



Curriculum Proposal

Please type or select the requested information. Print completed forms, add appropriate paper attachments, and route through MSU's curricular process for recommendations and decisions.

(Check all that apply):		Proposal #	54
College:	Science, Engineering and Technology	<input checked="" type="checkbox"/> Undergraduate	Effective Date of Change:
Department:	Physics and Astronomy	<input type="checkbox"/> Graduate	06-07
Program:	Physics B.S.	CIP #	(For Office Use Only)
Type of Change	COURSE PROPOSALS		Course Designator Number of and Number Credits
Proposed:	Change in Number		
Title Current:	Modern Physics II	Phys 436	3
Title Proposed:	Modern Physics II	Phys 336	3
24-Char. Abbrev:	Modern Physics II	(if applicable)	

Include a course or program description for the Bulletin (30-40 words maximum for courses, 100 for programs):
 Topics include nuclear forces, interactions of nuclear particles with matter, radioactive decay, nuclear structure, nuclear reactions, fission, fusion, elementary particles, and the quark model. Lecture and laboratory. Pre: PHYS 335 F

Rationale or Justification for change:
 The course is taught at 300-level, not at 400-level. Students should take this course in their junior year.

*****For General Education or Cultural Diversity Courses Only*****

General Education Course:	Cultural Diversity Course:								
(Please check one.)									
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">GE Category #</th> <th style="width: 85%;">GE Category Name (Maximum of 3 Categories)</th> </tr> <tr> <td style="text-align: center;">N/A</td> <td style="border: 1px solid black;"></td> </tr> <tr> <td style="text-align: center;">N/A</td> <td style="border: 1px solid black;"></td> </tr> <tr> <td style="text-align: center;">N/A</td> <td style="border: 1px solid black;"></td> </tr> </table>	GE Category #	GE Category Name (Maximum of 3 Categories)	N/A		N/A		N/A		<p><input type="checkbox"/> Core (At least 75% devoted to topics of race, gender, sexual orientation, age, class, and disabilities as they occur in United States Society.)</p> <p><input type="checkbox"/> Related (At least 25% devoted to the above topics or to a global perspective on topics related to African American, Asian, Hispanic, and Native American inhabitants of the United States.)</p>
GE Category #	GE Category Name (Maximum of 3 Categories)								
N/A									
N/A									
N/A									
<p>? For Writing Intensive Courses, attach a description of the kind and quantity of writing. ? For Upper Division Courses, include a description of the respects in which it is broad and general rather than narrow and specific, and so suitable as GE.</p>									
<p>Attach paper copies of the following:</p> <ol style="list-style-type: none"> Syllabus or course outline. Course's student learning outcomes associated with each GE competency or CD designation. List of strategies to be used to assess students' achievement of each GE competency or CD designation. 									

*****For New Courses*****

(Check all that apply):	Instructional Type: Lecture	Course will be offered:
<input type="checkbox"/> Course is an elective.	Grading Format: <input type="checkbox"/> Grade <input type="checkbox"/> P/N	<input type="checkbox"/> Fall Semester
<input type="checkbox"/> Course is required for program		<input type="checkbox"/> Spring Semester
<input type="checkbox"/> Pre- or Co-requisites:		<input type="checkbox"/> Summer Session
<input type="checkbox"/> Other courses are being changed or eliminated. (Explain.) _____		
<input type="checkbox"/> Course content or title is similar to courses in other departments. (Attach copy of letter of agreement with other program(s) contacted. Indicate the nature of the discussions and/or resolution of differences or potential conflicts.)		
<p>Attach paper copies of the following:</p> <ol style="list-style-type: none"> Syllabus or course outline. Course's student learning outcomes. A list of resources required to offer and support this course. A description of how teaching this course will affect department staffing. If 400/500 level course, an explanation of added expectations of graduate students. 		



Minnesota State University, Mankato
Curriculum Proposal

Signature Page

Department

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

[Signature] 10/6/2006
 Department Chair Date

Comments:

College Curriculum Committee

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

Karen C. Chow 10/20/06
 Committee Chair Date

Comments:

College Dean

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

[Signature] 10/23/06
 Dean Date

Comments:

General Education Subcommittee

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

 General Education Subcommittee Chair Date

Comments:

Undergraduate Curriculum and Academic Policy Committee

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

 UCAP Faculty Chair Date

Comments:

Faculty Association Graduate Committee

Recommended
 Not Recommended

 Faculty Association Graduate Chair Date

Comments:

Graduate Dean

Recommended
 Not Recommended

 Graduate Dean Date

Comments:

Academic Affairs Council

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

 Assistant Vice President Date

Comments:

Senior Vice President and Vice President for Academic Affairs

Approved (Category/ies _____)
 Not Approved (Category/ies _____)

 Sr. Vice President / Vice Pres. Academic Affairs Date

Comments:

for 0741

Modern Physics II: Physics 336

Minnesota State University
Department of Physics and Astronomy

Lectures: TR C108: Tuesdays and Thursdays, 11:30 am – 12:40 pm

Lab: TR C110: Thursdays, 3:00 – 5:50 pm

Instructor: Dr. Russell Palma
Office: TR N156
Phone: 389-5743 (Dept. Of Physics and Astronomy)
389-6204 (Instructor's Office)
email: russell.palma@mnsu.edu
Office Hours: see posted schedule

Textbook: Modern Physics (2nd ed.) by Kenneth Krane; Wiley Publishing

Lab Manual: Modern Physics II (available at the Trafton Copy Shop)

Course Description: The course is designed to provide an appreciation of the concepts and methods of twentieth-century physics, including statistical physics, nuclear physics, elementary particles, general relativity and cosmology.

Exams: Two exams will be given after completing the following chapters: exam 1—Chapters 9, 10 and 11; exam 2—Chapters 12, 13 and 14. So that you will have plenty of time for the exam, exams will be given during the lab period. On those exam Thursdays there will be no class during the regularly scheduled class period. The Final Exam will include Chapters 15 and 16, as well as previous material. A tentative schedule for the course is below.

Grading Policy: The course grade will be determined as shown below.

<u>Class Component</u>	<u>% of grade</u>	<u>Scale</u>	<u>grade</u>
Participation and homework	20	≥85%	A
Tests 1 and 2 (15 % each)	30	75-84%	B
Lab reports	20	60-74%	C
Final exam	15	50-59%	D
Paper/presentation	15	< 50%	F

Problem Assignments: Problems will be assigned on a routine basis and are to be turned in on the due date. Late homework will not be accepted. Selected problems will be graded, and others may be assigned at random for classroom presentation of the solution.

Tentative Schedule:

<u>Week beginning</u>	<u>Course Material Covered</u>
Aug 28	Introduction and Chapter 9
Sept 4	Chapters 9 and 10
Sept 11	Chapter 10
Sept 18	Chapter 11
Sept 25	Chapter 11 and Exam 1 (Sept 28)
Oct 2	Chapter 12
Oct 9	Chapters 12 and 13
Oct 16	Chapter 13
Oct 23	Chapter 14
Oct 30	Chapter 14 and Exam 2 (Nov 2)
Nov 6	Chapter 15
Nov 13	Chapters 15 and 16
Nov 20	Chapter 16 and paper due (Nov 21)
Nov 27	Chapter 16 and presentations
Dec 4	presentations and review

Final Exam: The scheduled final exam time is Thursday, December 14, 10:15 am – 12:15 pm.

Lab: As in Modern Physics I, your lab manual has not been updated for a while, so it will be important to make note of changes that are made throughout the semester. Also, please refer back to your Modern Physics I lab manual for error and graphical analysis. The labs will not actually begin immediately so that we can cover some of the material before you attempt any of the labs. There is only 1 set-up for each lab, so it may be necessary in some cases to do a lab before the material is discussed in class. I will produce a schedule that allows each 2 person group to have time for each lab. The lab write-up and procedures will be similar to those of Modern Physics I.

