

# Courses in English

## Course Description

<b>Department</b>	06 Applied Sciences and Mechatronics
<b>Course title</b>	<b>Modelling and Testing of Products and Processes</b>
<b>Hours per week (SWS)</b>	Blockunterricht, 26.-30.04.2021
<b>Number of ECTS credits</b>	6
<b>Course objective</b>	Types of Models. Modeling methods. Modeling of physical properties of products (structural analysis); modeling of processes (electrical- and temperature fields, fluid dynamics); physical testing of products and processes. Experimental modal analysis. Solving different problems with FE program ANSYS. Classical theory of Strength of materials. Stress analysis. Local stresses and fatigue.
<b>Prerequisites</b>	Bachelors degree
<b>Recommended reading</b>	A. C. Fowler, Mathematical Models in the Applied Sciences, Cambridge University Press, 1997; Edward A. Bender, An Introduction to Mathematical Modeling, Dover Publications (March 6, 2000); Andy J. Keane; Prasanth B. Nair; Computational Approaches for Aerospace Design; Wiley 2005; Vince Adams, Abraham Askenazi, Building Better Products With Finite Element Analysis, 1998; Learning materials in PowerPoint
<b>Teaching methods</b>	Lecture and Project
<b>Assessment methods</b>	Exam and projekt
<b>Language of instruction</b>	English
<b>Name of lecturer</b>	Prof. Dr. Martin Eerme
<b>Email</b>	Martin.Eerme@ttu.ee
<b>Link</b>	
<b>Course content</b>	
<b>Remarks</b>	