

| | | | |
|--|---|----------------------------|-------------------------|
| Module level Master | Credit points 6 | Language English | Return annual |
| Module designation | | | |
| Solid Mechanics | | | |
| Course(s) | | | |
| Solid Mechanics | | | |
| Code | Subtitle | | |
| Person responsible for the module | Prof. Dr.-Ing. A. Ricoeur | | |
| Lecturer | Prof. Dr.-Ing. A. Ricoeur | | |
| Workload | 180h (20h contact time, 60h private study, 40h exercises) | | |
| Relation to curriculum | Basic studies, compulsory optional subject | | |
| Type of teaching, contact hours | Online presentation, digital communication | | |
| Requirements according to examination regulations | None | | |
| Recommended prerequisites None | | | |
| Module objective / intended learning outcomes | | | |
| Students know the fundamentals of linear elasticity and continuum mechanics. They know how to apply basic equations to technical problems and are able to calculate stress, strain or deformation in wind energy plant components under loading. | | | |
| Content | | | |
| <ul style="list-style-type: none"> • Cauchy stress and strain (tensor formulation) • Hooke's Law, plain strain vs. plain stress, Voigt's notation, anisotropic material behavior • Balance laws of thermomechanics • Basics of linear elasticity • Introduction to stability problems • Introduction to the theory of plates and shells • Introduction to inelastic material laws | | | |
| Study and examination requirements and forms of examination | Written exam (90 min) and online oral examination (30 min). The examination results proceed with a weight of 1:1 in the final grade. | | |
| Media employed | online script | | |
| Reading list | | | |
| R.C. Hibbeler, Engineering Mechanics, Pearson, different volumes | | | |
| R.C. Hibbeler, Mechanics of Materials, Prentice Hall, 2008 | | | |
| Gross et al., Engineering Mechanics, Springer, different volumes | | | |