FMH3905 Importance of Inclusions in the Processing of Steel Products 7.5 credits

Betydelse av inneslutningar vid tillverkning av stålprodukter

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for FMH3905 valid from Autumn 2020

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

Admitted to PhD studies within the subject Engineering Materials Science

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

After passing the course the students should be able to:

- Explain the methods that can be used to determine the inclusion characteristics in steel samples
- Identify the influence of inclusions on material properties
- Explain how thermodynamics can be used to predict the inclusion compositions in steel
- Explain the theories which can be used to predict the growth and separation of inclusions during steelmaking
- Identify the practice to make clean steel in production including in the ladle, tundish and mold

Course contents

Knowledge of i) thermodynamic and kinetic aspects which influence the inclusion characteristics during ladle treatment and casting, ii) methods for determination of inclusions, and iii) influence of inclusions on the final steel properties.

Examination

- PRO1 - Project, 7.5 credits, grading scale: P, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.