



COURSE SYLLABUS

Analysis of Casting Defects, 3 credits

Gjutfelsanalys, 3 högskolepoäng

Course Code: TGAS27	Education Cycle: Second-cycle level
Confirmed by: Dean Feb 1, 2017	Disciplinary domain: Technology (95%) and social sciences (5%)
Valid From: Aug 1, 2017	Subject group: MA2
Version: 1	Specialised in: A1F
Reg number: JTH 2017/588-313	Main field of study: Product Development

Intended Learning Outcomes (ILO)

On completion of the course, the student should

Knowledge and understanding

- Demonstrate knowledge of how the casting defects are identified and characterized
- Demonstrate knowledge of how the casting defects can be minimized or eliminated, and how simulation tools can be used in that work

Skills and abilities

- Demonstrate skills in identifying casting defects and derive causes of defect formation
- Demonstrate skills in applying and combining different analytical methods including casting simulation for defect characterization and elimination

Judgement and approach

- Show the ability to make a proper defect assessment and critically evaluate the causes and mechanisms underlying the defect formation

Contents

The course covers the most common casting defects, how they are identified and characterized, causes of their formations, the basic mechanisms and measures to minimize or eliminate their occurrence.

The course includes the following topics:

- Identification of different types of casting defects
- Defect formation - Causes and mechanisms
- Prediction of defects using simulation tools
- Practical examinations
- Root cause analysis
- Case studies

Type of instruction

Lectures, seminars, project work, laboratory activities and exercises.

The teaching is conducted in English.

Prerequisites

Passed courses at least 90 credits within the major subject in Product development and completed course Microstructural Engineering 6 credits and 21 credits Mathematics. Proof of English proficiency is required (or the equivalent).

Examination and grades

The course is graded 5,4,3 or Fail.

Registration of examination:

Name of the Test	Value	Grading
Examination ¹	2 credits	5/4/3/U
Exercises and Project Work	1 credit	U/G

¹ Determines the final grade of the course, which is issued only when all course units have been passed.

Course literature

Literature

The literature list for the course will be provided one month before the course starts.