



Certificate of Achievement

Nishant Mishra

has completed the following course:

NANOTECHNOLOGY FOR HEALTH: INNOVATIVE DESIGNS FOR MEDICAL DIAGNOSIS
UNIVERSITY OF TWENTE

This online course explored the domain of Nanotechnology for Health by focusing on what nanotechnology is, how devices are developed and how they work to innovate the design of medical diagnosis. It also covered the ethical and societal implications in this area.

4 weeks, 3 hours per week




Martin Bennink
Assistant Professor and Lecturer
University of Twente



Evert Houwman
Senior Researcher and Lecturer
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UNIVERSITY OF TWENTE.



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NANOTECHNOLOGY FOR HEALTH: INNOVATIVE DESIGNS FOR MEDICAL DIAGNOSIS UNIVERSITY OF TWENTE

Nanotechnology is used to control and manipulate nanometer-sized matter with nanometer precision. It offers great potential in new medical diagnostic or screening tools, and inspires us to create new devices that can be used to diagnose a disease or monitor a medical treatment. This course focussed on three different developments: how the devices work, how they are made, and the role of nanotechnology. It also covered the ethical and societal implications of nanotechnology in healthcare.

STUDY REQUIREMENT

4 weeks, 3 hours per week

LEARNING OUTCOMES

- Describe technology and the science of nanotechnology
- Investigate the relationship between nanotechnology and the medical application
- Engage in the underlying science and technology and techniques used to fabricate nano devices
- Discuss societal and ethical questions that arise from new technological developments in the health domain

SYLLABUS

- Introduction to the technology and science of nanotechnology.
- The relation between nanotechnology and medical applications.
- The impact and possible consequences of new techniques for ethical questions and societal behaviour.

- Introduction to the underlying science and technology of nanotechnology developments and of the techniques used to produce devices that use nanotechnology.
- Nano and breath: Electronic nose; Nano and blood: Lab-on-a-chip; Nano and urine: Cancer detection.
- Example cases where new technology is not an independent development but arises from societal questions, and in turn also creates new societal and ethical questions.