

Course Name

Mechanics of Materials (Fall, 2015-2016)

Course Description

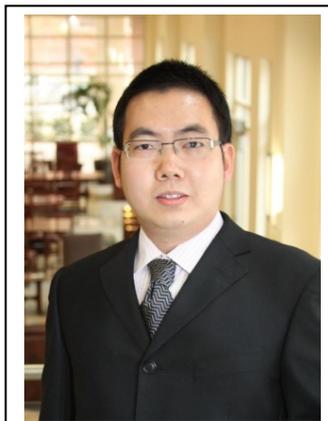
Mechanics of Materials is a basic engineering subject aimed at understanding solid body mechanics by addressing issues on the deformations of a large class of engineering solid bodies. This course introduces fundamental concepts of deformable bodies, or structural members, and analyzes their behavior both qualitatively and quantitatively under various types of external loadings. Main topics covered include the analysis and design of structural members subjected to *tension*, *compression*, *torsion*, *bending* and *shearing*. Some of the most fundamental concepts in solid mechanics, such as displacement and deformation, stress and strain, elasticity, strain energy, etc. are also introduced. *Mechanical problems related to petroleum or offshore engineering will be touched upon throughout the teaching activities.*

Targeted Students

Undergraduates majoring in petroleum or offshore engineering are encouraged to take this principle engineering course taught in English only. Students of other engineering related majors are also welcomed.

Instructors

Dr. Botao Lin



Botao Lin (林伯韜)
PhD, SPE

I am associate professor at College of Petroleum Engineering, China University of Petroleum, Beijing; and researcher with State Key laboratory of Petroleum Resources and Prospecting. I obtained my bachelor's degree in geology from *Sun Yat-sen University*, master in geotechnical engineering from the same university, and PhD in civil (geological) engineering from the *University of Oklahoma*. My current research interests include shale-related rock mechanics and geomechanics involved in heavy oil recoveries. I am also interested in numerical modeling, especially the use of the finite element method (FEM), in dealing with petroleum related rock mechanics problems.

Dr. Wei Liu



Wei Liu (刘伟)
PhD

I am currently a lecturer at College of Petroleum Engineering, China University of Petroleum, Beijing; and researcher with State Key laboratory of Petroleum Resources and Prospecting. I obtained my bachelor's degree in civil engineering from *Nanjing University of Aeronautics and Astronautics*, and PhD in solid mechanics from *Peking University*. My research interest falls in the area of rock mechanics problems related to oil/gas well drilling & completion and oil/gas recovery, which include the following specific topics: novel mathematical models and numerical methods for modeling hydraulic fracturing; wellbore instability

modeling and prediction.