

**MDP** in Health Technology

Human sensing, big data, machine learning, and more – let's make solutions for better life!



# Health technology



- In the context of this degree program, health technology focuses on the measurement and analysis of medical data and how machine learning can utilize data generated by individuals and from health care providers to create unique health technology solutions.
- Teaching focuses on the technology used in clinical settings as well as consumer wearables.
- Skills acquired in this program include knowing how to process these different kinds of signals, programming the devices used to acquire these signals, and developing models that are able to be fed this information and produce useful insights for the user.



### **MDP** in Health Technology

- Goal of the program is to give students cross-disciplinary skills that involve principles from theory to practical application.
- Combining principles from computer science, embedded systems, and medical sciences allow students to solve the often multifaceted problems encountered in health technology development and implementation.
- Want to learn how to develop solutions to help save lives or improve the quality of life of someone? You've come to the right place!



## **Technology meets Health**

- Do you want to know how heart diseases can be detected from chest movements using a smart phone?
- How to measure blood pressure with wearable technology?
- Detect facial gestures based on electric signals coming from facial muscles?



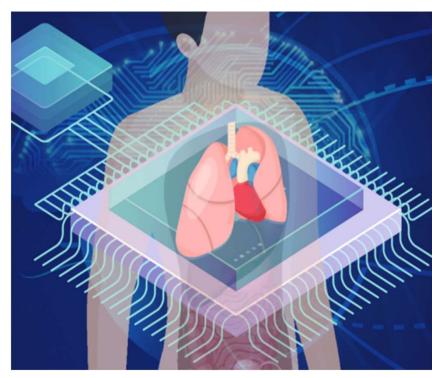


### **Medical Technology**

Medical technology is widely applied in industry and healthcare. Promoting human well-being requires a wide range of skills that combine medicine, science and technology.

The studies in the degree program emphasize information technology, artificial intelligence, the basics of measurement methods, technologies related to human physiology, and their application.

You can freely choose thematic modules and courses from a wide range of choices, such as other technical disciplines, business studies, or other areas of medical technology





#### **Degree Outline**

- MDP in Health Technology consists of a collection of modules which contain mandatory and also elective courses depending on the given module, totaling 120 credits.
  - Health technology courses and common studies 40 ECTS
  - Master's Thesis and project 40 ECTS
  - Thematic module / minor subject 20-25 ECTS
  - Elective courses module 15-20 ECTS
- A few select courses from the program:
  - Statistical Data Analysis, Data Analysis and Knowledge Discovery
  - Acquisition and Analysis of Biosignals
  - Programming for Health Wearables
  - Machine Learning Project for Health Technology
- Additional courses covering topics from machine learning or data science can be taken as well (Intro to deep learning, probabilistic methods with the contraction).



#### **Admission Requirements**

- General Application information for all degrees:
  - https://www.utu.fi/en/study-at-utu/how-when-to-apply
- A nationally recognized bachelors degree.
  - Must correspond to at least 180 ECTS (European credits)
  - Excellent English Language skills (possible language test if needed)
- Bachelors degree should be from a relevant field:
  - Computer Science, Engineering, Information technology, or other fields where sufficient knowledge of computer science and or biomedical engineering is achieved



### **Important Info**

- Application period: 8-22<sup>nd</sup> of January 2025
- Admissions decisions, including scholarships offered, are published by April 2<sup>nd</sup> 2025. All applicants will be informed by email.
- Studies begin Autumn 2025
- Admissions Email: <u>admissions@utu.fi</u>
- Scholarship and Tuition Info:
  - Scholarships and tuition fees | University of Turku (utu.fi)
  - Tuition will be required from citizens of non EU/EEA or Switzerland.
  - Many scholarships offered in case you are required to pay tuition.
- Remember to start your application early and to gather all the necessary documents preferably before the application period opens if possible!

#### **Additional Resources**

- General info
  - https://www.utu.fi/en/study-at-utu/masters-degree-programmein-health-technology
- List of courses:
  - https://opas.peppi.utu.fi/en/programme/99379?period=2024-2027
- Contact Info:
  - University teacher, <u>tuukka.j.panula@utu.fi</u>
  - Education Coordinators, infoscitech@utu.fi





Thank You! Questions?

Tuukka Panula

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