

Submit original with signatures + 1 copy + electronic copy to UAF Governance.

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

TRIAL COURSE OR NEW COURSE PROPOSAL

SUBMITTED BY:

Department	Fisheries	College/School	SFOS
Prepared by	Andrew Seitz	Phone	474-5254
Email Contact	acseitz@alaska.edu, cneumann@alaska.edu	Faculty Contact	Andrew Seitz

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:

This course will cover advanced ecological topics to upper-level undergraduate and graduate students. This course will meet 3 hours per week and students will be graded on at least two examinations and two papers each.

3. PROPOSED COURSE TITLE:

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

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

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

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 (if approved)

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)

9. CONTACT HOURS PER WEEK: LECTURE hours/weeks LAB hours/week PRACTICUM hours/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 with the syllabus. See <http://www.uaf.edu/uafgov/faculty/cd/credits.html> for more information on number of credits.

OTHER HOURS (specify type)

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

Department: Fisheries
 Number: FISH 428/628
 Credits 3.0
 Title: Physiological ecology of fishes
 Description: This course will provide upper-level undergraduate and graduate students with an advanced understanding of physiological responses and adaptations of fishes in both freshwater and marine systems to natural and anthropogenic environmental variables. It should provide students another option to fulfill upper-level undergraduate and graduate level elective coursework. Before enrolling, students should have a sound understanding of both

8.27.10

ecological and biological concepts relating to fish.

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

S = Social Sciences

Will this course be used to fulfill a requirement for the baccalaureate core?

YES

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

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:** Specify only one.

LETTER:

PASS/FAIL:

RESTRICTIONS ON ENROLLMENT (if any)

14. **PREREQUISITES**

BIOL 115, BIOL 116, or permission of instructor

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

RECOMMENDED

FISH 425 or BIOL 271, FISH 427, BIOL 310

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

15. **SPECIAL RESTRICTIONS, CONDITIONS**

None

16. **PROPOSED COURSE FEES**

None

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

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

18. **ESTIMATED IMPACT**

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

I am requesting to split the existing FISH 426/626 Behavioral and Physiological Ecology of Fishes into two courses (FISH 426/626 Behavioral Ecology of Fishes and FISH 428/628 Physiological Ecology of Fishes). Because these courses will be taught alternate spring semesters, this change should not have an impact on budget, facilities, space etc. because my teaching load, budget, and space requirements will not change for each semester.

I will need a classroom with VCON capability three hours per week.

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

X

Yes, I contacted Anne Christie and the library collection development officer, Karen Jensen, on 4 Sept. 2009 when I filed the initial paperwork for FISH 426/626 (from which FISH 428/628 is derived). The Biosciences library had the materials and resources that I needed for the initial course offering. The physiological ecology material for FISH 428/628 is not changing significantly from what was offered in the original version of FISH 426/626, rather it is getting

01.15.8

more detailed. Therefore, the library should still have adequate materials and resources for this course.

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)*

The proposed action should not have any impacts on other programs/departments. In 2009 when I filed the initial paperwork for FISH 426/626, which included physiological ecology material (from which FISH 428/628 is derived), I spoke with several professors, including Mike Harris, Lara Dehn, Amanda Rosenberger, Andres Lopez, and Trent Sutton, who instruct courses with potential overlap. None indicated any significant overlap of material in their courses and furthermore were very supportive of the development of a FISH physiological ecology course. FISH 428/628 will use the physiological ecology material from FISH 426/626. I am not proposing to significantly change this physiological ecology material, but rather add more detail to it, so like in 2009, I foresee no impacts on other programs/departments.

21. **POSITIVE AND NEGATIVE IMPACTS**

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

This course may appeal to a variety of both undergraduate and graduate students from Fisheries, Biology and Wildlife, Natural Resources Management and Marine Sciences (GPMSL). The course will not be a requirement, but will give students another option to fulfill upper-level undergraduate and graduate level elective coursework. The course will be distance-delivered if requested. There should be no negative impacts as this course will not be a requirement and should not reduce enrollment in other courses.

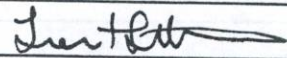
JUSTIFICATION FOR ACTION REQUESTED

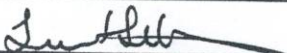
The purpose of the department and campus-wide curriculum committees is to scrutinize course change and new course applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory.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

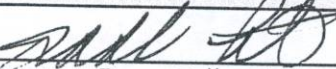
A large component of modern fisheries research focuses on physiological responses and adaptations of fishes to their environment. This research is especially important in today's age of human development and rapid environmental change. To understand the effects of these, this ecological research is regularly undertaken by state and federal agencies, as well as universities and other non-governmental organizations such as environmental consultants and tribal agencies. A sound understanding of the physiological ecology of fishes should aid in predicting how fishes will respond to environmental change and aid in sound management decisions. In the proposed course "Physiological ecology of fishes," I will cover concepts and research that focus on the responses of fish to their environment.

I foresee this class appealing to a broad variety of students from several departments and programs. Upon completion of this class, students should be able comprehend the concepts and participate in research aimed at understanding the physiological responses of fish to their environment.

APPROVALS:

	Date	2/25/2010
Signature, Chair, Program/Department of: Fisheries Division		

	Date	2/25/2010
Signature, Chair, College/School Curriculum Council for: SFOS		

	Date	2/24/10
Signature, Dean, College/School of: SFOS		

Signature of Provost (if applicable)	Date	
--------------------------------------	------	--

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

	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: The guidelines are online: <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 (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.)

11. Support Services:

Describe the student support services such as tutoring (local and/or regional) appropriate for the course.

12. 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 (208 WHIT, 474-5655) to provide reasonable accommodation to students with disabilities."

Physiological ecology of fishes

FISH 428/628

Spring 2011

Course information:

Credits: 3

Pre-requisites: BIOL 115X and 116X, or permission of instructor

Recommended courses: FISH 425 or BIOL 271, FISH 427, BIOL 310

Room: 201 O'Neill Building

Time: TR 3:40 – 5:10 pm

Instructor:

Andy Seitz

Office: 204 Arctic Health Research Building

Office hours: 12:00 to 2:00 pm Wednesday

OR come by my office OR make an appointment

Phone: 474-5254

E-mail: aseitz@sfos.uaf.edu

Course materials:

Mandatory reading:

The physiological ecology of vertebrates: a view from energetics, by Brian Keith McNab, published by Cornell University Press

Water pollution and fish physiology by Alan Heath, published by CRC Press

In addition, there will be several additional book chapters and journal articles assigned as required reading which I will distribute electronically.

Recommended reading:

Behaviour and Physiology of Fish, edited by Sloman, Wilson, and Balshine, published by Elsevier Academic Press

The Physiology of Fishes, 3rd edition, edited by Evans and Claiborne, published by CRC Press

Physiological ecology of Pacific salmon, edited by Groot, Margolis and Clarke, published by University of British Columbia Press

Bond's Biology of Fishes, 3rd edition, by Michael Barton, published by Thomson Brooks/Cole

Course description:

This course will provide upper-level undergraduate and graduate students with an advanced understanding of physiological responses and adaptations of fishes in both freshwater and marine systems to natural and anthropogenic environmental variables. It

should provide students another option to fulfill upper-level undergraduate and graduate level elective coursework. Before enrolling, students should have a sound understanding of both ecological and biological concepts relating to fish.

Course goals:

A large component of modern fisheries research focuses on physiological responses and adaptations of fishes to their environment. This research is especially important in today's age of human development and rapid environmental change. To understand the effects of these, ecological research is regularly undertaken by state and federal agencies, as well as universities and other non-governmental organizations. A sound understanding of the physiological ecology of fishes should aid in predicting how fishes will respond to environmental change and aid in sound management decisions.

In this course, we will cover concepts and research that focus on the responses of fish to their environment in both freshwater and marine systems. Upon completion of the course, students should have an advanced understanding of the physiological responses of fish to their environment and should be able to participate in research in these fields of study.

Student learning outcomes:

1. Understand physiological responses of fishes to their biotic and abiotic environment
2. Understand peer-reviewed journal articles describing physiological ecological fish research
3. Conduct reviews of fish ecology research and synthesize concepts into concise written and oral presentations

Instructional methods:

This course will meet three hours per week (2 x 1.5 hours) and will be distance delivered if requested. During this time, I will lecture for approximately one hour and we will conduct an in-class discussion for the last thirty minutes. These discussions will be based on assigned readings which I anticipate should take 2–3 hours for each lecture. Coverage of freshwater and marine fish ecology will be approximately equal.

Each student is expected to attend every lecture AND participate in class discussion. It is absolutely imperative that each student read the assigned readings *before* the corresponding lecture period which will enable him or her to better understand the lectures and participate in class discussion. Assigned readings will come from the required text or will be electronically distributed via Blackboard before lecture.

Graduate students enrolled in the graduate level FISH 626 option will be expected to lead 30 minute class discussions of his/her choice on a rotating basis throughout the semester. If needed, I will assist each student in the preparation and execution of his/her class discussion.

Course policies:

Attendance and in-class contribution are VERY important in learning the course material. If you are not able to attend class, you must inform me BEFORE your planned absence. Unexcused absences will result in deductions from your participation grade.

All assignments are due at the beginning of the indicated class period. Late assignments will be docked 10% of the total exercise point value for each day late (including weekends) and missed exams will be assigned a zero score.

If you cannot take an exam, turn in an assignment, or attend class for a legitimate reason, it is your responsibility to contact me prior to the date in question in order not to receive a penalty. With the exception of emergencies, make-up exams or late assignment requests will only be honored if a legitimate reason is provided to me in writing at least one week prior to that date.

Please familiarize yourself with the UAF Student Code of Conduct: (<http://www.uaf.edu/catalog/current/academics/regs3.html>). The following are guidelines regarding academic integrity in FISH/BIOL 428:

1. Students will not collaborate on any quizzes, in-class exams, or take-home exams that contribute to their grade in a course, unless the course instructor grants permission. Only those materials permitted by the instructor may be used to assist in quizzes and examinations.
2. Students will not represent the work of others as their own. A student will attribute the source of information not original with himself or herself (direct quotes or paraphrases) in compositions, theses, and other reports.
3. No work submitted for one course may be submitted for credit in another course without the explicit approval of both instructors.

Any violations will result in automatic failure of the course.

Evaluation:

Students will be evaluated on their participation, writing assignments and take-home exams, each worth the listed amount of points.

Participation:	15
Paper I:	20
Paper II:	20
Midterm:	20
Final:	25
	<hr/>
	100

Participation counts as 15% of your grade. In this class, participation is defined as: 1. attendance and 2. contribution to the class during lectures and discussion section by asking questions and providing comments and input. I take participation very seriously

(both attendance and in-class contribution) because active engagement in the learning process leads to a better education.

Papers I and II will be synoptic research papers on physiological ecology topics (8 to 12 pages).

The midterm and final exams will be open book, take-home written exams.

Graduate students enrolled in the FISH 628 option will write longer papers than undergraduates enrolled on the FISH 428 option, give oral presentations of his/her papers in class (in addition to leading the in-class discussion sections) and conduct reviews of others' papers. Undergraduate students may undertake these graduate level activities as extra credit assignments.

Your grade will be determined using the following scale:

- A: 93.0–100%
- A-: 90.0–92.9%
- B+: 87.0–89.9%
- B: 83.0–86.9%
- B-: 80.0–82.9%
- C+: 77.0–79.9%
- C: 73.0–76.9%
- C-: 70.0–72.9%
- D+: 67.0–69.9%
- D: 63.0–66.9%
- D-: 60.0–62.9%
- F: <60%

If for any reason, you disagree with your grades, please talk to me.

Support services:

This is an upper-level course which requires intensive learning, both in and out of the classroom. If you find yourself struggling, please talk to me before you are completely overwhelmed. I am happy to provide as much support as needed to assist a student's success.

Disabilities Services:

During this course, the instructor will work closely with the Office of Disabilities Services to provide reasonable accommodations to students with disabilities. For questions or concerns, please contact the instructor or the UAF Office of Disabilities Services (phone: (907) 474-7043).

Course calendar (subject to modification):

Lecture	Week	Date	Day	Lecture Topics
1	1.1	20 Jan	Thur	Course introduction
2	2.1	25 Jan	Tues	Introduction to physiological ecology
3	2.2	27 Jan	Thur	Introduction to bioenergetics
4	3.1	1 Feb	Tues	Feeding, nutrition and metabolism (Paper topics)
5	3.2	3 Feb	Thur	Thermal biology
6	4.1	8 Feb	Tues	Thermal biology
7	4.2	10 Feb	Thur	Thermal biology
8	5.1	15 Feb	Tues	Osmotic exchange
9	5.2	17 Feb	Thur	Osmotic exchange (First draft 628)
10	6.1	22 Feb	Tues	Gas exchange
11	6.2	24 Feb	Thur	Gas exchange (Reviews due 628)
12	7.1	1 Mar	Tues	Guest lecture, K. O'Brien, icefish
13	7.2	3 Mar	Thur	Guest lecture, B. Taylor, blackfish (Paper I due)
14	8.1	8 Mar	Tues	Paper I presentations
15	8.2	10 Mar	Thur	Paper I presentations and Midterm due
	9.1	15 Mar	Tues	Spring Break
	9.2	17 Mar	Thur	
16	10.1	22 Mar	Tues	Locomotion and migration
17	10.2	24 Mar	Thur	Growth and habitat selection
18	11.1	29 Mar	Tues	Reproduction (Paper topics)
19	11.2	31 Mar	Thur	Excretion
20	12.1	5 April	Tues	Stress
21	12.2	7 April	Thur	Parasites
22	13.1	12 April	Tues	Contaminants
23	13.2	14 April	Thur	Contaminants (Draft 628)
24	14.1	19 April	Tues	Contaminants
25	14.2	21 April	Thur	Balancing energy budgets (Reviews 628)
26	15.1	26 April	Tues	Incorporating physiological ecology into models
27	15.2	28 April	Thur	Paper II presentations (Paper II due, final out)
28	16.1	3 May	Tues	Paper II presentations
29	16.2	5 May	Thur	Review, questions, evaluations
		11 May	Wed	Final examination due 12:00

MINOR

Curriculum Committee SFOS

Members: Trent Sutton (Chair)
Katrin Iken
Jeremy Mathis

19 August 2010

Trial Course

Course Number: FISH 493/693 and FISH 428/628

Course Title: Physiological Ecology of Fishes

Instructor: Andrew Seitz

First Time of Offering: Yes

General Recommendations:

The comments provided below pertain to both the special topics and new course proposals.

Faculty Senate Form:

Clarify and Address the following:

- Please fill out the top part of the form (department, college/school, prepared by, phone, email contact, faculty contact).
- Please add Christina Neumann's email address (cneumann@alaska.edu) to the email contact line in addition to your email address

Syllabus:

- In the section on evaluation, please distinguish how the assignments and grading will differ between undergraduate and graduate students. For example, are graduate students required to write longer papers, complete more thorough literature reviews, etc.?

