

## TRA105 – Tracks advanced 1 – Product Development by Additive Manufacturing (7,5 credits)

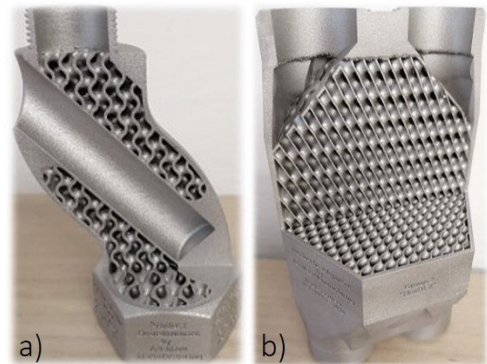
*“Unlocking the potential of Additive Manufacturing”*

### Why Additive Manufacturing?

Additive manufacturing (AM) allows engineers to re-think designs and applications for a wide range of applications from aerospace and biomedical applications to automotive and consumer products. The technology offers high levels of design freedom and customization of components. This makes the technology highly interdisciplinary itself as specialist knowledge has to be considered not only from the design and manufacturing side but also from the material and end-application side.

### Course tasks

The course is project based and students are going to work together in cross-disciplinary groups focusing on the development of the additive manufacturing chain for specific components/applications. Participants will write a report detailing their project, problem analysis with particular emphasis on AM, and proposed solution for the entire process chain, including a rough cost evaluation to understand the feasibility of AM applications. At the end of the project period the groups will present their results in a short workshop.



*Figure 1: Heat exchanger designs a) HeadADD and b) HexHEX from the course "Product Development by Additive Manufacturing" in 2020*

### Requirements

Each group must be interdisciplinary, consisting of students from at least 2 disciplines. In order to ensure a successful project, at least half of the students in each group needs to have experience in Additive Manufacturing (e.g. passing course MTT120 Additive Manufacturing, MTT125 Additiv Tillverkning or IMS075 Additive Manufacturing – summer course).

The course is intended as Master level course but can be available for highly motivated Bachelor students.

### How to apply

If you are interested in applying for this course, please send a short motivation letter (max. 1 page A4) and transcript of your courses from Chalmers detailing course of study and experience in additive manufacturing to Lars Nyborg ([lars.nyborg@chalmers.se](mailto:lars.nyborg@chalmers.se)).

If you have a specific project idea in mind which would be suited to this frame of work, please don't hesitate to send it in as well.

Student will be admitted based on the selection criteria mentioned above and the number of students will be limited to max. 30 due to practical reasons of the course.

**Application deadline:** June 23, 2022

**Study period:** September-December 2022 (LP1 and LP2)

**Examiner:** Professor Lars Nyborg

**Evaluation:** This will be a graded course (5, 4, 3, F)