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TRIAL COURSE OR NEW COURSE PROPOSAL

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See http://www.uaf.edu/uafgov/faculty/cd/cdman.html for a complete description of the rules governing curriculum

8. COURSE FORMAT:

12. 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).	

How many times may the course be repeated for credit?	

If the course can be repeated with variable credit, what is the maximum number of credit hours that may be earned for this course?		CREDITS

13. GRADING SYSTEM:

LETTER:	X	PASS/FAIL:	

RESTRICTIONS ON ENROLLMENT (if any)

Placement in DEVM105 or satisfactory high school Algebra 1 with instructor permission.

JUSTIFICATION FOR ACTION REQUESTED

Signature, Dean, College/School of:	

	Date	

Signature of Provost (if applicable)	

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

θ any supplies required.

4. Course description:

Syllabus for the Proposed SCIA 194 TRIAL Course: *Bush Physics in the 21st Century* (6 credit distance-delivered course including a laboratory component)

D. Solie
February 2011

1) Course Information:

Title: ***Bush Physics for the 21st Century***

Course Number: **SCIA 194 Science Course, Late Start-Fall /Spring 2011/12,** CRN # (TBD)

Credits: 6 (5 credits lecture + 1 credit Laboratory)

General Prerequisites: Placement in DEVM105 or satisfactory high school Algebra 1 with instructor permission.

Additional prerequisites for High School Students: Must have passed the Alaska High School Exit Exam, and school official/math teacher assessment of student's math preparation.

Recommended: High school Geometry, Algebra 2 and Trigonometry.

Course Dates:

Fall Late-Start Date: 3 October 2011 (Fall Segment: 3 October – 15 December)

[redacted]

iTunes U – Past course lecture and lab introduction sessions will be available on the UAF iTunes U site

[redacted]

Calculators: **You will need a calculator for homework and lab,** (calculators will not in general be necessary in exams). A basic, simple scientific calculator with trigonometric, exponential, and logarithmic functions is all that you need but buy a fancy one if you want – just learn how to use it!

Laboratory supplies: will be shipped to the student (cost currently grant covered).

ALL STUDENTS: **Computer with internet access and a printer** (to connect to Blackboard, E-live,

[redacted]

motions (or what is physics?).

- Describing and Explaining Motion and solving problems using Newton's Laws of Motion, Momentum and Energy.
- A brief introduction to Fluids and Thermodynamics.
- Vibrations, Waves, Sound, and Light
- Gravity and topics in Relativity
- Electricity, Magnetism and Electromagnetic Interactions.
- An introduction to selected topics in Atomic physics, Nuclear Radiation, Astronomy and Space

The text for the course is: *Physics: A World View* by Kirkpatrick/Francis (7th edition). Chapt

Lecture/Recitation sessions are delivered via video conference, recorded and then posted to the iTunes University site. eLive will also be utilized to communicate with students during office hours, or special

quizzes, exams and the laboratory component are outlined below.

Homework:

- Weekly homework assignments will average roughly 6-8 problems (17 homework sets total) and are due one week after assignment unless otherwise specified.

Exam Dates:

1. **Exam 1:** In Class Thursday 10 November (1 hr. covering Newton's Laws and Mechanics)
2. **Exam 2**: In Class Thursday 15 December (1½ hr. covering Fall Material—Mechanics and Thermodynamics.)
3. **Exam 3**: In Class Thursday 2 March. (1 hr. tentatively covering waves, sound, light and gravity)

[redacted]

material, time: TBA)

Laboratory: Laboratory skills are crucial to success in science and engineering at the university. The Lab portion of this course will have three components:

1) Weekly Lab Component (12 short Hands-on Lab Experiment/Exercises): These shorter

8) Course Calendar:

Bush Physics Course Schedule (Daily):

Day	Monday	Tuesday	Wednesday	Thursday

Bush Physics in the 21st Century: Weekly Calendar

Wk	Text	Fall: Subject/Content	[redacted]	[redacted]

21	Ch. 23	E&M Cont., Atomic Introduction	L12: Electromagnetic Induction	
22	Selected topics Ch. 24 & Ch. 25	Nuc. Radiation Modern Physics Cont.	GCE Presentation Prep & Review	
23		Final Exam Week: Monday: GCE Web Presentations Tues & Wed: Comprehensive Review (Fall & Spring)	Comprehensive Final Exam (Thursday)	

9) Course Policies:

[redacted]

material covered in classes missed. Tardiness is disruptive to the class and even more so for a distance class where verification that the student is connected is important. If video-conference connection difficulties occur or attendance/tardiness becomes a problem attendance may be taken.

FINAL EXAM (end course)	20%
QUIZZES (10 –lowest (1) dropped)	10%
HOMEWORK (17 sets –lowest (2) dropped)	15%
LABORTORY:	20%

a) Weekly Labs (12-lowest (1) dropped) (10%)

b) Experiment Session: (5 %)

c) Group Collaborative Experiment (5%)

[redacted]

TOTAL: 100%

[redacted]