

Core Curriculum Management

New Core Component Proposal

Date Submitted: 10/31/17 4:02 pm

Viewing: **PHYS 206-GE : Newtonian Mechanics for Students in Engineering and Science**

Last edit: 10/31/17 4:02 pm

Changes proposed by: skessler

In Workflow

1. **PHYS Department Head**
2. **SC College Dean UG**
3. **CCC Preparer**
4. CCC Chair
5. Faculty Senate Preparer
6. Faculty Senate
7. Provost II
8. President
9. Curricular Services

Approval Path

1. 11/01/17 8:57 am
Lewis Ford (a-ford):
Approved for PHYS
Department Head
2. 11/01/17 8:59 am
Lucas Macri (lmacri):
Approved for SC College
Dean UG

Contact(s)

Name	E-mail	Phone
Sherree Kessler	skessler@tamu.edu	979-458-5948

Course Prefix PHYS Course Number 206

Academic Level UG

Complete Course Title Newtonian Mechanics for Students in Engineering and Science

Abbreviated Course Title NEWTONIAN MECHANICS ENGR & SCI

Crosslisted With

Semester Credit Hour(s) 3

Proposal for: Core Curriculum Addition/Edit

How frequently will the class be offered? fall and spring, possibly summer

Number of class sections per semester 100

Number of students per semester 2500

Historic annual enrollment for the last three years

Last year: Previous year: Year before:

Core curriculum

Foundational Component Area Core Life/Physical Sci (KLPS)

TCCN prefix/number PHYS 2325

Foundational Component Area: Life/Physical Sci

How does the proposed course specifically address the Foundational Component Area definition above?

This course describes and quantifies, using the scientific method, the movement and behavior of physical bodies when subjected to forces.

Core Objectives:

Critical Thinking (to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information):

Critical thinking is developed weekly in two stages. The first stage is during recitations (where the number of students is smaller) and the TA's (specially trained by us) guide students to have their own discovery experience, without ever directly providing the answers. The second stage is done during lectures in which the lecturer uses the concepts, and any other information delivered to students via web videos, to solve more complex problems by analyzing them and reducing them to smaller sub-problems.

Communication (to include effective development, interpretation and expression of ideas through written, oral and visual communication):

Communication skills are addressed directly during the recitations where the students work on teams to find the solution to given sets of problems. This type of recitation engages the active communication of all members of the team, and clearly enhances effective oral communication among members. The recitations require a written report from each member to practice and enhance written communication skills.

Empirical and Quantitative Skills (to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions):

The Quantitative skills are addressed in both the lectures and recitations as well in the online homework. Lectures and recitations teach and guide students to properly use tools such as math to obtain quantitative answers to the problems at hand. These teachings are reinforced by the online homework in which a larger number of problems tests the students' skills.

Teamwork (to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal):

Teamwork is a fundamental component of the recitations where the students work on teams to find the solution to given sets of problems. The instructor is trained in stimulating the discussion among team members so that they work together to reach their own solutions. In addition to enhance effective communication this type of recitation engages and encourages the active participation of all members of the team and the development of team-effort behavior.

Please ensure that the attached course syllabus sufficiently and specifically details the appropriate core objectives.

Attach Course Syllabus [PHYS 206 Syllabus - Fall 2017.pdf](#)

Reviewer Comments

Key: 463

PHYS 206-GE : Newtonian Mechanics for Engineering and Science

Core curriculum

Foundational Component Area: Core Life/Physical Sci (KLPS)

TCCN prefix/number: PHYS 2325

How does the proposed course specifically address the Foundational Component Area definition above?

This course describes and quantifies, using the scientific method, the movement and behavior of physical bodies when subjected to forces.

Students will be informed of the core objectives being addressed in this core curriculum course as follows: the core objectives will be listed in the course webpage, described in the course syllabus and discussed on the first day of class. The syllabus includes a weekly schedule of the topics covered. The syllabus also includes a detailed list of learning objectives for the course (organized by topic). Throughout the semester, instructors will highlight how learning opportunities specifically address the core objectives during lectures and class activities.

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