Course Name

Engineering Mechanics-Statics (Spring, 2015-2016)

Course Description

The subject of Statics deals with forces acting on rigid bodies at rest, which covers coplanar and non-coplanar forces, concurrent and non-concurrent forces, friction forces, supports and reaction forces, internal forces in trusses and the center of gravity. Efforts will be spent finding resultant forces for a variety of force systems, as well as analyzing forces acting on bodies to find the reaction forces supporting those bodies. Through the study of Statics, students will develop a thorough understanding of the basic concepts, theories and methods, and a preliminary capability of solving practical engineering problems using the knowledge and method covered in this subject. This course also serves as the prerequisite to subsequent courses such as Mechanics of Materials, Fluid Mechanics and Rock Mechanics.

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.

Textbooks

1. **"Engineering Mechanics - Statics" (影印版)**, by R. C. Hibbeler. 10st Edition, High Education Press, 2004.
2. **"Engineering Mechanics 1: Statics"**, by D. Gross, W. Hauger, J. Schröder, W. A. Wall and N. Rajapakse. 1st Edition, Springer, 2009.
3. **"Engineering Mechanics - Statics"**, by J. L. Meriam and L. G. Kraige. 7th Edition, John Wiley & Sons, 2006.

Instructors

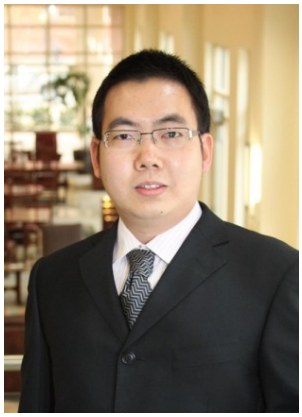
Dr. Wei Liu

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.

Dr. Botao Lin



Botao Lin（林伯韬）
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.