Fracture and micromechanics are powerful tools used to understand and predict the behavior of modern materials and structures. Fracture Mechanics describes the behavior of cracked structures including failure on the macroscale and on the microscale. Micromechanics, on the other hand, investigates the impact of the inhomogeneous structure of the material, including its defects, on the macroscopic behavior. Therefore, both fields are strongly linked. They are important to design macroscopic structures, to design new materials with specific properties, to avoid failure and to understand and explain the behavior of materials. The course aims to provide the most important principles, concepts, models and methods of Fracture and micromechanics.

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