KURSPLAN
Grundläggande analys, 6 högskolepoäng

Basic Calculus, 6 credits

Kurskod:	TGAG17	**Utbildningsnivå:**	Grundnivå
Fastställd av:	VD <VÄRDE SAKNAS>	**Utbildningsområde:**	Naturvetenskapliga området
Gäller fr.o.m.:	2017-01-01	**Ämnesgrupp:**	MA1
Version:	1	**Fördjupning:**	G1N
Diarienummer:	JTH 2016/2669-313		

Lärandemål

After a successful course, the student shall

Kunskap och förståelse
- display knowledge of the elementary functions and their basic properties

Färdighet och förmåga
- demonstrate the ability to read and interpret mathematical text on a basic level
- demonstrate skills of evaluating limits and using basic continuity theorems
- demonstrate skills of calculating derivatives and basic integrals involving elementary functions
- demonstrate the ability to use limits and derivatives in order to analyze the properties of a given function and to methodically solve optimization problems
- demonstrate skills of evaluating generalized integrals

Innehåll

The course will include the basic theory of elementary functions, derivatives and integrals. It will also focus on mathematical reasoning, logic and problem solving in general with the aim to support the use of mathematics in an engineering context.

The course includes the following elements:
- Elementary function theory
- Limits and continuity
- Derivatives, differentiation rules, applications using the derivative to solve optimization problems
- Integrals, integration techniques, applications using integrals to solve geometrical problems

Undervisningsformer

Lectures and tutorials.

Undervisningen bedrivs på engelska.

Förkunskapskrav

Grundläggande behörighet samt Engelska 6, Fysik 1, Kemi 1, Matematik 3c. Eller: Engelska B, Fysik A, Kemi A, Matematik D (eller motsvarande kunskaper).

Examination och betyg

Kursen bedöms med betygen 5, 4, 3 eller Underkänd.

Poängregistrering av examinationen för kursen sker enligt följande system:

Examinationsmoment	Omfattning	Betyg
Skriftlig tentamen	6 hp	5/4/3/U

Kurslitteratur

The literature list for the course will be provided one month before the course starts.
Titel: Calculus for business, economics and the social and life sciences: Brief edition
Eleventh Edition
McGraw-Hill International Edition
ISBN: 978-007-131071-0