Department of Mechanical and Plastics Engineering
Failure Analysis

Module name: Failure Analysis, 5 ECTS, lecture and laboratory, bachelor level

Contact: Prof. Dr.-Ing. Brita Pyttel (brita.pyttel@h-da.de)

Time: summer term 2022 at h_da (1st April 2022 until 22nd July 2022), (online) meeting weekly about (19th April until 22nd July 2022), written exam and/or exercise

Idea: mix students in online and offline meetings, hybrid teaching, moodle-course with lectures and exercises (might include a short time mobility if possible, co-teaching and other ideas for future offers welcome)

Application/Enrollment: If you are interested in participating in the course, send us an email to brita.pyttel@h-da.de by Monday, 11th April 2022. Please indicate your course of study/discipline/major and your university when applying.

Content:

Failure Analysis (FA.Lecture)

- Introduction into failure analysis
- Fundamentals and performance of failure analysis
- Examination methods
- Failure caused by mechanical working conditions
- Failure caused by thermal loading
- Further failure causes

Failure Analysis (FA.Laboratory)

- Documentation of failures in selected components
- Translation of important technical terms English-German
- Performance of first steps of a failure analysis in selected components
- Presentation of failure cases from international literature
- Fracture surface investigation with the scanning electron microscope

Recommended knowledge: material science 1 and 2, manufacturing processes, machine elements 1

Youtube (not indexed): full course for possible self study, here e.g. Introduction part 1
https://youtu.be/eq2uR9duEEE