Course Change Request

Date Submitted: 12/19/18 1:35 pm

Viewing: PHYS 385 : Materials Science with Applications to Renewable Energy

Last approved: 08/25/17 4:19 am

Last edit: 01/23/19 12:45 pm

Changes proposed by: gcraft

Catalog Pages referencing this course
Department of Physics and Astronomy
Physics (PHYS)

Other Courses referencing this
As An Equivalent:
~~CDS 385 : Materials Science with Applications to Renewable Energy~~

Select modification type:
~~Specialized Course Designation~~
Substantial

Are you completing this form on someone else's behalf?
No

Effective Term: Spring 2019

Subject Code: PHYS - Physics **Course Number:** 385

Bundled Courses:

Is this course replacing another course? **No**

Equivalent Courses:

Catalog Title: Materials Science with Applications to Renewable Energy

Banner Title: Matrll Sci w/Appl Renewbl Engr

Will section titles vary by semester? No

Credits: 3

Schedule Type: Lecture

Hours of Lecture or Seminar per week: 3

Repeatable: May ~~only~~ be **only** taken once for **credit, limited to 3 attempts (N3)** ~~credit (NR)~~ ~~*GRADUATE ONLY*~~ **Max Allowable Credits:** **9**

Default Grade Mode: Undergraduate Regular

Recommended Prerequisite(s):

Recommended Corequisite(s):

Required Prerequisite(s) / Corequisite(s) (Updates only): **Required prerequisite: PHYS 262, PHYS 266, PHYS 307, ME 221, or both of PHYS 245 and MATH 113.**

Registrar's Office Use Only - Required Prerequisite(s)/Corequisite(s):

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		PHYS 262	C	UG		
Or		PHYS 266	C	UG		
Or		PHYS 245	C	UG		
Or		MATH 113	C	UG		

In Workflow

1. **PHYS UG Committee**
2. **SC Academic Affairs**
3. Registrar-Courses
4. Banner

Approval Path

1. 02/01/19 5:24 pm Philip Rubin (prubin): Approved for PHYS UG Committee

History

1. Aug 25, 2017 by Priyanka Champaneri (pchampan)

Registration Restrictions (Updates only):

Registrar's Office Use Only - Registration Restrictions:

Field(s) of Study:

Class(es):

Level(s):

Degree(s):

School(s):

Catalog Description: Introduction to basic concepts and methods of materials science. Review of metallic alloys and compounds, ceramic materials, ionic solids, semiconductors, polymers, and nano-structured materials. Mechanical, thermal, electric, magnetic and optical properties of materials. Theoretical background and experimental methods of materials characterization. Various materials applications with emphasis on renewable energy.

Justification: Students need a background in thermodynamics to understand the material in PHYS 385. Physics majors now study thermal physics in PHYS 307, Mechanical Engineering majors study it in ME 221, most other engineering majors study it in PHYS 262 or PHYS 266, and life science majors study it in PHYS 245 (but CALC I knowledge is also required).

Does this course cover material which crosses into another department? No

Learning Outcomes:

Attach Syllabus

Additional Attachments

Specialized Course Categories: Green Leaf

Green Leaf Course Designation

The proposed course is requesting (choose one): Sustainability-related designation

Below, include a brief statement regarding how this course meets either the "sustainability focused" or "sustainably related" criteria.

Sustainability-related courses help build knowledge about a component of sustainability or introduce students to sustainability concepts during part of the course. They may complement sustainability-focused courses by providing students with in-depth knowledge of a particular aspect or dimension of sustainability (such as the natural environment) or by providing a focus area (such as renewable energy) for a student's sustainability studies, or they may broaden students' understanding of sustainability from within different disciplines.

previously approved

Attach Syllabus

Additional Comments: ~~administrative changes made for CIM launch~~

Reviewer Comments

Key: 12544