

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

**TRIAL COURSE OR NEW COURSE PROPOSAL**

**SUBMITTED BY:**

<b>Department</b>	High Latitude Agriculture	<b>College/School</b>	SNRAS
<b>Prepared by</b>	Milan Shipka	<b>Phone</b>	7429
<b>Email Contact</b>	mshipka@alaska.edu	<b>Faculty Contact</b>	Milan Shipka

1. ACTION DESIRED (CHECK ONE):  
 Trial Course  New Course

2. COURSE IDENTIFICATION:  
 Dept:  Course #:  No. of Credits:

Justify upper/lower division status & number of credits:  
**Introduction to the principles of sustainable agriculture. Required course for new NRM degree. Will require 100 level understanding of biology. Will serve as a prerequisite for high numbered agriculture courses involving sustainability concepts.**

3. PROPOSED COURSE TITLE:

4. To be CROSS LISTED? YES/NO  If yes, Dept:  Course #

NOTE: Cross-listing requires approval of both departments and deans involved. Add lines at end of form for additional required signatures.

5. To be STACKED? YES/NO  If yes, Dept.  Course #

How will the two course levels differ from each other? How will each be taught at the appropriate level?:

Stacked course applications are reviewed by the (Undergraduate) Curricular Review Committee and by the Graduate Academic and Advising Committee. Creating two different syllabi—undergraduate and graduate versions—will help emphasize the different qualities of what are supposed to be two different courses. The committees will determine: 1) whether the two versions are sufficiently different (i.e. is there undergraduate and graduate level content being offered); 2) are undergraduates being overtaxed?; 3) are graduate students being undertaxed? In this context, the committees are looking out for the interests of the students taking the course. Typically, if either committee has qualms, they both do. More info online - see URL at top of this page.

6. FREQUENCY OF OFFERING:   
 Fall, Spring, Summer (Every, or Even-numbered Years, or Odd-numbered Years) - or As Demand Warrants

7. SEMESTER & YEAR OF FIRST OFFERING (AY2013-14 if approved by 3/1/2013; otherwise AY2014-15)

**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 all that apply)  1  2  3  4  5  6 weeks to full semester

OTHER FORMAT (specify)

Mode of delivery (specify lecture, field trips, labs, etc)

<b>9. CONTACT HOURS PER WEEK:</b>	<input type="text" value="3"/>	LECTURE hours/weeks	<input type="text"/>	LAB hours /week	<input type="text"/>	PRACTICUM hours /week	<input type="text"/>
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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-senate/curriculum/course-degree-procedures-guidelines-for-computing/> for more information on number of credits.

OTHER HOURS (specify type)	<b>One Saturday full-day field trip in early September</b>
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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)

**NRM 210 Principles of Sustainable Agriculture**  
 3 Credits Offered Fall  
 Development of a basic understanding of sustainable agriculture concepts including exposure to economic, social, and environments principles and ideas of sustainable agricultural practices. Agroecology is introduced as a backdrop for the development of sustainable techniques for soil, plant, and animal agriculture. Throughout the semester, sustainable agriculture concepts and principles will be related to current issues such as population growth, resource use and availability, and changing social structures and preferences. Prerequisites: BIOL F101X, BIOL F103X, BIOL F104X, BIOL F115x, BIOL F116x, or BIOL F120X.

11. **COURSE CLASSIFICATIONS:** Undergraduate courses only. Consult with CLA Curriculum Council to apply S or H classification appropriately; otherwise leave fields blank.

H = Humanities	<input type="text"/>	S = Social Sciences	<input type="text"/>
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Will this course be used to fulfill a requirement for the baccalaureate core? If YES, attach form.	YES:	<input type="text"/>	NO:	<input type="text"/>	X	<input type="text"/>
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IF YES, check which core requirements it could be used to fulfill:

O = Oral Intensive, Format 6	<input type="text"/>	W = Writing Intensive, Format 7	<input type="text"/>	X = Baccalaureate Core	<input type="text"/>
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11.A Is course content related to northern, arctic or circumpolar studies? If yes, a "snowflake" symbol will be added in the printed Catalog, and flagged in Banner.

YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>
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12. **COURSE REPEATABILITY:**

Is this course repeatable for credit?	YES	<input type="text"/>	NO	<input checked="" type="checkbox"/>
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Justification: Indicate why the course can be repeated (for example, the course follows a different theme each time).	<input type="text"/>
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How many times may the course be repeated for credit?	<input type="text"/>	TIMES
If the course can be repeated for credit, what is the maximum number of credit hours that may be earned for this course?	<input type="text"/>	CREDITS
If the course can be repeated with variable credit, what is the maximum number of credit hours that may be earned for this course?	<input type="text"/>	CREDITS

13. **GRADING SYSTEM:** Specify only one. Note: Changing the grading system for a course later on constitutes a Major Course Change - Format 2 form.

LETTER:	<input checked="" type="checkbox"/>	PASS/FAIL:	<input type="checkbox"/>
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**RESTRICTIONS ON ENROLLMENT (if any)**

14. **PREREQUISITES**  College-level biology course  BIOL F101X, BIOL F103X, BIOL F104X  
BIOL F115X, BIOL F116X, or BIOL F120X

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

15. **SPECIAL RESTRICTIONS, CONDITIONS**

16. **PROPOSED COURSE FEES**

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Has a memo been submitted through your dean to the Provost for fee approval?

Yes/No

17. **PREVIOUS HISTORY**

Has the course been offered as special topics or trial course previously?

No

Yes/No

If yes, give semester, year, course #, etc.:

18. **ESTIMATED IMPACT**

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

**Requires lecture facilities. Will require transportation for one full-day field trip on Saturday during early September.**

19. **LIBRARY COLLECTIONS**

Have you contacted the library collection development officer ([kljensen@alaska.edu](mailto:kljensen@alaska.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

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)

**Only impact SNRAS NRM degree. Course will be available to students in other majors as an elective course**

21. **POSITIVE AND NEGATIVE IMPACTS**

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

**Course will be available to students in other majors as an elective course**

**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.

**Every day, farmers and ranchers around the world develop new, innovative strategies to produce and distribute food, fuel and fiber sustainably. While these strategies vary greatly they all embrace three broad goals:**

- Profit over the long term
- Stewardship of our nation's land, air and water
- Quality of life for farmers, ranchers and their communities

There are almost as many ways to reach these goals as there are farms and ranches. However the popular press is rife with misconceptions about what sustainable agriculture really is all about and it is easy to accept these misconceptions without skeptical consideration. This course will apply proper rigor to the treatment of the subject of sustainable agriculture to help the student develop an understanding of the concepts that set sustainable agriculture apart from many traditional agriculture practices. In addition, this course will expose the student to the idea and concerns of food security in Alaska and other circumpolar regions.

**APPROVALS:** Add additional signature lines as needed.

	Date	
Signature, Chair, Program/Department of:		

	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.

	Date	
Signature of Provost (if above level of approved programs)		

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

	Date	
Signature, Chair Faculty Senate Review Committee:   __ Curriculum Review           __ GAAC __ Core Review                __ SADAC		

**ADDITIONAL SIGNATURES:** (As needed for cross-listing and/or stacking)

<i>William Salomon</i>	Date	<i>10/24/13</i>
Signature, Chair, Program/Department of: <i>High Latitude Agriculture</i>		

<i>Peto</i>	Date	<i>10/24/13</i>
Signature, Chair, College/School Curriculum Council for: <i>SNRAS</i>		

<i>S/D. pan</i>	Date	<i>24 October 2013</i>
Signature, Dean, College/School of: <i>SNRAS</i>		

**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
- 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.).

**8. 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.

**9. Course policies:**

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](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/> The 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.

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

## ***NRM 210 Principles of sustainable Agriculture***

3 cr

Instructors – MP Shipka, MG Karlsson. M Zhang

Offered fall semester - TTH 8:00-9:30 AM

Office hours – *To be inserted prior to start of semester*

Text – *Toward Sustainable Agricultural Systems in the 21<sup>st</sup> Century* (2010)

Committee on Twenty-First Century Systems Agriculture; National Research Council

978-0-309-14896-2

**Course Description:** Development of a basic understanding of sustainable agriculture concepts including exposure to economic, social, and environments principles and ideas of sustainable agricultural practices. Agroecology is introduced as a backdrop for the development of sustainable techniques for soil, plant, and animal agriculture. Throughout the semester, sustainable agriculture concepts and principles will be related to current issues such as population growth, resource use and availability, and changing social structures and preferences. Prerequisites: BIOL F101X, BIOL F103X, BIOL F104X, BIOL F115x, BIOL F116x, or BIOL F120X.

**Course Objectives:** The student will develop a basic understanding of sustainable agriculture concepts and will be exposed to principles and ideas of sustainable agricultural practices. Agroecology is introduced as a backdrop for the development of sustainable techniques for soil, plant, and animal agriculture. Throughout the semester, sustainable agriculture concepts and principles will be related to current issues such as population growth, resource use and availability, and changing social structures and preferences.

**Student Learning Outcomes:** The student will demonstrate by the end of the semester a basic understanding of the concepts and principles of sustainable agricultural management in soil, plant, and animal contexts. Student Learning Outcomes include:

- 1) Ability to critically apply knowledge and integrate the science of sustainable agriculture with economic, social and environmental sustainability for agricultural practices in modern culture and societies.
- 2) The development of a basic understanding of sustainability science in global and U.S. agriculture and an appreciation for the biological, physical and social sciences that make up sustainable agriculture.

## Course Outline

Week	Topic	Instructor
1	Chapter 1 in TSAS* (pgs. 15 to 42) What is Sustainable Agriculture <ul style="list-style-type: none"><li>• Overview</li><li>• Concepts and Themes</li><li>• Three legs of sustainable agriculture</li><li>• Economic, social, and political context</li></ul>	Shipka
2	Chapter 2 in TSAS* (pgs. 43 to 82) Farming and Natural Resources <ul style="list-style-type: none"><li>• Is Organic Agriculture the same as Sustainable Agriculture?</li><li>• Agroecology</li></ul>	Shipka
3	Chapter 3 in TSAS* (pgs. 83 to 96) Sustainable soils management <ul style="list-style-type: none"><li>• Conservation tilling</li><li>• Cover cropping</li></ul> Assignment I (covers material in weeks 1, 2 & 3)	Zhang
4	Chapter 3 in TSAS* (pgs. 122 to 131) Sustainable soils management <ul style="list-style-type: none"><li>• Mass balance</li><li>• Soil tests</li><li>• Compost</li></ul>	Zhang
5	Reading assignment - Sustainable Soil Management System Guide – Available in Blackboard one week prior to class period Sustainable soils management – systems management <ul style="list-style-type: none"><li>• Principles and Characteristics of Sustainable Soil</li><li>• Management Steps to Improve Soil Quality</li><li>• Examples of Sustainable Soil Builders</li></ul> Assignment II (covers material in weeks 4 & 5)	Zhang
6	Chapter 3 in TSAS* (pgs. 97 to 109) Sustainable field crop production concepts – Agronomy <ul style="list-style-type: none"><li>• Crop rotations</li><li>• Intercropping</li><li>• Cultivar mixtures</li></ul>	Zhang
7	Chapter 3 in TSAS* (pgs. 110 to 122) Sustainable field crop production concepts – Agronomy <ul style="list-style-type: none"><li>• Irrigation</li><li>• Water quality management</li></ul> Assignment III (covers material in weeks 6 & 7)	Zhang

8	Chapter 6 in TSAS* (pgs. 271-291) Sustainable plant production concepts – Horticulture <ul style="list-style-type: none"> <li>• Specialty crops</li> <li>• Production approaches</li> <li>• Water and other resources management</li> </ul>	Karlsson
9	Chapter 6 in TSAS* (pgs. 291-307) Sustainable plant production concepts – Horticulture <ul style="list-style-type: none"> <li>• Waste disposal and recycling</li> <li>• Marketing approaches and labeling</li> </ul> Assignment IV ( <i>covers material in weeks 8 &amp; 9</i> )	Karlsson
10	Chapter 7 in TSAS* (pgs. 351-356, 362-365, 377-379) Sustainable plant production concepts – Controlled environments <ul style="list-style-type: none"> <li>• Crop climate strategies</li> <li>• Energy use and sources</li> <li>• Agrochemical use and management</li> </ul>	Karlsson
11	Chapter 7 in TSAS* (pgs. 390-401, 433-462) Sustainable plant production concepts – Controlled environments <ul style="list-style-type: none"> <li>• Employee and community relations</li> <li>• Crop protection agents</li> <li>• Adaptive and integrated pest management</li> </ul> Assignment V ( <i>covers material in weeks 10 &amp; 11</i> )	Karlsson
12	Chapter 3 in TSAS* (pgs. 122 to 129) Sustainable animal production concepts <ul style="list-style-type: none"> <li>• Animal Nutrition</li> <li>• Grazing management</li> </ul>	Shipka
13	Chapter 3 in TSAS* (pgs. 150 to 160) Sustainable animal production concepts <ul style="list-style-type: none"> <li>• Animal Welfare</li> <li>• Animal Behavior</li> </ul> Assignment VI ( <i>covers material in weeks 12 &amp; 13</i> )	Shipka
14	Chapter 4 in TSAS* (pgs. 233 to 249) Sustainable animal production concepts <ul style="list-style-type: none"> <li>• Integrated Livestock Management System</li> <li>• Systems management</li> </ul>	Shipka
15	Chapter 6 in TSAS* (pgs. 323 to 336) Sustainable animal production concepts <ul style="list-style-type: none"> <li>• Ecological &amp; Sustainable Livestock Production Systems</li> <li>• Reducing the Carbon Footprint</li> </ul> Assignment VII ( <i>covers material in weeks 14 &amp; 15</i> )	Shipka

\*Towards Sustainable Agriculture Systems in the 21<sup>st</sup> Century.



**Best way to do well in this class:**

- 1) Attend the lectures,
- 2) Take good notes,
- 3) Read the assigned readings before class,
- 4) Download the PPT before or right after class,
- 5) Go back through your notes and the PPT soon after class, and
- 6) Complete seven assignments on time.

**Course Grading:**

Students will have seven web based assignments, available on UAF Blackboard when assigned, each covering the time period since the previous assignment, but also building on material that was presented since the course began. Each assignment is worth 100 points for a total of 700 points available for the entire class. The student will have one week to complete each assignment from the time the assignment is available on UAF Blackboard. Ten points will be deducted for each day an assignment is turned in late

<b><u>Assignment #</u></b>	<b><u>Week of assignment</u></b>	<b><u>Week due</u></b>	<b><u>Points</u></b>
I	End of Week 2	End of Week 3	100 points
II	End of Week 5	End of Week 6	100
III	End of Week 7	End of Week 8	100
IV	End of Week 9	End of Week 10	100
V	End of Week 11	End of Week 12	100
VI	End of Week 13	End of Week 14	100
VII	End of Week 15	Final Exam period	100
<b>Total</b>			<b>700 points</b>

Final course grades will be assigned on the following basis:

$\geq 97\%$	= <b>A+</b>	<b>&gt; 679 points</b>
92 - 96.9%	= <b>A</b>	<b>644 to 678 points</b>
90 - 91.9%	= <b>A-</b>	<b>630 to 643 points</b>
87 - 89.9%	= <b>B+</b>	<b>609 to 629 points</b>
82 - 86.9%	= <b>B</b>	<b>574 to 608 points</b>
80 - 81.9%	= <b>B-</b>	<b>560 to 573 points</b>
77 - 79.9%	= <b>C+</b>	<b>539 to 559 points</b>
72 - 76.9%	= <b>C</b>	<b>504 to 538 points</b>
70 - 71.1%	= <b>C-</b>	<b>490 to 503 points</b>
Etc.		

**For important UAF grading policy information, see the 2013-14 UAF Catalog, pages 47-49.**

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. Course instructors will work with the Office of Disabilities Services (203 WHIT, phone: 474-5688) to provide reasonable accommodation to students with disabilities.

UAF may also be able to provide other services to benefit students. Students are advised to visit <http://www.uaf.edu/sss/resources/> to view other services that may be available to students at UAF.