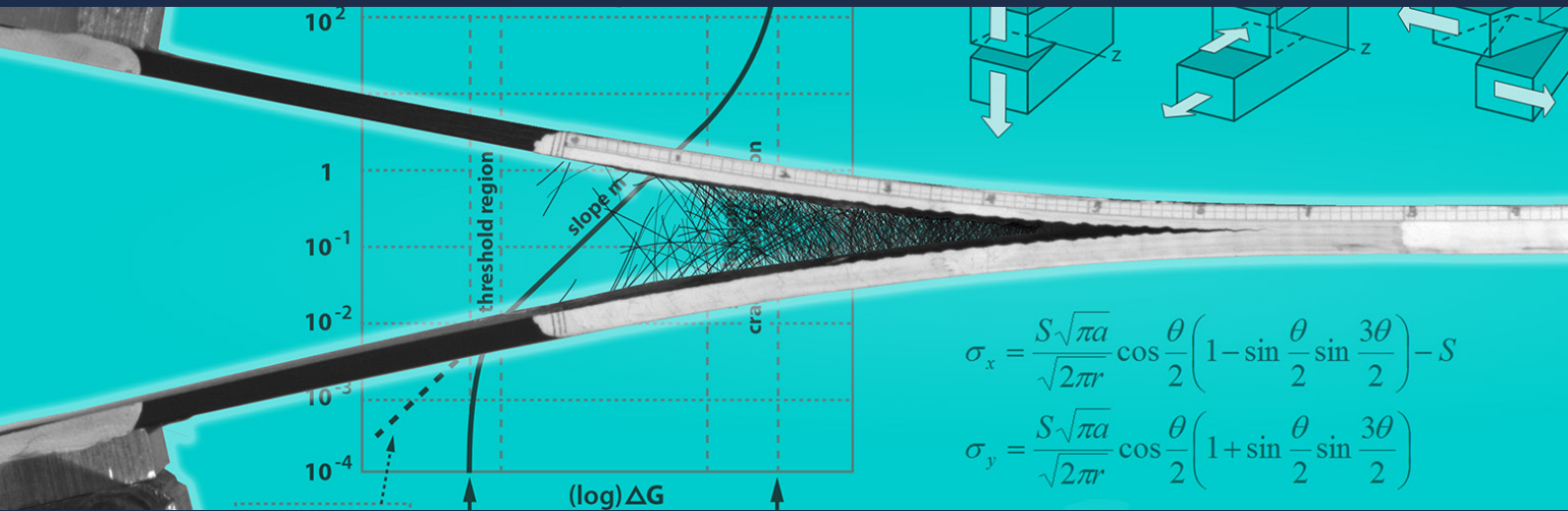


ONLINE COURSE

# Fatigue of Structures & Materials



Start Date

Sept 3, 2018

Course Length

7 weeks

Estimated Effort

7 - 8 hrs/ week

Fee

€ 750

Fatigue fractures may occur as a consequence of cyclic loading structures. In particular within the context of fatigue and damage tolerance certification, engineers should have the knowledge and skills to analyse and assess fatigue life and fatigue performance. This course will provide you with the knowledge and skills to identify potential critical locations and sources of poor fatigue performance; to develop strategies to avoid fatigue fractures and to improve fatigue performance of structures.

## In this course you will:

- Interpret and discuss the fatigue fracture features with respect to the characteristics of each phase in fatigue life.
- Define and determine stress concentration factors for notched structures with or without residual stresses.
- Assess the fatigue life of tension and shear joints, and explain limitations to the similarity principles.
- Explain Linear Elastic Fracture Mechanics concepts for damage growth, and perform crack growth analyses with these concepts.
- Perform residual strength analyses.

## Certification

If you successfully complete your online course you will be awarded with a TU Delft certificate.

**“Online education requires a different structure compared to more traditional education. Hence it forced me as course coordinator to think of a better composition of fatigue lecture material, developed from a student perspective.”**



**René Alderliesten**

*Associate professor in Fatigue, Damage Tolerance and Durability at TU Delft, René Alderliesten has been awarded the Jaap Schijve Award for his research in the field of “Fatigue and Damage Tolerance” during the 2011 Symposium of the International Committee on Aeronautical Fatigue and Structural Integrity in Montreal.*

[www.tudelft.nl/lr/FSM](http://www.tudelft.nl/lr/FSM)