MINOR

Technology for Women's health in a life span perspective

Although recognition is growing of sex and gender* as important determinants of health, women's health is still under-represented in research, medical and psychological innovation. This has led to uneven standards of healthcare which has resulted in inequity, poorer care, and unmet health needs in women. In our minor module, you will be sensibilized to approach women's health needs across the life cycle, and learn how this can improve standards of care with a focus on technology development and gender-sensitive design, in an interdisciplinary education environment.

Attention to and focus on women's health is progressively stepping into the limelight. This is necessary as, when it comes to health and care, we have more knowledge about men than women. Research and practice has historically focused on male bodies and physiology, leaving female-specific functions and anatomy underexplored. Women-specific conditions, such as pelvic organ prolapse, menstrual disorders and women-specific cancers, have been chronically understudied and underfunded. This knowledge gap has consequences to equal quality of care, such as more frequently missed diagnosis and delayed treatment in women.

If we want to diminish **health disparities** including sex and gender, more research and innovation is needed to improve our understanding of health and care needs throughout the life span. With this knowledge, more personalised, effective, accessible, and affordable solutions can be developed to promote women's health and well-being, but in turn, also improve health for both genders. Improving to address women's health conditions in a way that meets women's health needs should also be reflected in women's perspectives on the **design and functionality of technology**.

The Technology for Women's health across the life span perspective minor offers a **unique approach to unmet health needs**, illustrating how new technologies can offer opportunities to address health needs by taking a totality of health experiences into account. This approach includes social and economic factors, the influence of culture, psychology, access to health resources, experiences of health and illness, and interactions with the health care system. Through a large variety of real-life examples of medical technologies, you are encouraged to explore how technological research and development, clinical practice, health-related behaviour (change), and disease management are required to make a decisive step forward in women's health. The novel technology and design focus of this minor equips you to explore how the **influence of sex and gender in device development** could contribute to using the full potential of medical applications and their uptake.

The minor responds to the current global momentum around **gender equality, equity and empowerment** in health care, and facilitates learning objectives around **personalized medicine**, considering each patient's unique characteristics leading to a targeted health(care) approach specific to the individual person.

The minor module **Technology for Women's health in a life span perspective** awaits you with a 15 EC package with content divided into three areas in an interdisciplinary education environment. We address women's health across the life cycle through (1) interactive lectures on women's health, illness & life events, (2) workshops on technology, design, behaviour change and research skills for women's health and (3) an interdisciplinary group project on real world women's health problems.

Optimizing and personalizing women's health throughout the life cycle

Women's health, illness & life events (5 EC) Contact: Anique Bellos-Grob (a.t.m.bellos-grob@utwente.nl), Nienke Bosschaart (n.bosschaart@utwente.nl), Christina Bode (c.bode@utwente.nl)

Through interactive lectures, you are introduced to the theme of **women's health across the life span** perspective, somatic and mental health, and technology to support women's health. You will learn about the healthy development of men and women and mental and physical changes through the lifespan. Special attention is given to life events particularly relevant for women's lives, and to technology that can facilitate the improvement of women's health needs and patient journeys. Breastfeeding, pelvic floor problems, empowerment, self-management and behavioural changes are examples of topics that will be addressed in-depth.

Technology, design, behaviour change and research skills for women's health (5 EC) Contact: Sabine Siesling (s.siesling@utwente.nl), Marijke Schotanus-Dijkstra (m.schotanus-dijkstra@utwente.nl)

In this component, weekly workshops will introduce you to working with aggregated data, developing gender-sensitive design, using qualitative and quantitative research methods, machine learning models, and discussing ethical aspects of technology development. You will be given the opportunity to experience technology firsthand, such as virtual reality, optical technology, ultrasound and MRI technology that can be relevant to meet unmet health needs and improve women's health.

Interdisciplinary collaboration for real world women's health problems
(5 EC) Contact: Marijke Schotanus-Dijkstra (m.schotanus@utwente.nl), Anneliene Jonker (a.h.jonker@utwente.nl)

In this component, you will work in groups to make an interdisciplinary problem analysis of the disease endometriosis and you will develop a design-plan on how gender-sensitive technology design can help to diagnose, manage, predict, or treat endometriosis from an interdisciplinary perspective. To prepare you for this interdisciplinary challenge, this component starts with tutorials on interdisciplinary collaboration, where you are encouraged to apply the trained metacognitive skills in the group project.

The minor allows you to gain abilities to engage effectively in an interdisciplinary working environment that can be applied independently to your field of study. With its unique threefold focus on (1) women's health, (2) technology development, and (3) gender-sensitive design, the minor equips you to promote inclusiveness in innovation ecosystems by supporting social and technological innovations for underrepresented groups in health science research.

After completing the Technology for Women's health in a life span perspective minor, you develop into a technology-oriented women's health expert who can optimize (self-)care and quality of life solutions for women from a holistic point of view (mental, physical and social wellbeing). You will gain the ability to critically challenge current methods of research and ideological standpoints through knowledge of complex social and scientific processes rooted in evidence-based health care. You will be able to analyze, develop and adapt technologies, that can be used in both the prevention, diagnosis and treatment of diseases that (primarily) affect women.

The minor team is looking forward to welcoming you to our Technology for Women's health in a life span perspective minor!

MORE INFORMATION

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For more information about this minor and forgeneral information about minors: www.utwente.nl/minor