

# PHYS 280: ADVANCED SPECIAL TOPICS IN PHYSICS

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## In Workflow

1. PHYS Committee Chair (mikkel.jensen@csus.edu)
2. PHYS Chair (degraff@csus.edu)
3. NSM College Committee Chair (mikkel.jensen@csus.edu)
4. NSM Dean (datwyler@csus.edu)
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9. Catalog Editor (catalog@csus.edu)
10. Registrar's Office (k.mcfarland@csus.edu)
11. PeopleSoft (PeopleSoft@csus.edu)

## Approval Path

1. Fri, 13 Sep 2024 20:25:25 GMT  
Mikkel Jensen (mikkel.jensen): Approved for PHYS Committee Chair
2. Fri, 13 Sep 2024 20:27:13 GMT  
William DeGraffenreid (degraff): Approved for PHYS Chair
3. Wed, 16 Oct 2024 22:31:06 GMT  
Mikkel Jensen (mikkel.jensen): Approved for NSM College Committee Chair
4. Mon, 21 Oct 2024 20:34:29 GMT  
Chris Taylor (ctaylor): Approved for NSM Dean

## New Course Proposal

Date Submitted: Wed, 11 Sep 2024 16:31:47 GMT

**Viewing: PHYS 280 : Advanced Special Topics in Physics**

**Last edit: Fri, 13 Sep 2024 20:23:54 GMT**

Changes proposed by: Rodolfo Barniol Duran (219696192)

### Contact(s):

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### Catalog Title:

Advanced Special Topics in Physics

### Class Schedule Title:

Adv. Special Topics in Physics

### Academic Group: (College)

NSM - Natural Sciences & Mathematics

### Academic Organization: (Department)

Physics and Astronomy

### Will this course be offered through the College of Continuing Education (CCE)?

No

### Catalog Year Effective:

Fall 2025 (2025/2026 Catalog)

**Subject Area: (prefix)**

PHYS - Physics

**Catalog Number: (course number)**

280

**Course ID: (For administrative use only.)**

TBD

**Units:**

3

**Is the ONLY purpose of this change to update the term typically offered or the enforcement of existing requisites at registration?**

No

**In what term(s) will this course typically be offered?**

Fall, Spring

**Does this course require a room for its final exam?**

Yes, final exam requires a room

**Does this course replace an existing experimental course?**

No

**This course complies with the credit hour policy:**

Yes

**Justification for course proposal:**

Physics 280 is one of the elective courses being proposed as part of a new Master of Science in Physics. This course addresses advanced special topics in physics not covered by the established elective courses. This course can be repeated for credit when a different instructor teaches the course on a different special topic. In that case, the content is completely different and the assignments are completely different.

**Course Description: (Not to exceed 90 words and language should conform to catalog copy.)**

Advanced special topics in Physics that may include astrophysics, biophysics, computational physics, educational physics, general relativity, low temperature, modern optics, nuclear physics, particle physics, soft matter, solid state or other specialized topics selected to meet student or regional needs. Course may be repeated for credit only if the student is not repeating a special topic.

**Are one or more field trips required with this course?**

No

**Fee Course?**

No

**Is this course designated as Service Learning?**

No

**Is this course designated as Curricular Community Engaged Learning?**

No

**Does this course require safety training?**

No

**Does this course require personal protective equipment (PPE)?**

No

**Does this course have prerequisites?**

Yes

**Prerequisite:**

Instructor permission.

**Prerequisites Enforced at Registration?**

Yes

**Does this course have corequisites?**

No

**Graded:**

Letter

**Approval required for enrollment?**

Instructor Approval

**Course Component(s) and Classification(s):**

Seminar

**Seminar Classification**

CS#05 - Seminar (K-factor=1 WTU per unit)

**Seminar Units**

3

**Is this a paired course?**

No

**Is this course crosslisted?**

No

**Can this course be repeated for credit?**

Yes

**How many times can the course be taken (including first time passed)?**

4

**Total credits allowed (including first time passed)**

12

**Can the course be taken for credit more than once during the same term?**

No

**Description of the Expected Learning Outcomes and Assessment Strategies:**

List the Expected Learning Outcomes and their accompanying Assessment Strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers). Click the plus sign to add a new row.

	Expected Learning Outcome	Assessment Strategies
1	Summarize primary literature in the selected physics topic.	Pre-class assignments In-class attendance, participation, assignments Graded homework Midterm exams Final exam
2	Predict experimental results from theoretical understanding.	Pre-class assignments In-class attendance, participation, assignments Graded homework Midterm exams Final exam
3	Use discipline-specific tools to solve problems in the selected topic.	Pre-class assignments In-class attendance, participation, assignments Graded homework Midterm exams Final exam
4	Examine environmental, social and global impacts from the advancement in the understanding of the selected physics topic.	Pre-class assignments In-class attendance, participation, assignments Graded homework Midterm exams Final exam

**Attach a list of the required/recommended course readings and activities:**

PHYS 280 Exoplanet Physics Syllabus.docx

**For whom is this course being developed?**

Majors in the Dept

**Is this course required in a degree program (major, minor, graduate degree, certificate?)**

No

**Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer)?**

No

**Will there be any departments affected by this proposed course?**

No

**I/we as the author(s) of this course proposal agree to provide a new or updated accessibility checklist to the Dean's office prior to the semester when this course is taught utilizing the changes proposed here.**

I/we agree

## **University Learning Goals**

**Graduate (Masters) Learning Goals:**

Disciplinary knowledge  
Critical thinking/analysis  
Information literacy  
Intercultural/Global perspectives

**Is this course required as part of a teaching credential program, a single subject, or multiple subject waiver program (e.g., Liberal Studies, Biology) or other school personnel preparation program (e.g., School of Nursing)?**

No

**Is this a Graduate Writing Intensive (GWI) course?**

No

Key: 14760