Course syllabus

Universal design, projekt
Universal Design, Project

TNSF02, 5 credits, G2 (First Cycle)

Valid for: 2023/24
Faculty: Faculty of Engineering, LTH
Decided by: PLED ID
Date of Decision: 2023-03-16

General Information

Main field: Industrial Design.
Compulsory for: KID2
Language of instruction: The course will be given in English on demand

Aim

In a society for all, environments, products and services are designed having in mind that every person is an individual and has individual capabilities, that also vary over time. This course focuses on Universal Design both as a process and as a result, with Universal design described as the design of products, services and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

The aim of the course is that the students, in their future professional roles, can take into account people's different conditions and abilities and is trained to propose and implement possible improvements to products, services and environments so that they better meet the criteria for universal and inclusive design. The course covers the process (how to generate new designs) and also the evaluation of results.

Diversity and inclusion are part of sustainable development, and link to several of the goals in Agenda 2030, eg 3: good health and well-being, goal 4: good education for all, goal 5: gender equality, goal 8: decent work and economic growth, goal 10: reducing inequality, goal 11: sustainable cities and communities, goal 16: peaceful and inclusive communities.

Learning outcomes

Knowledge and understanding
For a passing grade the student must

- be able to identify, analyze and suggest the design of products, services or environments based on universal design and to describe how these contribute to an open and inclusive society for all.

Competences and skills
For a passing grade the student must

- be able to develop a product, service and environment taking people's different physical and cognitive conditions and abilities into account. Industrial design students and engineeering students carry this out in co-operation in groups.
- be able to apply the seven principles of universal design when developing products, services and environments.
- be able to identify wider application areas for developed products.
- be able to apply a user-centred design methodology.
- be able to combine subjective and objective methods when assessing products, services and environments.
- be able to present methods and results orally and in writing for a diverse audience.
- be able to present the results as a functional model, a visual model and in a poster.

Judgement and approach
For a passing grade the student must

- describe the quest that lies in the design of products and services so they are aesthetic and useful to as many people as possible regardless of age and ability.
- to take into account that people are different with a great variety of conditions and abilities and that they have different desires and needs.
- be able able to express how universal design contributes to an inclusive society.

Contents

The course consists of a project that industrial design and engineering students carry out together.

The project will result in a prototype af an universally designed product, service or environment. The course is problem based and project oriented.

Examination details

Grading scale: UG - (U,G) - (Fail, Pass)
Assessment: The assessment is based on group work. A passing grade will be given to students who pass a project carried out in groups.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Admission

Assumed prior knowledge: TNSA01 Universal Design, theory; and MAMF30 Ergonomics.
The number of participants is limited to: No
The course overlaps following course/s: TNSF01, TNX153, TNSF10

Reading list

- Additional literature will be based on the project work.
- All compulsory literature is available in the course learning platform.
- The HaptiMap project, editors: Charlotte Magnusson, Kirsten Rassmus Gröhn, Konrad Tollmar, Eileen Deaner: User Study Guidelines. HaptiMap project, 2009. Download from: http://www.certec.lth.se/fileadmin/certec/publikationer/HaptiMap_d12.pdf.
- Maisel, J. & Steinfeld, E.: Universal Design in the Built Environment. CRC Press, 2022. Maisel, J., & Steinfeld, E. (2022). Universal design and the built environment. In A. Mihailidis & R. Smith, Rehabilitation Engineering (1st ed., pp. 295–318). CRC Press. https://doi.org/10.1201/b21964-16. PDF available on Canvas.
- Hedvall, Price, Keller & Ericsson: Towards 3rd Generation Universal Design: Exploring Nonclusive Design. IOS Press, 2022. Hedvall, P.-O., Price, M., Keller, J., & Ericsson, S. (2022). Towards 3rd Generation Universal Design: Exploring Nonclusive Design. 85–92. https://doi.org/10.3233/SHTI220824. PDF is available on Canvas.

Contact and other information

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