we will train you to become a bridge builder between the interfaces of healthcare, informatics and engineering.

You don't have to be an IT nerd or an engineering genius! In the degree programme, we make technology understandable for everyone. With the help of innovative teaching methods, you will not only learn theoretically how technologies work, what possible uses there are for them and what the limits of their applicability are, but you will also try them out yourself in one of our laboratories. In addition, important content from medicine, psychology, pedagogy and management will make you fit for the job market.

Become one of the future experts for the digitalisation and technologisation of health and social care! Show employees in the health and social care sector where the potential of IT and technology lies and make a contribution to supporting them in their working environment. Test new technologies that help people to live in their own homes as long and self-determined as possible, participate in their (further) development and implement them in practice. Contribute to improving the quality of life of patients, people in need of care, carers and healthy people with the help of innovative concepts and digital applications.

## Core modules

### Health Care

In the core area of health care, you will become familiar with the institutional and legal framework of health care and social services. Furthermore, the module focuses on the understanding of medical language and medical action as well as the development, spread and control of diseases.

### Diagnostics in medicine and care

### Medicine

### Social and medical ethics

### Basics of Statistics and Epidemiology

### Health economics and evidence based practice

### Basics of social work and nursing

### Social security law

### Health education and psychology

### Health Informatics

In this core area, we teach you the basics of informatics in healthcare. You will acquire the tools to creatively co-develop information technology solutions for the healthcare system but also for the people themselves. The focus is on competencies in hardware and software as well as IT management.

### Computer science and medical informatics

### User Experience Design

### Internet and app technologies

### Information systems in Healthcare

### Telemedicine and telematics infrastructure

### IT Management

### Data analysis and business intelligence

### Healthcare technology

In the individual modules of the core area, we teach you technical basics such as sensor technology, signal processing, construction as well as their use in healthcare, e.g. in the

context of robotics or everyday assistance systems.

Technical basics

Medical devices

Product development

Robotics

Assistance systems

Management and system basics

In these modules you will acquire basic management, self-management and communication skills and train a structured approach and team-oriented working skills.

Fundamentals of operational management

Scientific work and methodology

Quality and Business Process Management

Traditional and agile project management

Communication and presentation

Sustainability in Healthcare

Elective modules

Three modules must be selected from the following electives:

Business ethics and organizational sociology

Clinical Psychology

Intercultural Competence

Gerontology

IT Security

Leadership and change management

Practical relevance

We attach great importance to our students being able to directly try out and implement what they have learned wherever possible and to deepen the knowledge they have acquired in a practice-oriented manner.

For this purpose, there are several interdisciplinary laboratories at our Kronach campus with different focal points. For example, on the topics of AmbientAssistantLiving, i.e. everyday assistance systems, virtual reality and robotics.

In addition, the program includes interdisciplinary practice-oriented project work and an internship semester to provide an insight into professional practice.

In contrast to many other sectors, the health and social services sector has a lot of catching up to do when it comes to digitalisation and technology. What has long been standard in industry is still in its infancy there in many areas. But especially in the health and social services sector, digitisation and technology could provide valuable support in the everyday work of doctors, nurses, educators and social pedagogues, for example, especially in view of the existing shortage of skilled workers, which will continue to worsen in the future.

The two sides, IT specialists, technicians and the typical health and social professions, do not really understand each other - how could they, since a nurse, for example, has no contact whatsoever with IT and technology during her training? The same applies the other way round for IT specialists and technicians. And this is exactly where you come into play. After your studies, you know where the needs and requirements in health and social services are, you know the latest technologies and digital applications, you know how they work and you can make this comprehensible to non-IT specialists and technicians. You thus take on the important role of mediator between the traditional professions and thus contribute to developing digital applications and technologies more appropriately and introducing them quickly in practice. This makes you a valuable player for both the developers and the users.

You gain a highly attractive profile to many employers such as:

Clinics,  
Medical care centers,  
Nursing facilities,  
Social institutions,  
Health insurance companies,  
Federal employment agencies,  
Pension insurance institutions,  
Youth and social welfare offices,  
Employer's liability insurance associations,  
Medical technology providers,  
Robotics manufacturers,  
The housing industry,  
Consulting firms,  
Organizations in health policy.

Of course, the path to self-employment is also open to you!

#### Health Innovation Manager

A soft beep is heard. Sandra turns around and automatically takes a step to the side. She can't help smiling as R2U drives past her with today's lunch menu to bring the patients their meal on time. R2U is an autonomously driving robot that looks like a normal food trolley, but independently supplies the patients with food during the day and then takes the dishes back to the kitchen. Sandra is responsible for introducing innovative systems into nursing care and R2U not only improves Sandra's mood. Because the patients also feel how the nursing staff are relieved by it.

#### Consultant Digital Transformation Healthcare

Openness and the courage to question and change systems are definitely part of Philipp's job. He is a consultant for digital transformation in healthcare and has been involved in projects of local health insurance companies and hospitals over the last few years. He has currently completed the process analysis at a smaller Helios clinic and will use it to develop a concept for how work steps will be carried out more digitally - without paper documentation - in the future.

#### Health Application Engineer

"Click on the start button to start your individual tour planning. In addition, your activities can be documented with little effort. The medications are also matched with a database in the background, so that the order is placed automatically." Kevin regularly holds training sessions at outpatient care facilities. In addition, he is the contact person for questions or feedback about the apps, and ultimately he takes care of their continuous development and improvement. Kevin works closely with caregivers, after all, he wants to help them work healthier.

#### IT architect for e-Health

Representatives from hospitals, health insurance companies, physio practices and pharmacies sit around the table together. Ronja moderates the meeting and outlines the possible design of the new telematics infrastructure (TI). Ronja is a member of MedArch, an organization that ensures a uniform architecture and aims to network all parties involved in the healthcare system. In addition to moderating, Ronja is allowed to prepare the migration of the various systems and is also the contact person for the manufacturers and service providers of the TI.

#### Product manager for digital healthcare applications

Lucy sees the evaluation of today's performance in front of her. This was a new record! Between 11:00 am and 12:00 pm her brain showed  $\beta$ -waves - brain waves that occur during stress. Fascinatingly, she was even able to measure  $\alpha$ -waves yesterday during the Design Thinking workshop. These waves are responsible for creative states without analytical thinking. Lucy is a product manager for digital healthcare applications and regularly receives new, innovative products. Insofar as she discovers potential in them, she gets to coordinate their further

development and bring them to market. Just a few months ago, she was allowed to test a virtual reality application for blind people. Using audio stimulation, blind people were able to simulate movements in space so that they could virtually walk through the tropical rainforest.

#### Health scientist with focus on digitization

After one week at the ETRIX children's home, Tim has not only grown fond of the children, but also knows the work processes of the educators. Even after this short time, he was able to identify where there is potential for standardization and thus approaches to digitalization. In the next few weeks, he will use his newly gained knowledge to develop a concept and then introduce it directly on site at ETRIX. Moderating the working groups and conducting the training sessions are also part of his duties. As a result, his work is really beneficial for the educators and Tim can see the children he has already grown fond of for even longer.

#### Health computer scientist

One click - and the data is updated and available on the MedDat platform. Chris is responsible for the further development of the hospital information systems. Just last week, there was a company celebration because he was able to completely detach digital patient documentation from paper form thanks to his latest implementation. The nurses can now use their SmartGlasses to document their workflows. This saves 2-3 hours a day, which they can use more intensively for the patients. Chris always wanted to help people in the healthcare sector, but he also wanted to live out his technical affinity. Now, with his job, he can apply his enthusiasm for information technology to improve workflows in nursing.

#### Healthcare Data Manager

Not only data collection, but also the evaluation of the obtained health data plays a major role in health & social care. This allows predictions about health challenges to be made and the measures applied to be evaluated more quickly. Does the fall-sensitive mat achieve its effect of safety and quick response capability? Can Mr. Hummel really participate in life again in a self-determined way thanks to his blind glasses that read writings to him?

Data evaluation and assessment - These are core tasks from Valerie's job as a Healthcare Data Manager. She keeps an eye on the data obtained from her company's healthcare applications and, together with a team of healthcare professionals, technicians and IT specialists, derives optimized treatment approaches and product improvements for her customers. In this way, she helps users to live more independently in their own homes and improve their quality of life.

#### Usability and User Experience Coach e-Health

If technologies are not designed in a user-friendly way, the eagerly awaited introduction is often followed by frustration and anger on the customer's part. Especially in the case of e-health applications, such as telemedicine services, apps for tracking symptoms or monitoring the health status of clients, wearables for recording fitness data or supporting dietary changes, or even emergency buttons, e.g. in assisted living facilities, errors in operation can have even more far-reaching consequences.

Annabell has specialized herself precisely in this area. She creates personas and usage scenarios for a medical technology company and tests the usability and user experience of the applications in collaboration with people from different target groups.

#### What you need:

University entrance qualification, e.g. (Fach-)Abitur or at least 2 years of vocational training with at least 3 years of full-time professional experience.

#### Innovative Healthcare

Winter semester: May 1 to July 15

#### Info and services

#### Timetable

Here you can find your timetable.

The Department of Interdisciplinary and Innovative Sciences at the Lucas Cranach Campus in Kronach offers you a study program that focuses on innovation and an interdisciplinary approach. The Department of Interdisciplinary and Innovative Sciences offers teaching and

research in areas that require a high degree of interdisciplinary work and are characterized by innovation.

More about Campus Kronach

living and housing

library

spare time

Calling health care and social services separate worlds is not simply pulled out of thin air. With their own systems and rules, both belong to one of the most complex, but also most conservative entities in our society. Digitalization is still in its infancy in both worlds.

However, the diversity of ideas and visions shows that the majority of players - be they doctors, educators, nurses or social workers - want to use digitalization to bring about change and lighten the load. The first steps in the right direction have already been and are being taken. But in order to make meaningful use of the opportunities offered by digitization and new technologies, e.g., to support clients, relieve the burden on staff, optimize processes and improve the quality of work in the healthcare and social services sectors, it is not enough to cooperate and network with those involved in the respective sectors.

What is needed is solidarity with engineers from the technology sector and IT specialists. This is precisely where two worlds meet that - at least so far - hardly understand each other. So far, they have not yet succeeded in closing ranks. Only by networking these professions can the expertise of each and every one of these players be bundled far beyond their core field of activity and used to develop sustainable and practicable digital and technical solutions.

This is precisely where we come in with the "Innovative Healthcare" degree program. We bring together all professions and actors and contribute to the efficient dissemination of new approaches and technologies. We support the implementation of established technologies and at the same time work on the development of new approaches.

"Shape and not manage" is our thinking maxim. The steamship "traditional healthcare" has had its day, the future belongs to the spaceship "innovative healthcare"!

Within the framework of the Innovative Healthcare program, we want to...

... build bridges

In the study program "Innovative Health Care" we build bridges between the fields of health care, social services, engineering, informatics and management. Our graduates are well versed in the structures and terminology of healthcare and social services as well as the workflows of the individual professions, are familiar with the needs of users and at the same time have a sound knowledge of the technical principles and functionalities of individual technologies as well as digital applications and their benefits.

... connect

You form the link between the disciplines, strengthen their collaboration, bundle existing and viable technologies and break down communication barriers. Together with all stakeholders, you also find sustainable solutions that meet the needs of each individual.

... show diversity

At the same time, you know the variety of applications and measures as well as their possible uses and limitations.

... put people at the center

In doing so, we put people at the center of our efforts. The goal of the "Innovative Healthcare" degree program is to relieve employees in the healthcare and social services sectors by simplifying or even eliminating processes with the help of new technologies and digital applications. Reliable duty schedules through the use of artificial intelligence or physical relief through robotics should no longer be topics of the future, but should already be able to be used in a timely manner, taking into account user-friendliness and user experience.

... generate added value for all

Together with our students, we innovate on the basis of actual needs, develop, test and evaluate. In this way, we generate added value for everyone.

Our mission is...

...to train innovative people whose strength lies in seeing opportunities in change and questioning structures - in short, who bring a Growth Mindset with them.

Our students will make the difference in the future. Through their diversity of ideas and openness, existing systems can be rethought and adapted.

Together with our cooperation partners, we provide you with a framework of personal know-how and practical experience. In our interdisciplinary laboratories, we remove the rigid boundaries between individual disciplines and offer plenty of space for technologies from the engineering field to grow together with medical and nursing systems.

A place to develop, an opportunity to build networks and a free space where creativity and questioning the status quo is encouraged and backed up with constructive approaches to solutions - we offer even more. We want to be the helping hand that implements ideas with our students, recognizing and developing their individual strengths. We want to awaken in our students the courage to try things out, because later we seldom regret what we have done, but what we did not dare to do. We want to give them the opportunity - as students and partners - to work together on something bigger. Because we don't just see what's right in front of our noses, we also dare to look beyond.

"With more than 1,200 volunteers and 520 full-time employees, the BRK district association of Kronach is one of the leading service providers in the social economy around Kronach.

We offer a seamless assistance, care and supply network and thus "quality of life for generations".

This is an ideal platform for the "innovative health care" course of study at Hof University of Applied Sciences with BRK Kronach as part of the Lucas Cranach Campus.

This cooperation offers enormous development potential for both the companies and the entire region, but especially for the students.

"Quality of life management" will be the challenge but also the opportunity of the future."

The Caritas Association for the District of Kronach e.V., stands, as the name CARITAS already says, for charity. With this basic attitude towards people, our welfare association, with a total of 480 employees and 300 volunteers, operates a wide variety of welfare facilities. The developments in the health and care industry have prompted us years ago to focus on new ways and innovation. For about 6 years, our department "Digitization and Development" has therefore been working together with a wide variety of players from research, teaching and development.

The cooperation with Hof University of Applied Sciences, the Lucas-Cranach-Campus and the research lab pulsnetz.de is great and an enrichment for all sides. We are very happy to provide students with both our nursing expertise and our competence in development and research. We are constantly working on merging digitization, AI and our core competence of human care. Doing one and not letting go of the other is what the social economy needs professionals looking to the future. We are proud to be able to support this path with our resources in the "Innovative Healthcare" degree program.

Digitization and the use of new technologies in healthcare, nursing, and social institutions are the means of choice to secure the care of people for the next decades. Things will be different, but not worse! This requires "mediators between the worlds" with bite, foresight, enthusiasm for new things, the will for interdisciplinary cooperation and an eye for the "needs of the people".

Digitization and mechanization in all their facets are not ends in themselves, just as ethics, nursing and medical care are not! The top priority is always the well-being of the human being.

This requires the necessary competencies and courage for change in all disciplines!

Helios is Europe's leading private hospital operator with around 20 million patients per year. The Helios Frankenwaldklinik Kronach is a versatile hospital for basic and standard care that provides patients from the district of Kronach and surrounding regions with medicine at the highest level. We offer state-of-the-art diagnostic procedures, for example, we operate our own biplane cardiac catheterization laboratory with electrophysiology measuring station and a 40-line CT.

This makes us an ideal cooperation partner for the "innovative healthcare" degree program at Hof University of Applied Sciences. Digitalization and the use of artificial intelligence in healthcare offer enormous potential for prevention, diagnosis and treatment. We are constantly working on leveraging the strengths of digitalization for personal healthcare. We are happy to provide students with our personnel expertise as well as our technologies in order to jointly develop solutions to further increase the quality of care for patients.

pulsnetz.de - Mensch und Technik im Gemeinwesen (pulsnetz MuTiG) is the outpatient and virtual future centre for health and social care in Baden-Württemberg, Bavaria and North Rhine-Westphalia. The aim is to advance digitalisation, especially in outpatient and inpatient geriatric care facilities.

The "Trucks of Digitisation" (TruDis) allow employees and managers to experience digital technologies on site in their own facility, to understand their opportunities and risks and to develop their own, well-founded attitude towards them. At the same time, fears of contact are reduced and initial experiences in dealing with digital technologies are made possible.

In individual consultations, institutions are accompanied and enabled to design, launch and implement their own initial digitisation projects. Due to the diverse composition of the consortium, the project staff can provide support with technical, organisational, business management and professional issues.

At the same time, managers and employees in the health and social care sector are taught key skills in dealing with digital technologies within the framework of innovative qualification concepts. Among other things, an internet platform is used for this purpose, which is being expanded into a central contact point for information, exchange and learning.

This work is flanked by scientifically based market studies on central technologies, such as virtual reality or voice control.

Get to know and try out new technologies - free of charge

The TruDi Roadshow offers the opportunity to get to know and try out modern technologies for everyday work - practically and concretely, in the facilities on site. The offer is aimed at employees in the social economy in Bavaria, Baden-Württemberg, Berlin and North Rhine-Westphalia.

TruDi is the digitalization truck of the pulsnetz KI project. Sophia Giegold and Désirée Neeb, the consultants for Bavaria and research assistants at iisys, will try out the technologies together with care workers, educators and social counselors and help develop ideas for a healthier everyday working life.

If you work in geriatric care, childcare or social counseling, connect with us!

Antje Tries from the Lucas-Cranach-Campus Kommunalunternehmen takes care of the placement of shared apartments and apartments at LCC Kronach. If you have any questions, please contact her.

Phone: +49 9261 61091-11

E-Mail: info(at)lcc-kc.de

The Bachelor "Innovative Healthcare" is not explicitly offered as a part-time or part-time program. Basically, you are free to arrange your studies yourself. Accordingly, it is your responsibility to coordinate all deadlines, attendance dates and professional activities.

The study office will be happy to help you here.

Head of Programm

Student Affairs - Program Manager

Dean of the Department

Site Management Campus Kronach

Secretariat

Prof. Dr. Dirk Reinel

Tuesday: 13:00 - 14:00 by appointment by e-mail

Aneta Okon

Monday: 09:00 - 15:00

Prof. Dr. Gerald Schmola  
by appointment  
Constanze Scheibl-Barnickel  
Kati Karl-Becker