FORMAT 1
Submit original with signatures + 3 copies

TRIAL COURSE OR NEW COURSE PROPOSAL

SUBMITTED BY:

Department	CRCD Department of Science	College/School	CRCD
Prepared by	Tom Marsik	Phone	842-5109
Email Contact	tmarsik@alaska.edu	Faculty Contact	same

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

1. ACTION DESIRED (check one):	Trial Course		New Course	X		
2. *COURSE IDENTIFICATION:*	Dept	ENVI	Course #	120	No. of Credits	1

Justify upper/lower division status & number of credits:	**This course is designed to serve as a course in the Environmental Studies (ENVI) Certificate program and Renewable Resources (RR) A.A.S. degree program. These programs focus on delivering quality entry-level coursework relevant to rural Alaska students with the goal of skill set development in the field of environmental sciences and renewable resources. This course focuses on energy use and production in society and its environmental impacts, which are ever growing concerns. ENVI 120 is an introductory level course with no prerequisites that concentrates on the basics of energy in rural Alaskan homes. Due to its introductory level, it is a 100-level course. Since it is a course that covers only basics, it can be delivered in 14 contact hours, which corresponds to one credit.**

3. *PROPOSED COURSE TITLE:*	Home Energy Basics					
4. *CROSS LISTED?* *YES/NO*	no	If yes, Dept:		Course #		
5. *STACKED?* *YES/NO*	no	If yes, Dept.		Course #		
6. *FREQUENCY OF OFFERING:*	Fall Semester annually					
	(Every or Alternate) Fall, Spring, Summer — or As Demand Warrants					
7. *SEMESTER & YEAR OF FIRST OFFERING* (if approved)	Fall 2011					

(Requires approval of both departments and deans involved. Add lines at end of form for such signatures.)

8. COURSE FORMAT:

NOTE: Course hours may not be compressed into fewer than three days per credit. Any course compressed into fewer than six weeks must be approved by the college or school's curriculum council. Furthermore, any core course compressed to less than six weeks must be approved by the core review committee.

COURSE FORMAT: (check one)		*1*		*2*		*3*		*4*		*5*		*6 weeks to full semester*
OTHER FORMAT (specify)	3 days											
Mode of delivery (specify lecture, field trips, labs, etc)	lectures											

9. CONTACT HOURS PER WEEK:	14	LECTURE hours/weeks		LAB hours /week		PRACTICUM hours /week
OTHER HOURS (specify type)	14 hours of lectures total					

Note: # of credits are based on contact hours. 800 minutes of lecture=1 credit. 2400 minutes of lab in a science course=1 credit. 1600 minutes in non-science lab=1 credit. 2400-4800 minutes of practicum=1 credit. 2400-8000 minutes of internship=1 credit. This must match with the syllabus. See http://www.uaf.edu/uafgov/faculty/cd/credits.html for more information on number of credits.

10. COMPLETE CATALOG DESCRIPTION including dept., number, title and credits (50 words or less, if possible):

ENVI 120 – Home Energy Basics (1 cr) - Basics of space heating and electricity use and production for Alaskan homes. Main topics include fundamentals of physics related to home energy, lighting and appliances, energy bills, building science, retrofits, home renewable energy systems. Course emphasizes how to decrease fossil fuel

consumption of homes.

11. COURSE CLASSIFICATIONS: (undergraduate courses only. Use approved criteria found on Page 10 & 17 of the manual. If justification is needed, attach on separate sheet.)

H = Humanities		N = Natural Science		S = Social Sciences	

Will this course be used to fulfill a requirement for the baccalaureate core?		YES	X	NO

IF YES, check which core requirements it could be used to fulfill:

O = Oral Intensive, Format 6		W = Writing Intensive, Format 7		Natural Science, Format 8	

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?		TIMES

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:		PASS/FAIL:	X

RESTRICTIONS ON ENROLLMENT (if any)

14. PREREQUISITES	**none**

These will be *required* before the student is allowed to enroll in the course.

RECOMMENDED	**none**

Classes, etc. that student is strongly encouraged to complete prior to this course.

15. SPECIAL RESTRICTIONS, CONDITIONS	

16. PROPOSED COURSE FEES	**$0**

Has a memo been submitted through your dean to the Provost & VCAS for fee approval? **Yes/No**	

17. PREVIOUS HISTORY

Has the course been offered as special topics or trial course previously? **Yes/No**	**Yes**

If yes, give semester, year, course #, etc.:	Fall 2009 - ENVI 193 - Home Energy Basics; taught twice - once in Togiak and once in Dillingham

18. ESTIMATED IMPACT

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

This is a one-credit course with no lab, thus it should have minimal influence on budget, facility, and space resources. Faculty has been hired to teach this course. This course is intended to be offered anywhere across Alaska as a face-to-face course. Courses taught in rural Alaska may require travel money, if no qualified instructor is present in that location. This money has been secured through a Title III grant from Department of Education for the Bristol Bay region for foreseeable future.

Office and classroom space will be provided by existing University urban and rural campuses throughout Alaska. In villages without a University facility, training space can be found in the local schools, native associations, and businesses. No new facilities or space will be required.

This course will broaden courses and topics in the ENVI and RR programs. This program enhancement should attract more students and help prepare students for higher degree studies or entry-level employment in the environmental studies and renewable resources fields.

This course will also broaden the spectrum of UAF courses in the area of sustainable energy, which is a field of quickly growing importance, and can serve as one of the courses for a potential Occupational Endorsement in Sustainable Energy. Sustainable energy is a high demand field across Alaska with a lot of potential for growth.

19. LIBRARY COLLECTIONS

Have you contacted the library collection development officer (ffklj@uaf.edu, 474-6695) with regard to the adequacy of library/media collections, equipment, and services available for the proposed course? If so, give date of contact and resolution. If not, explain why not.

No		Yes	X		September 16, 2010 - No resource impact.

20. IMPACTS ON PROGRAMS/DEPTS

What programs/departments will be affected by this proposed action?
Include information on the Programs/Departments contacted (e.g., email, memo)

ENVI and RR:
This course will have a positive impact on the ENVI and RR programs as it will broaden the courses and topics offered. This should attract more students into these programs. The impact was many times discussed in person and via email with Dr. Todd Radenbaugh, the academic director of these programs, who is very supportive of this new course offering.

Electrical Engineering (EE):
The topics of sustainable energy are also discussed in the Power and Control branch of the Electrical Engineering B.S. program. The impact of this new course was discussed via phone and email with Dr. Richard Wies, who is the head of the Power and Control branch, and he supports this new course. Getting rural students excited about energy and engineering at a lower-level increases their interest to pursue a B.S., or even M.S., at the College of Engineering and Mines at UAF.

21. POSITIVE AND NEGATIVE IMPACTS

*Please specify **positive and negative** impacts on other courses, programs and departments resulting from the proposed action.*

Besides the impacts stated above (Section 20.), this course will also benefit non-degree students interested in home energy.

No significant negative impacts are anticipated.

JUSTIFICATION FOR ACTION REQUESTED

The purpose of the department and campus-wide curriculum committees is to scrutinize course change and new course applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. Use as much space as needed to fully justify the proposed course.

Residents of rural Alaska are facing challenges with respect to the cost of home energy as well as environmental and social sustainability of current practices. They are seeking education to both deal with their personal issues related to energy and follow careers in the energy and environmental fields. This course will help satisfy that demand.

This course will serve as a course in the ENVI Certificate program and RR A.A.S. degree program, which will broaden and enhance the topics covered by these and other programs, which in turn will attract more students.

UAF Bristol Bay Campus has the experience in environmental science with focus on sustainable energy, as demonstrated by the newly established Sustainable Energy Initiative, headed by Dr. Tom Marsik.

APPROVALS:

	Date	
Signature, Chair, Program/Department of:		
	Date	
Signature, Division Chair CRCD of:		
	Date	
Signature, Chair, College/School Curriculum Council for:		
	Date	
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.

ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE

	Date	
Signature, Chair, UAF Faculty Senate Curriculum Review Committee		

ADDITIONAL SIGNATURES: (If required)

	Date	
Signature, Chair, Program/Department of:		
	Date	
Signature, Chair, College/School Curriculum Council for:		
	Date	
Signature, Dean, College/School of:		

ATTACH COMPLETE SYLLABUS (as part of this application).

Note: syllabus must follow the guidelines discussed in the Faculty Senate Guide http://www.uaf.edu/uafgov/faculty/cd/syllabus.html. The department and campus wide 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 change will 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
   ❑ 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 ❑ Student Learning Outcomes (more specific)**
6. **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.).
7. **Course calendar:**
   ❑ 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.
8. **Course policies:**
   ❑ Specify course rules, including your policies on attendance, tardiness, class participation, make-up exams, and plagiarism/academic integrity.
9. **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.)
10. **Support Services:**
    ❑ Describe the student support services such as tutoring (local and/or regional) appropriate for the course.
11. **Disabilities Services:**
    The Office of Disability Services implements the Americans with Disabilities Act (ADA), and insures that UAF students have equal access to the campus and course materials.
    ❑ State that you will work with the Office of Disabilities Services (203 WHIT, 474-7043) to provide reasonable accommodation to students with disabilities."

ENVI 120 – Home Energy Basics

Term:	Fall 2011
Course Title:	Home Energy Basics
Dept. & Num:	ENVI 120
Credits:	1
Prerequisites:	None
Dates:	TBD
Days and Times:	Fri 6pm-8pm, Sat 9am-6pm, Sun 9am-4pm
Location:	UAF BBC, Dillingham and Bristol Bay villages

Instructor:	Dr. Tom Marsik
Office Location:	UAF Bristol Bay Campus, Room 117
Position:	Assistant Professor
Phone:	842-5109
Fax:	842-5692
Email:	tmarsik@alaska.edu
Hours Available:	Available during the days the course is offered

Required Text:	Energy Savers Tips for Rural Alaska, SWAMC & AEA, 2009; Energy Savers: Tips on Saving Energy & Money at Home, DOE NREL, 2001;
Recommended Text:	Consumer Guide to Home Energy Savings, ACEEE, 2007

Course Description:
Basics of space heating and electricity use and production for Alaskan homes. Main topics include fundamentals of physics related to home energy, lighting and appliances, energy bills, building science, retrofits, home renewable energy systems. Course emphasizes how to decrease fossil fuel consumption of homes.

Course Goals:
The general goals of this course are to provide education that will help students understand energy flows in a home and make educated decisions regarding home energy use and production.

Student Learning Outcomes:
Upon successful completion of this course, the student will be able to:

- Recognize basic science concepts as related to home energy flows.
- Identify types of basic home energy monitoring tools and demonstrate their use.
- Discuss home energy improvement options with respect to both space heating and electricity.
- Describe the procedure of setting up a renewable energy system for a home.
- Actively participate in setting up a residential-scale solar/wind hybrid system

Instructional Methods:

- Lectures
- Project
- Discussions
- Homework
- Readings
- Handouts

Course Calendar:

Friday
6:00pm-7:00pm Course introduction
7:00pm-8:00pm Energy flows in a typical home and ways to affect the flows
Reading assignment: Read through the whole first booklet - Energy Savers Tips for Rural Alaska

Saturday
9:00am-10:45am Basic physics related to energy – electricity and heat
10:45am-11:00am Break
11:00am-12:00pm Energy monitoring tools
12:00pm-1:00pm Understanding energy bills
1:00pm-2:00pm Lunch break

2:00pm-3:00pm Basic building science – air flow, moisture, condensation
3:00pm-3:45pm Home retrofits
3:45pm-4:00pm Break
4:00pm-6:00pm Lighting and appliances at home
Reading assignment: Read through the whole second booklet - Energy Savers: Tips on Saving Energy & Money at Home

Sunday
9:00am-10:45am Home renewable energy – passive and active
10:45am-11:00am Break
11:00am-1:00pm Class project - setting up a solar/wind hybrid system
1:00pm-2:00pm Lunch break
2:00pm-3:00pm Review
3:00pm-4:00pm Final exam

Course Policies:

1. UAF requires students to conduct themselves honestly and responsibly, and to respect the rights of others.
2. Attendance is mandatory.
3. Late assignments will not be accepted without prior approval of instructor.
4. The instructor reserves the right to amend this course outline as needed.

Evaluation:
Final grades are calculated from the points earned in the following areas:

Attendance and Participation 10%
Students are expected to attend the entire 3-day classroom session and actively participate in group discussions.

Class Project 30%
In the class project, students will actively participate in setting up a residential-scale solar/wind hybrid system.

Homework 30%
Each student will use an energy monitoring tool (typically a Kill-A-Watt meter) provided by the instructor to measure overnight the electrical consumption of an appliance of the student's choice (e.g. a refrigerator in his/her home), and based on the collected data make projections about the annual electricity consumption and associated cost.

Final Exam 30%
An open book final exam will cover material from the whole course.

Grading Policy:
This course will be graded pass/fail. In order to receive a passing grade, students must receive a 70% or higher grade.

Support and Disability Services:

University of Alaska Fairbanks
Bristol Bay Campus – Student Services
PO Box 1070
Dillingham, Alaska 99576
907-842-5109
800-478-5109
Fax: 907-842-5692

Students can also go to the UAF website http://www.uaf.edu or to the College of Rural and Community Development website http://www.uaf.edu/rural/ or to Bristol Bay Campus website http://www.uaf.edu/bbc/index.html.

UAF Disability Services for Distance Students
UAF has a Disability Services office that operates in conjunction with the College of Rural and Community Development (CRCD) campuses and UAF's Center for Distance Education (CDE). Disability Services, a part of UAF's Center for Health and Counseling, provides academic accommodations to enrolled students who are identified as being eligible for these services. If you believe you are eligible, please visit http://www.uaf.edu/chc/disability.html on the web or contact a student affairs staff person at your nearest local campus. You can also contact Disability Services on the Fairbanks Campus at (907) 474-7043, fydso@uaf.edu