Use and characteristics of steel

Basic information

**Code:** FITech

**Extent:** 5–35 ECTS

**Language:** Finnish

**Organising university:** University of Oulu

**Methods and location:** Online or blended learning in Oulu

**Teacher in charge:** Prof. Jari Larkiola, University of Oulu (jari.larkiola@oulu.fi)

**Administrative contact:** Reijo Saari, University of Oulu (reijo.saari@oulu.fi)

**Target group:** Schools of Technology students. The individual courses are especially suitable for master's level students with some background knowledge of materials and especially metals. However, the minor studies include the Materials course in Mechanical Engineering (Bachelor's phase) if no equivalent course has been taken.

**Application process:**
- This guideline applies to students who want to attend FITech studies in universities other than their home university.
- Instructions for applying (opens in a new tab)
- More info can be found on FITech’s website.

**Quotas and restrictions:**

**Prerequisites:** Konetekniikan materiaalit (465102A) or similar background knowledge. Basic knowledge of material science (e.g. metals) is required for the course Basics of corrosion in metals (Korroosionesto 465106A).

Content and structure of the minor

The University of Oulu offers minor studies on steel know-how in the Materials and Production Technology research group.

The steel know-how minor focuses on the characteristics of steel and the use of steels in the manufacturing industries. Utilising the new strong steels makes it possible to considerably develop the lifetime characteristics of a product. This gives the manufacturer of the product a clear competitive advantage, enabling a stable and if necessary, a growing market share as well as profitable business operations.

The strength of new grades of steel has increased considerably recently as their behaviour has changed both from the point of view of manufacturing and design. The current design guidelines often apply to traditional steels, with which it is not possible to make use of the characteristics that are enabled by the new grades of steel for various components and structures.

In addition to design, it is necessary to know how strong steels can be used in machine shops in molding, processing and joining.

More information: [https://fitech.io/studies/use-and-characteristics-of-steels/](https://fitech.io/studies/use-and-characteristics-of-steels/)

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