

Application for a New Course v9

Course ID <i>Subject and Number</i>	PHYS498
Date APPROVED	
Date DENIED	

I. Systems and Catalog Information Complete each item.

1	Course Developer	Paul Morris, Jess Dowdy, Tim Head
2	Course Teacher	A member of the Physics Department faculty
3	Course Title	Physics Capstone II
4	Course Abbreviation (if title is over 30 characters)	NA
5	College	College of Arts and Sciences
6	Department	Physics
7	Number of Credit Hours	2
8	Is the course Fixed Credit or Variable Credit?	Fixed Credit
9	Is the course repeatable?	No
10	Maximum number of times course may be repeated	Zero
11	Maximum number of hours credit	2
12	Explanation for variable credit	NA
13a	Course contact hours - LEC	0
13b	Course contact hours - Lab	2
13c	Course contact hours - Practicum	0
13d	Course contact hours - Seminar	0
13e	Course contact hours - Studio	0
13f	Course contact hours - Online	0
13g	Course contact hours - Colloquium	0
13h	Course contact hours - Field Experience	0
13j	Course contact hours - Internship	0
13k	Course contact hours - Research	0
13m	Course contact hours - Workshop	0
13n	Course contact hours - Other	0
14	Instructor Workload	2 hours
15	Grade Mode (check all appropriate):	☒ Standard ☐ Credit/No Credit (undergrad only)
16	Maximum Enrollment	15
17	Catalog Description (50 words or less)	The second of a two-course capstone sequence, completing the research proposed in Physics Capstone I.
18	List any prerequisites (course/s, test scores, class standing, major, etc.)	The student must be a physics major of senior standing, prepared to graduate either the following May or December after the completion of the Capstone. PHYS4XX
19	List any co-requisites	None
20	If the course is cross listed, specify the Course ID(s) MUST have signature in	NA

	Section V off all Department Chairs	
21	Does this course have any special student costs? Yes/No <i>Attach a completed "Request to Add or Change Course Fees" form. Describe in section IV-F.</i>	No
22	How often will it be offered? Fall	
23a	How often will it be offered? Spring	Every Spring
23b	How often will it be offered? Summer	
23c	How often will it be offered? Fall	
24	Frequency?	Every year
25	First semester this course will be offered <i>New courses may not be taught under their approved course ID until they appear in the catalog, therefore, no earlier than the coming fall.</i>	Spring 2014
26	List course/s that should be deleted, include the last semester for course/s being deleted <i>A course cannot be deleted when it is a requirement in a degree plan in any department.</i>	None
27	Is this course required for a degree/s? Yes/No <i>If "Yes," attach a revised degree plan(s) reflecting the placement of the new course.</i>	Yes
28	Has this course been offered as a Special Topics course? Yes/No <i>If "Yes," specify the Course ID and enrollment for each term it was taught.</i>	No
29	List any courses in which content overlaps the proposed course. (Course ID and Name) <i>Attach statement from instructor/dept chair of existing course justifying the new offering in Section IV-D.</i>	None

II. Curriculum

1	Degree Plan Explanation of how this course affects degree requirements.	The 4 additional hours for the Capstone sequence (2 each for PHYS 497 and PHYS 498) will be offset by the elimination of the General Chemistry II requirement: CHEM 132 (1) and CHEM 134 (3).
2	Justification State the justification for adding this course to the current curriculum.	With the implementation of the New Core, all majors must have a Capstone experience. Our experience will be a two-semester sequence, this being the second semester course.

III. Course Design

1. Audience and Course Goal

1	Describe the intended audience, including prerequisite skills.	See I.18. The students will be graduating seniors with most
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		of their physics and mathematical requirements satisfied. They must have satisfactorily completed PHYS497.
2	State the overarching course goal(s) in performance terms.	1. The student will pursue and complete a laboratory research project. 2. The student will present his/her results in written form. 3. The student will present his/her results in an oral presentation.

2. Competencies and Measurements

	Competency	Measurement
1	Complete the laboratory research project designed in PHYS497.	Graded research work.
2	Write a paper, minimum length 2000 words, with at least five appropriate (journal, academic texts) sources, describing and assessing the laboratory research project.	Graded research project paper.
3	Present the design and results of the research project in an oral presentation.	Graded oral presentation during Week 15 or Finals Week.

3. Text and Resources

No texts are required.

SYLLABUS – PHYS498.01 – PHYSICS CAPSTONE II

Credit Hours: 2 hours of lab research.
Semester: Spring 2014.
Time/Place: TBS

Professor: Paul Morris, Ph.D.
Professor of Physics
Office: Foster Science Building, 317C E-mail: morrisp@acu.edu
Extension: 2165
Office Hours: TR 8:00-11:00, W 3:00-5:00, by appointment

Course
Content: Catalog description: The second of a two-course capstone sequence. The student completes a science research laboratory project developed during the first semester of the course.

Prerequisite: PHYS497.

Textbooks/Readings:
None.

Format of Class Sessions:
The student will do laboratory work completing a science research project.

Christian Perspective:
Because we are exploring and trying to understand God's creation through physics, we try to inculcate in our students (in all of our classes) a sense of respect, awe, wonder, and humility toward nature.

Outcomes, Competencies, and Measurements:

Outcomes, Competencies	Measurements
Complete the laboratory research project designed in PHYS4XX.01.	Graded research work.
Write a paper, minimum length 2000 words, with at least five appropriate (journal, academic) sources, describing and assessing the laboratory research project.	Graded research project paper.
Present the design and results of the research project in an oral presentation.	Graded oral presentation during Week 15 or Finals Week.

Grading Criteria

Criteria for grading written papers and oral presentations:

A - Professional quality: The project is concise yet comprehensive, tightly reasoned in argument, well organized, easily understood, and virtually error free. The student demonstrates excellent knowledge of the topic. It fulfills the assignment guidelines with authoritative, current information and insightful analysis.

B - Good quality: The student manages to communicate knowledge of the topic without gross errors. The argument is generally logical and is supported with solid information.

C - Mediocre quality: Errors in information and incomplete knowledge of the topic distract or interfere with the argument or presentation. The coverage is spotty with few or less than solid sources. The argument contains invalid components.

D - *Unacceptable quality*: The topic coverage is watered-down and disorganized, with major errors in the project. Significant holes exist in the argument.

F - *Failing quality*: The student does not communicate understanding of the topic. It is undeveloped with many grammar errors and is unharmonious. The student did not do the assignment according to the guidelines.

Course assignments and evaluation:

Written Research Project	50%
Research Grade	30%
Presentation	20%

Grade Scale

A	89.5-100
B	79.5-89.4
C	69.5-79.4
D	59.5-69.4
F	below 59.4

COURSE POLICIES

Late work (assignments and exams) will be handles in the following ways:

Excused absence: On the *first* class day back after the absence, it is the student's responsibility to arrange with the professor an appropriate time to complete the work. If the student does not do this, the work will be handles according to the policy for unexcused absences.

Unexcused absence: If the work is completed within one week of the due date, there will be a 10 point deduction; i.e., if the student were to make a 79 on a late test, the recorded grade would be 69. If the work is completed later than one week after the due date, there will be a 25 point deduction.

Conduct in Class: Questions or observations, addressed to the entire class, are encouraged during the class period. If something is unclear, the student should immediately ask for clarification. However, the student is not to be a disruptive influence in the class. The following are the penalties for disturbing the class: The second time she/he is corrected will result in an unexcused absence. The third time she/he is corrected will result in a drop of one letter grade on the final average. The fourth time she/he is corrected will result in dismissal from class with a failing grade.

Cell phones are not to go off in class! Grades will be reduced if they do. As you enter the classroom check to see that your phone is OFF!

Laptops or any other electrical device (iPhone, iPod, cell phone, etc.) are not to be in hand, on desk, or otherwise in use in class unless it is a part of that day's class activity! If this use is discovered, you will be counted absent on the day.

Academic Honesty: Violations of academic integrity and other forms of cheating, as defined in ACU's Academic Integrity Policy, involve the intention to deceive or mislead or misrepresent, and therefore are a form of lying and represent actions contrary to the behavioral norms that flow from the nature of God. Violations will be addressed as described in the Policy. While the university enforces the Policy, the most powerful motive for integrity and truthfulness comes from one's desire to imitate God's nature in our lives. Every member of the faculty, staff and student body is responsible for protecting the integrity of learning, scholarship, and research.

The full policy is available for review at the Provost's office web site (below) and the following offices: provost, college deans, dean of campus life, director of student judicial affairs, director of residential life education, and academic departments. (<http://www.acu.edu/campusoffices/provost>)

COURSE CALENDAR

Week	Work	Assignment
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1-12	Complete research project.	First draft of written research project results due Week 13.
13-14	Correct first draft of written research project.	Final draft of written research project due Week 14. Oral presentations due next two weeks.
15 Final	Oral presentations.	

PHYS498 – Physics Capstone II

IV Supporting Documentation

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| 1 | Library | Attached. |
| 2 | Adam's Center | Attached. |
| 3 | Degree Plan | There is no current Director of Curriculum; Jennifer in the Registrar's Office said to send this to CASAC for approval and then send it to her. |
| 4 | Content Overlap | NA. |
| 5 | Departmental Resources | NA. |
| 6 | Resources | We have the necessary computers and all of the lab equipment will be available to the students. |
| 7 | Expenses | There are no additional expenses. |
| 8 | Justification | NA. |
| 9 | Syllabus | Attached at the end of the course application. |