

4-Trial-U REVISED

Submit original with signatures + 1 copy + electronic copy to Faculty Senate (Box 7500). See <a href="http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/">http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/</a> for a complete description of the rules governing curriculum & course changes.

BMITTED BY:										
Department	Physics			College/School						CNSM
Prepared by	C. P. Price			Phone					(907	7)474-6106
Email Contact	cpprice@alaska.edu			Faculty	/ Conta	ct				C. P. Price
1. ACTION DESIRE	ED (CHECK ONE	) <b>.</b>	Trial	Course	X	$\neg$	New	Course		
2. COURSE IDENT				1	Course		9.3.		Caralita	
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3. PROPOSED COU	URSE TITLE:			a qu			pics in P	hysics II: Physics	201488 3177	
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10. COMPLETE CATALOG DESCRIPTION including dept., number, title, credits, credit distribution, cross-listings and/or stacking (50 words or less if possible): Example of a complete description: FISH F487 W, O Fisheries Management 3 Credits Offered Spring Theory and practice of fisheries management, with an emphasis on strategies utilized for the management of freshwater and marine fisheries. Prerequisites: COMM F131X or COMM F141X; ENGL F111X; ENGL F211X or ENGL F213X; ENGL F414; FISH F425; or permission of instructor. Cross-listed with NRM F487. (3+0) The advanced topics modules provide expanded exposure to modern subjects in physics. Three topics are offered each semester, providing breadth beyond the core subjects of the Physics undergraduate curriculum. This course will present the most current material from one particular topic in Physics, to be determined at the time of the offering. Students are expected to have familiarity with the core subjects in the field (classical mechanics, electromagnetism, statistical physics, quantum mechanics.) (Prerequisites: PHYS 220; PHYS 301.) (1+0) 11. COURSE CLASSIFICATIONS: Undergraduate courses only. Consult with CLA Curriculum Council to apply S or H classification appropriately; otherwise leave fields blank. H = Humanities S = Social Sciences

	1	
for the baccalaureate core? <b>If YES, attach form.</b> IF YES, check which core requirements it could be used to fulfill:		188.55
O = Oral Intensive, Format 6	alaurea	te Core
ded in the printed Catalog, and flagged in Banner.	ke" syı	nbol will b
YES NO X		
COURSE REPEATABILITY:		
Is this course repeatable for credit? YES X NO		
Justification: Indicate why the course can be repeated (for example, the course follows a different theme each time).  Course follows a different the	me eac	h time.
How many times may the course be repeated for credit?	2	TIMES
If the course can be repeated for credit, what is the maximum number of credit hours that may be earned for this course?	2	CREDITS
If the control of the		The Indiana the contract of
If the course can be repeated with <u>variable</u> credit, what is the maximum number of credit hours that may be earned for this course?		
that may be earned for this course?  GRADING SYSTEM: Specify only one. Note: Changing the grading system for a course later on Course Change - Format 2 form.  LETTER: X PASS/FAIL:	consti	CREDITS
that may be earned for this course?  GRADING SYSTEM: Specify only one. Note: Changing the grading system for a course later on Course Change - Format 2 form.  LETTER: X PASS/FAIL:  STRICTIONS ON ENROLLMENT (if any)	consti	
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that may be earned for this course?  GRADING SYSTEM: Specify only one. Note: Changing the grading system for a course later on Course Change - Format 2 form.  LETTER: X PASS/FAIL:  STRICTIONS ON ENROLLMENT (if any) PREREQUISITES PHYS 301.  These will be required before the student is allowed to enroll in the course.  5. SPECIAL RESTRICTIONS, CONDITIONS None.  6. PROPOSED COURSE FEES \$0  Has a memo been submitted through your dean to the Provost for fee approval? Yes/No		

			currently schedules and staffs three 'modules' per semester; the proposed another module.
Have you adequacy	of library/me	e library co dia collect	ellection development officer (kljensen@alaska.edu, 474-6695) with regard to the ions, equipment, and services available for the proposed course? If so, give date of plain why not.
No	Yes	X	Librarian has been briefed on the plans for this course. (10/6)
What pro Include int <b>None.</b> Th	ormation on th	rtments v e Programs, offered a	vill be affected by this proposed action?  (Departments contacted (e.g., email, memo)  s part of the regular schedule of Advanced Topics modules, so there is no
	AND NEGAT		CTS tive impacts on other courses, programs and departments resulting from the propose
Positive 472 'mod module o	lules'. Howe e.g. due to th	ever, ther ne opport	ndergraduate program develops breadth through the offering of PHYS 473 e is no present mechanism to allow the department to rapidly offer a new unity of a distinguished visitor. This course provides a socket for such
offerings	. No negativ	e impact	S.
	lications to m ess this in yo	rtment and ake sure t ur respons	<b>QUESTED</b> d campus-wide curriculum committees is to scrutinize course change and new that the quality of UAF education is not lowered as a result of the proposed change.  See. This section needs to be self-explanatory. Use as much space as needed to fully
ourse app	roposed cou		

APPROVALS: Add additional signature lines as needed.

C. Szuberla
Date
T Oct 2014

Signature, Chair, Program/Department of:
Physics

Date

Signature, Chair, College/School Curriculum Council for:

Date

Signature, Dean, College/School of:

Offerings above the level of approved programs must be approved in advance by the Provost.

Signature of Provost (if above level of approved programs)

		Date	
Signature, Chair Faculty Senate Review Committee:Curriculum Review	GAAC	12	
Core Review SADAC			
	or stacking)		
		<b>D</b> ate	
DITIONAL SIGNATURES: (As needed for cross-listing and/o		<b>D</b> ate	
DITIONAL SIGNATURES: (As needed for cross-listing and/o		Date Date	

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SI  No impact. The department currently schedules and staffs the		
course would substitute for another module.	mee modules per	semester, the proposed
LIBRARY COLLECTIONS  Have you contacted the library collection development officer (kljense adequacy of library/media collections, equipment, and services available contact and resolution. If not, explain why not.	en@alaska.edu, 474-0 ble for the proposed o	6695) with regard to the course? If so, give date of
No X Yes Need is yet to be determined, k	/ .	
. IMPACTS ON PROGRAMS/DEPTS  What programs/departments will be affected by this proposed a	See re	wision
Include information on the Programs/Departments contacted (e.g., email, men		
POSITIVE AND NEGATIVE IMPACTS     Please specify positive and negative impacts on other courses, progra action.	ams and departments	s resulting from the propose
Positive impact: the physics undergraduate program develops 472 'modules'. However, there is no present mechanism to allow module e.g. due to the opportunity of a distinguished visitor. offerings. No negative impacts.	ow the department	to rapidly offer a new
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No impact. The department currently schedules and staffs the	ree 'modules' per semester; the proposed
course would substitute for another module.	
LIBRARY COLLECTIONS  Have you contacted the library collection development officer (kljensen adequacy of library/media collections, equipment, and services available contact and resolution. If not, explain why not.	@alaska.edu, 474-6695) with regard to the efor the proposed course? If so, give date of
No X Yes Need is yet to be determined, bu	it presumably can be met.
IMPACTS ON PROGRAMS/DEPTS What programs/departments will be affected by this proposed ac Include information on the Programs/Departments contacted (e.g., email, memory).	
POSITIVE AND NEGATIVE IMPACTS  Please specify positive and negative impacts on other courses, program action.	ns and departments resulting from the proposed
Positive impact: the physics undergraduate program develops 472 'modules'. However, there is no present mechanism to allow module e.g. due to the opportunity of a distinguished visitor. Tofferings. No negative impacts.	w the department to rapidly offer a new
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## ATTACH COMPLETE SYLLABUS (as part of this application). This list is online at:

http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/uaf-syllabus-requirements/ The Faculty Senate curriculum committees will review the syllabus to ensure that each of the items listed below are included. If items are missing or unclear, the proposed course (or changes to it) may be denied.

#### SYLLABUS CHECKLIST FOR ALL UAF COURSES

During the first week of class, instructors will distribute a course syllabus. Although modifications may be made throughout the semester, this document will contain the following information (as applicable to the discipline):

### 1. Course information:

="Title, " number, " credits, " prerequisites, " location, " meeting time (make sure that contact hours are in line with credits).

## 2. Instructor (and if applicable, Teaching Assistant) information:

Name, office location, office hours, telephone, email address.

# 3. Course readings/materials:

= Course textbook title, = author, = edition/publisher.
= Supplementary readings (indicate whether = required or = recommended) and Supplementary reading any supplies required.

## 4. Course description:

- Content of the course and how it fits into the broader curriculum;
- Expected proficiencies required to undertake the course, if applicable.
- Inclusion of catalog description is strongly recommended, and
- Description in syllabus must be consistent with catalog course description.

# 5. Course Goals (general), and (see #6)

## 6. Student Learning Outcomes (more specific)

### 7. Instructional methods:

Describe the teaching techniques (eg: lecture, case study, small group discussion, private instruction, studio instruction, values clarification, games, journal writing, use of Blackboard, audio/video conferencing, etc.).

A schedule of class topics and assignments must be included. Be specific so that it is clear that the instructor has thought this through and will not be making it up on the fly (e.g. it is not adequate to say "lab". Instead, give each lab a title that describes its content). You may call the outline Tentative or Work in Progress to allow for modifications during the semester.

Specify course rules, including your policies on attendance, tardiness, class participation, make-up exams, and plagiarism/academic integrity.

#### 10. Evaluation:

□ Specify how students will be evaluated, □ what factors will be included, □ their relative value, and □ how they will be tabulated into grades (on a curve, absolute scores, etc.) Publicize UAF regulations with regard to the grades of "C" and below as applicable to this course. (Not required in the syllabus, but is a convenient way to publicize this.) Link to PDF summary of grading policy for "C":

http://www.uaf.edu/files/uafgov/Info-to-Publicize-C Grading-Policy-UPDATED-May-2013.pdf

# 11. Support Services:

Describe the student support services such as tutoring (local and/or regional) appropriate for the course.

12. Disabilities Services: Note that the phone# and location have been updated. http://www.uaf.edu/disability/ Office of Disability Services implements the Americans with Disabilities Act (ADA), and ensures that UAF students have equal access to the campus and course materials.

<sup>□</sup> State that you will work with the Office of Disabilities Services (208 WHITAKER BLDG, 474-5655)to provide reasonable accommodation to students with disabilities.

5/21/2013

### - CURRENT TOPICS IN PHYSICS -

### PHYSICS 472Z - Syllabus

Spring 2015

Instructor: Channon Price, x6106, cpprice@alaska.edu

Office hours: Days, time(s) TBD

Class hours: MWF 1-2pm; REIC TBD

Prerequisites: PHYS 220; PHYS 301.

Texts: To be determined.

**Description:** The advanced topics modules provide expanded exposure to modern subjects in physics.

Three topics are offered each semester, providing breadth beyond the core subjects of the Physics undergraduate curriculum. This course will present the most current material from one particular topic in Physics, to be determined at the time of the offering. Students are expected to have familiarity with the core subjects in the field (classical mechanics, electromagnetism, statistical physics, quantum mechanics.) (Prerequisites: PHYS 220; PHYS 301.) (1+0)

Grading: 1 credit. Homework (30%); class project (30%); final exam (30%); class participation (10%).

The course will be graded on absolute scores (90-100: A, 80-89: B, 70-79: C, 60-69, D; below

60, F) and will not be graded plus/minus.

Schedule: See the attached course schedule.

Instructional Lecture based course.

Methods:

Course It is against the UAF Honor Code to misrepresent work which is not your own; plagiarism on

Policies: any graded material will result in a failing grade. The instructor will check submitted work

against available documents.

Learning Students who complete this module will become familiar with present status and ongoing

Outcomes: research directions in this sub-field of Physics. They will become acquainted with current

paradigms, and by working with toy models, they will develop an understanding of the successes in the sub-field, of current research goals, and of expectations for future progress.

Support Students may consult with the instructor during office hours for help with the course.

Services: Typically, there are no tutors available on campus who can assist with 400-level Physics

courses.

Disability The Physics Department will work with the Office of Disabilities Services (208 WHIT, x5655)

Services: to provide reasonable accommodation to students with disabilities.

### Tentative PHYS 472Z Course Schedule

Lecture 1: Introduction

Foundational material: placement into the larger context of the field of Physics; historical results; impetus for recent developments and breakthroughs

Lectures 2 and 3: Primer

Beginning at a level accessible to a fourth-year student, a 'sandbox' is developed using paradigms and toy models which will be the vehicles for the remainder of the course.

Lectures 4, 5, 7, and 8: Current Status

Working within the 'sandbox' of the paradigms and toy models developed in the previous lectures, the recent developments and breakthroughs of the sub-field are presented. (Ordering and selection of material for this and the following lecture will take into consideration the need for students to choose a class project by the end of the second week of the course.)

Lecture 6: Discussion and Selection of Class Projects

Suggestions for viable project topics; discussions of student ideas for projects; expectations for level and degree of project complexity

Lecture 9: Impacts on the Field

New developments in Physics cause repercussions both directly in the sub-field and more broadly throughout the field. How have the advances and breakthroughs in this area affected our physical thinking?

Lectures 10 and 11: Future Directions and Potential Results

What are current research goals in this topic? Based on present status and ongoing research programs, what might be expected in the future in the near- and middle-term?

Lectures 12 and 13: Class Projects

Student presentation of projects and seminar-style discussion.

Lecture 14: Final exam