课程编号：1713000660

课程名称：力学

学分/学时：3/48

先修课程：高等数学

适用专业：物理学各专业

课程性质：必修

教 材：张汉壮 王文全编.《力学》（第三版）. 高等教育出版社, 2015 年

主要参考书 ：漆安慎 杜婵英编.普通物理学教程 力学（第三版）高等教育出版社, 2012 年

内容简介：（600 字以内）

《力学》是高等学校应用物理专业本科一年级的一门基础课，其先修课程为《高等数学》。本课程也是理论力学、热学、电磁学、电动力学等专业课程的理论先修课。本课程内容包括质点基本运动规律、运动定理（原理）与守恒定律、两种特殊质点系的运动与两种普遍的运动形式。质点基本运动规律主要包括质点运动学、惯性系下质点动力学、非惯性系下质点动力学；运动定理（原理）与守恒定律主要包括动量定理与动量守恒定律、功能原理与机械能守恒定律、角动量定理与角动量守恒定律；两种特殊质点系的运动与两种普遍的运动形式主要包括刚体、振动、波动。

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Course Description

College of Science

Course Code：1713000660

Course Name：Mechanics

Credit/Hours：3/48

Textbooks：Zhang Hanzhuang .Higher Education Press, 2015

Reference Books：Qi Anshen. Higher Education Press, 2012

Course Description：

MECHANICS is a fundamental course for the freshman majoring in applied physics and its prerequisite is Higher Mathematics. It is the prerequisite of Theoretical Mechanics, Calorifics, Electromagnetics, and electrodynamics. The main content includes basic motion law of particle, motion theorem and conservative law, and two special particle systems of motion and two general forms of motion. Basic motion law of particle includes particle Kinematics, particle Dynamics in inertial reference frames, and particle Dynamics in non-inertial reference frames. Motion theorem and conservative law include momentum theorem and conservation of momentum, Work-Energy theorem and Conservation of Mechanical Energy, Angular Momentum theorem and conservation of Angular momentum. Two special particle systems of motion and two general forms of motion include rigid body, vibration and wave.