TRIAL COURSE OR NEW COURSE PROPOSAL
(Attach copy of syllabus)

SUBMITTED BY:

Department: Biology and Wildlife
Prepared by: Mark Lindberg
Email Contact: mslindberg@alaska.edu

College/School: CNSM
Phone: 907-474-6598
Faculty Contact: same

1. ACTION DESIRED
(CHECK ONE):

| Trial Course | X | New Course |

2. COURSE IDENTIFICATION:

| Dept | WLF | Course # | F694 | No. of Credits | 3 |

Justify upper/lower division status & number of credits:

This course covers an advanced topic in wildlife management that builds on course material covered in undergraduate degree programs. The material presented in this class is broad and covers mostly introductory topics and is therefore proposed as a 3 credit class.

3. PROPOSED COURSE TITLE:

Decision Analysis for Conservation

4. To be CROSS LISTED?

YES/NO

| Yes | If yes, Dept: Biology | Course # F694 |

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

| No | If yes, Dept. | Course # |

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

* Use only one Format 1 form for the stacked course (not one for each level of the course!) and attach syllabi. 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:

Even-numbered springs

Fall, Spring, Summer (Every, or Even-numbered Years, or Odd-numbered Years) — As Demand Warrants

7. SEMESTER & YEAR OF FIRST OFFERING (Effective AY2015-16 if approved by 3/31/2015; otherwise AY2016-17)

Spring 2016

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 | X | 6 weeks to full semester |

OTHER FORMAT (specify)

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

lectures, lab format

RECEIVED

AUG 24 2015

Dean's Office
College of Natural Science & Mathematics
Governance
9. CONTACT HOURS PER WEEK:

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 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)

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)

WLF F694 Decision Analysis for Conservation
3 Credits
Offered Spring Even-numbered Years
Introduction to theory and application of structured decision making and adaptive management to natural resource conservation. Prerequisites: Permission of the instructor.

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

Will this course be used to fulfill a requirement for the baccalaureate core? If YES, attach form.

YES: [ ] NO: [ ]

IF YES, check which core requirements it could be used to fulfill:
O = Oral Intensive, Format 6
W = Writing Intensive, Format 7
X = Baccalaureate Core

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 [ ] NO [ x ]

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 for credit, what is the maximum number of credit hours that may be earned for this course?

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

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: [ x ] PASS/FAIL: [ ]
RESTRICTIONS ON ENROLLMENT (if any)

14. PREREQUISITES
Graduate standing or permission of instructor.
These will be required before the student is allowed to enroll in the course.

15. SPECIAL RESTRICTIONS, CONDITIONS

16. PROPOSED COURSE FEES
$  
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?
Yes/No
No
If yes, give semester, year, course #, etc.: 

18. ESTIMATED IMPACT
WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.
None known.

19. LIBRARY COLLECTIONS
Have you contacted the library collection development officer (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  ☒  I don’t require additional library services for the class.

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)
This course will provide a complete introduction of this important topic in our field to graduate students. To date, decision analysis has only been covered briefly and incompletely in some of our undergraduate and graduate classes.

21. POSITIVE AND NEGATIVE IMPACTS
Please specify positive and negative impacts on other courses, programs and departments resulting from the proposed action.
Skills in and knowledge of decision analysis are becoming more important for our graduates to compete in the job market. The only negative impact is that the instructor will not be available to teach in other courses.

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.

Decision analysis has long been an important concept in disciplines such as business. However, application of decision analysis to natural resource management and related fields is relatively recent with a rapid increase in application in the last 2 decades. Natural resource programs around the world are starting to recognize this growth and importance of decision analysis by offering courses and even majors in this area of study (e.g., http://snr.unl.edu/gradstudent/special/adapt_man/). We have observed the growing importance of decision analysis in wildlife conservation and related fields, however, we did not offer a specific course in this topic because we did not have a faculty member trained in this area. During the last 2 years, Mark Lindberg has worked with experts in this field including a trip to Australia to interact with some of the world leaders (see http://www.edg.org.au/) to develop the skills and knowledge necessary to offer such a class. He has also co-taught 2 workshops on decision analysis with other instructors at the
National Conservation Training Center (US Fish and Wildlife Service - http://training.fws.gov/) and the syllabus for this course is modeled after these workshops. We think this course is an important first step in ensuring that our students receive necessary training in this field.

APPROVALS: Add additional signature lines as needed.

Signature, Chair, Program/Department of: Wildlife Biology and Conservation

Signature, Chair, College/School Curriculum Council for: CSSM

Signature, Dean, College/School of: CSSM

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

Signature of Provost (if above level of approved programs)

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

Signature, Chair
Faculty Senate Review Committee: ___Curriculum Review ___GAAC
___Core Review ___SADAC

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

Signature, Chair, Program/Department of: 

Signature, Chair, College/School Curriculum Council for: 

Signature, Dean, College/School of: 

WLF/BIOL F694 - Decision Analysis for Conservation

Mechanics

- 3 Credits
- Prerequisites – permission of instructor
- Location and Meeting Time: Murie 309, TR 9:45-11:15
- Instructor: Mark Lindberg
  411 Irving I
  TR 11:30-12:30 office hours
  474-6598
  mslindberg@alaska.edu

Course Reading Material

- Texts:

Course Description

- Introduction to theory and application of structured decision to making and adaptive management to natural resource conservation. Emphasis is on application of decision analysis to inform management of natural resources and development of skills using statistics and software to make optimal decisions.

Course Goals

- Understand decision analysis through PrOACT process (Problem Definition, Objectives, Alternatives, Consequences, and Tradeoffs)
- Apply decision analysis to an actual problem in natural resource management using rapid prototyping
- Develop skills in using common software (e.g., Netica) for decision analysis

Student Learning Outcomes

- Demonstrate knowledge of theory of decision analysis by applying the decision process to hypothetical examples.
- Complete computer exercises in population modeling and decision analysis.
- Use a complete decision process to inform an actual conservation problem in natural resource management.

Instructional Methods
• Class will meet 3 hours per week and lectures will be the main instructional method. We will also consider some case studies in detail and discuss readings as a class. Small group exercises will be used to complete the term project.

Course Policies

• Students are to work independently on all assignments, unless otherwise indicated. If plagiarism is detected, students will be given a grade of zero on their assignment/test. Note that material lifted from the internet or term papers previously submitted by students at UAF or other universities is very likely to be detected as plagiarized using online resources such as turnitin.com and plagiarism.org.

• Grades will be determined using straight percentages. Class participation will be used as a criteria to make decisions about borderline grades. This is a graduate class so I will not take attendance and I will assume that if you miss class that you have a valid reason. If you know in advance that you will miss several classes, please let me know. I will also assume that you are familiar with the student code of conduct, particularly as it applies to academic issues.

• Students are expected to submit assignments on time, and grades will be reduced by 10% each day after the due date.

• I will work with the Office of Disabilities Services (203 WHIT, 474-7043) to provide reasonable accommodation to students with disabilities.

Evaluation

• Letter grades without + or −
  o >89% - A
  o >79% - B
  o >69% - C
  o >59% - D

• Grades will be based on following:
  o Homework Assignments – 50%
  o Term Project – 50%

Course Calendar (Tentative)

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Reading</th>
<th>Assignments</th>
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<tbody>
<tr>
<td>11 Jan (class will only meet on R, Jan 14, during this week)</td>
<td>Introduce Class</td>
<td>• Smart Choices (SC) – Chap 1</td>
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<td>• Decision Making (DM) – Chaps 1&amp;2</td>
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<td>18 Jan</td>
<td>• PrOACT</td>
<td>• SM – Chap 2</td>
<td>Develop Term Project Outline</td>
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<td>• Problem Definition</td>
<td>• DM – Chap 2</td>
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<td>25 Jan</td>
<td>• Identify Term Projects</td>
<td>• SM – Chap 3</td>
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<td>• Objectives</td>
<td>• DM – Chap 3</td>
<td>Influence Diagram</td>
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<td>1 Feb</td>
<td>• Alternatives</td>
<td>• SM – Chap 4</td>
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<td>Date</td>
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<td>8 Feb</td>
<td>Develop Term Project Objectives and Alternatives</td>
<td>DM – Chap 6</td>
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<td>Consequences</td>
<td>SM – Chap 5&amp;10</td>
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<td>Psychology in Decision Making</td>
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<td>15 Feb</td>
<td>Term Project Development</td>
<td>SM – Chap 6</td>
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<td>Solving Single Objective Problems</td>
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<td>Resource Allocation Problem</td>
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<td>22 Feb</td>
<td>Consequence Tables</td>
<td>SM – Chap 9</td>
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<td>Decision Trees</td>
<td>DM – Chap 5</td>
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<tr>
<td>29 Feb</td>
<td>Solving Multiple Objective Problems</td>
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<td>Decision Trees</td>
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<td>7 Mar</td>
<td>Predictive Modeling</td>
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<td>Modeling Exercise</td>
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<td>14 Mar</td>
<td>Spring Break</td>
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<td>21 Mar</td>
<td>Accounting for Uncertainty</td>
<td>SM – Chaps 7&amp;8</td>
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<td>Risk Analysis</td>
<td>DM – Chap 7</td>
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<td>28 Mar</td>
<td>Monitoring and Adaptive Management</td>
<td>SM – Chap 11</td>
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<td>Project Development</td>
<td>DM – Chap 8</td>
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<td>4 Apr</td>
<td>Case Study: Water Resource Management</td>
<td>DM – Chap 9 - Case Study #2</td>
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<td>11 Apr</td>
<td>Case Study: Adaptive Harvest Management of Waterfowl</td>
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<td>18 Apr</td>
<td>Guided Project Development</td>
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<td>25 Apr</td>
<td>Project Presentations</td>
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<td>2 May</td>
<td>Project Presentations</td>
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