JÖNKÖPING UNIVERSITY
School of Engineering

COURSE SYLLABUS

Visualization in Industrial Design, 7.5 credits

Visualisering av industridesign, 7.5 högskolepoäng

Course Code:	TVIS25	Education Cycle:	Second-cycle level
Confirmed:	Feb 01, 2025	Disciplinary domain:	Technology
Valid From:	Sep 01, 2025	Subject group:	Design
		Specialised in:	A1F Second cycle, has second-cycle course/s as entry requirements
		Main field of study:	Product Development

Intended Learning Outcomes (ILO)

On completion of the course the student shall:

Knowledge and understanding

- demonstrate comprehension of design thinking, processes, and practices, with a specific focus on visualization techniques in industrial design.
- show familiarity with topics such as design and emotions, colour theory, and the interplay of light and shadows with form to enhance visualization skills.
- display knowledge of advanced surface modelling and visualization methods.

Skills and abilities

- demonstrate skills of design and emotions, colour theory, and lighting to create compelling and emotionally resonant design visualizations.
- demonstrate proficiency in advanced surface modelling and visualization techniques to effectively communicate design concepts.
- demonstrate the ability to create realistic and impactful design visualizations that effectively communicate concepts and evoke emotional responses from users and stakeholders.

Judgment and approach

- demonstrate the ability to employ creative and innovative approaches to design visualization, experimenting with new techniques and methods to enhance design communication and storytelling.

Content

Students will deepen their understanding of design thinking, processes, and visualization techniques in industrial design. They will develop advanced skills in surface modeling, rendering, and other visualization methods while exploring key design principles such as color theory, lighting, and emotional impact. The course will also cover how light and shadow interact with form to enhance the perception of products.

Through practical assignments and projects, students will apply these techniques to create compelling design visualizations that effectively communicate concepts and evoke emotional responses. They will refine their ability to present ideas clearly and persuasively, demonstrating both technical skill and creative problem-solving. Participation in this course will enrich their portfolios with high-quality visual work, making them more competitive in the field of industrial design.

The course includes the following elements:

- Design and emotions
- Analog sketching
- Digital sketching

- Surface modelling
- Rendering
- Colour theory
- Lighting science
- Rhetoric

Type of instruction

Teaching consists of lectures, exercises, assignments, and individual project.

Language of instruction is in English.

Entry requirements

Passed courses of at least 150 credits in the program Industrial Product Realisation, or passed courses of at least 90 credits in Mechanical Engineering, Civil Engineering, Industrial Design, Product Development, Innovation, Production Engineering, Industrial Engineering, or the equivalent. The bachelor's degree should comprise a minimum of 15 credits in Mathematics. Taken course Fundamentals of Industrial design, 7,5 credits, or the equivalent. Proof of English proficiency is required.

Examination and grades

The course is graded Pass (G) or Fail (U).

Registration of examination:

Name of the Test	Value	Grading
Assignment	3.5 credits	G/U
Project	4 credits	G/U

Course literature

Please note that changes may be made to the reading list up until eight weeks before the start of the course.

Title: Product Design and Development, Seventh Edition

Author: Karl T. Ulrich. Steven D. Eppinger. Maria C. Yang

ISBN: 978-1-260-566-43-7

Title: Delft Design Guide

Author: BIS Publishers

ISBN: 9789063695408, 9063695403

Title: Design for Emotion

Author: Trevor van Gorp, Edie Adams

ISBN : 978-0-12-386531-1