



HÖGSKOLAN I GÄVLE

Thermodynamic and fluid mechanics 7.5 cr

Mekanisk värmeteori och strömningslära 7,5 hp

Set by Faculty of Engineering and Sustainable Development

Version

Set at	Valid from
5/18/10	HT2010
12/11/13	HT2014

Level	G1N
Education level	First cycle
Course identifier	ME569A
Credits	7.5 cr
Main field of study	Energy Technology
Subject group	Energy Technology
Disciplinary domain	Technology 100.0 %

Learning outcomes On completion of the course, the student should have basic knowledge of mechanical theory of heat and fluid mechanics, and studied examples of technical applications in different constructions and production processes. The student should also have general knowledge of the structure and functions of power and heat-technical facilities and combustion engines.

Course content The lectures cover e g: the continuity equation, Bernoulli's equation with applications, uniformity laws for fluid flow, laminar and turbulent flow, pipe flow. The course covers fundamental concepts of thermodynamics, the properties of gases and gas mixtures, the concepts of work and heat, the first and second laws of thermodynamics, and technical processes such as steam power, refrigeration, gas turbine and combustion processes.

Teaching Lectures, exercises and laboratory sessions.

Prerequisites Mathematics for Engineers, 15 HE credits or equivalent.

Examination Written examination and Laboratory sessions

Grade A, B, C, D, E, Fx, F

Sustainable environment

A minor part of the course content deals with sustainable development.

Module

0040	Written examination	6 cr	Grade: AF
0050	Laborations	1.5 cr	Grade: UG