

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.

<b>TRIAL COURSE OR NEW COURSE PROPOSAL</b>
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**SUBMITTED BY:**

<b>Department</b>	FISH	<b>College/School</b>	SFOS
<b>Prepared by</b>	Peter Westley	<b>Phone</b>	206-616-5761
<b>Email Contact</b>	pwestley@alaska.edu	<b>Faculty Contact</b>	Peter Westley

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

2. **COURSE IDENTIFICATION:**      Dept      **FISH**      Course #      **194**      No. of Credits      **3**

Justify upper/lower division status & number of credits:

This is an introductory undergraduate-level course that covers foundational topics in fish ecology, evolution, and fisheries in Alaska and beyond. The course is comprised of two 1.5 hr sessions each week that will include lecture, class discussions, and other student-centered learning activities

3. **PROPOSED COURSE TITLE:**      Fish and Fisheries in a Changing World

4. **To be CROSS LISTED?**      **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?**      **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:**      Every Fall

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)      Fall 2014

**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,      Lecture, extensive active learning, weekly discussion, weekly

field trips, labs, etc)	writing, final group project
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<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
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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)	<input type="text"/>
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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)

FISH 194 3 Credits	Fish and Fisheries in a Changing World Offered Fall
<p>This course is an exploration of the patterns of fish diversity, the ecological and evolutionary processes that give rise to that diversity, and the resilience and sustainability that result. The topics that we will cover are intended to act as foundational principles that fisheries resource professionals will use throughout their careers. Together we will examine the complexity of what constitutes a ‘fishery’ and better understand the factors that have led some fisheries to collapse and others to persist. In addition to lectures, students will read, discuss, and write extensively and by doing so, can expect to gain better understanding of the “science of sustainability” with regards to 21<sup>st</sup> century fisheries in Alaska and beyond. Prerequisites: Placement in ENGL F111X. (3+0)</p>	

**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? <b>If YES, attach form.</b>	<b>YES:</b>	<input type="text"/>	<b>NO:</b>	<input checked="" type="checkbox"/>
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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 type="checkbox"/>	NO	<input checked="" type="checkbox"/>
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**12. COURSE REPEATABILITY:**

Is this course repeatable for credit?	YES	<input type="checkbox"/>	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).

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 <u>variable</u> 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)**

<b>14. PREREQUISITES</b>	Placement in ENGL F111X
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These will be required before the student is allowed to enroll in the course.

<b>15. SPECIAL RESTRICTIONS, CONDITIONS</b>	
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<b>16. PROPOSED COURSE FEES</b>	\$ <input type="text"/>
Has a memo been submitted through your dean to the Provost for fee approval?	<input type="text"/>
	Yes/No

**17. PREVIOUS HISTORY**

Has the course been offered as special topics or trial course previously?	<input checked="" type="checkbox"/>
Yes/No	

If yes, give semester, year, course #, etc.:	Revision to Fish 101
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**18. ESTIMATED IMPACT**

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

This course requires a classroom with VCON capability for 3 hrs/wk. Peter Westley is teaching this course as per his faculty workload, where it serves to meet his obligation to teach 2-3 courses each academic year. Resources needed to address the proposed do not increase from the previous offering of Fish 101 (the course which this is diverging from).

**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	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	Email response from Karen Jensen on December 12 <sup>th</sup> : We have both of these texts already in one or more formats.
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			<p>"Four fish" is available through the statewide "Listen Alaska" program, which offers both e-books and e-audio books. I'll order a print copy for our collection as well; it doesn't seem to be available through our EBL or ebrary e-book services at this time (publisher choice). The only unfortunate thing about Listen Alaska is that it limits use to one user at a time. However this text is extremely cheap, so one that students can easily afford.</p> <p>"Overfishing" is currently available in print at the BioSciences Library, under call number: SH329.O94 H55 2012. With the impending closure of that library, the book will likely be moved to the Rasmuson Library some time in 2014; you can request that it be put on Reserve for your course here: <a href="http://library.uaf.edu/placing-reserves">http://library.uaf.edu/placing-reserves</a></p> <p>Overfishing is also available through our Electronic Book Library, which makes it accessible to multiple students simultaneously on their personal computers.</p>
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**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)*

I see the potential for impacts of this proposed course on both SFOS students and students from other departments (e.g. Biology and Wildlife) that may choose to take the course. While the material being offered is largely in-line with previous offerings, I do not see new impact in the form of overlap or encroachment on classes taught in other departments, but do see an impact on the speaking, writing, and discussion skills that students should take to subsequent courses in SFOS or their home departments.

**21. POSITIVE AND NEGATIVE IMPACTS**

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


I foresee no negative impacts of the proposed changes, but several positive outcomes that together serve to motivate and justify this course revision. First, I envision that students will not only leave the class better informed about natural resource issues in Fisheries, but also be able to better articulate these issues and to convey their personal opinions and feelings about the issues in both speaking and oral formats. Second, this course will help incoming university students to 'learn how to learn' in a higher academic setting, which can be applied throughout their tenures at UAF and have positive impact regardless of the home department of the student. Third, this revision is squarely in line with a goal for SFOS students to be well-informed, creative, critical, and passionate members of the scientific and broader society.

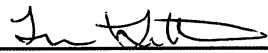
**JUSTIFICATION FOR ACTION REQUESTED**


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.

The content of this course is to provide a solid foundation for students interested in degrees and careers in Fisheries, while modifying the delivery of that information to be more in line with internal changes at SFOS and at UAF as a whole (away from 'Sage on Stage' towards student-centered learning). Thus, the primary change in this course is a move toward active student-focused involvement, extensive opportunity to build writing and oral communication skills, additional reading of popular and primary literature, and a combination of individual and small-group tasks.

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

	Date	12/17/2013
Signature, Chair, Program/Department of: Fisheries Division		

	Date	12/17/2013
Signature, Chair, College/School Curriculum Council for: SFS		

	Date	Dec 18, 2013
Signature, Dean, College/School of: JFS		

**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)**

	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).** 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**.

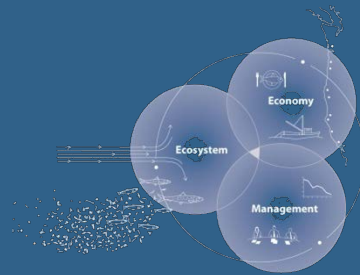
<http://www.uaf.edu/disability/> The Office of Disability Services implements the Americans with Disabilities Act (ADA), and ensures that UAF students have equal access to the campus and course materials.

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

# FISH 194

## FISH AND FISHERIES IN A CHANGING WORLD

FALL 2014



“Good farmers, who take seriously their duties as stewards of Creation and of their land's inheritors, contribute to the welfare of society in more ways than society usually acknowledges, or even knows. These farmers produce valuable goods, of course; but they also conserve soil, they conserve water, they conserve wildlife, they conserve open space, they conserve scenery.”

--Wendell Berry

### FACILITATOR

**Peter Westley, Assistant Professor**

XXX O'Neil Building

Email: [pwestley@alaska.edu](mailto:pwestley@alaska.edu)

Peter's Office Hours

Tuesday & Thursday 1:30-2:30 pm

### MEETING TIMES & LOGISTICS

O'Neil 201

Tuesday & Thursday

9:45am – 11:15am

Class website: Blackboard

Facebook group: ContemporaryFish&Fisheries

Course credits: 3

Prerequisites: Placement in ENGL F111X and a curiosity of the natural world

### CLASS DESCRIPTION

This course is an exploration of the patterns of fish diversity, the ecological and evolutionary processes that give rise to that diversity, and the resilience and sustainability that result. The topics that we will cover are intended to act as foundational principles that fisheries resource professionals will use throughout their careers. Together we will examine the complexity of what constitutes a 'fishery' and better understand the factors that have led some fisheries to collapse and others to persist. In addition to lectures, students will read, discuss, and write extensively and by doing so, can expect to gain better understanding of the “science of sustainability” with regards to 21<sup>st</sup> century fisheries in Alaska and beyond.

### COURSE OBJECTIVES

This course has the following objectives for student learning:

- To develop a thorough understanding of the complexity of natural resource issues;
- To critically read and synthesize diverse opinions on issues;
- To foster each student's own informed views of complex natural resource issues;
- To clearly express those views in writing and in discussion with peers.

### COURSE EXPECTATIONS

Together we can be most effective and are most likely to achieve the courses' objectives if we are clear about what we can expect from one another. As a result, the following expectations will guide our work together.

## MY EXPECTATIONS OF STUDENTS

- Come to class on time, engage in the course content for the full class time, and refrain from any activities that distract us from doing our best jobs of teaching or detract from a positive learning environment for all involved;
- Come to class prepared to participate, having completed assigned reading, writing, and research in advance;
- Participate in class activities in ways that support course goals and demonstrate respect and civility toward all other students and teachers;
- Take an active role in obtaining information and resources for completion of tasks and assignments in the course and, ultimately, in promoting your own learning;
- Monitor your own learning and contribute feedback to support members of the teaching/learning team in achieving course goals.

## STUDENTS' EXPECTATIONS OF THE FACILITATOR

- Begin and end class on time;
- Come to class prepared to do the best job of supporting your learning;
- Provide information and resources to support your learning in the course;
- Make the best possible use of class time to support your learning in the course;
- Answer questions and emails promptly and sufficiently;
- Be available to provide additional assistance when needed;
- Provide clear and consistent criteria that can be used fairly in evaluating your learning;
- Welcome input on ways to support you in your achievement of course goals.

## **LEARNING OUTCOMES**

By the completion of the course, you should be able to:

- Understand the primary role of natural selection in driving adaptation in fish;
- Apply concepts of population growth and density-dependence to explain patterns in abundance;
- Clearly articulate the logic behind how Alaska salmon fisheries are managed (e.g. what's 'fixed escapement?');
- Articulate some of the frequently used definitions of 'sustainability' and 'resilience', and clearly explain what these terms mean to you;
- Understand what is meant by 'global climate change' and explain some of the challenges it poses for fisheries management. Explain how climate is different than weather;
- See connections between different topics and ideas and apply these connections to new scenarios;
- Have increased confidence speaking in front of peers and articulating your thoughts in writing;

## **ASSUMPTIONS ABOUT LEARNING**

These assumptions will guide our path in the course:

- Students learn in unique ways (for example, when asked what you did yesterday, do you see pictures or words?);



- Writing, reading, and thinking are inextricably linked;
- Students learn best from either themselves or from peers;
- The best *discussions* come from good *listening*;
- Transformative learning occurs best when preconceived notions are challenged;

### **REQUIRED READINGS**

These books are available at the UAF Bookstore, online at amazon.com, and several copies (including E-versions) are available at the Rasmusson Library. It is your responsibility to obtain these books, or have a plan for accessing the readings, by the first week of class!

*Four Fish* by Paul Greenberg

*Overfishing* by Hilborn & Hilborn

### **ADDITIONAL READINGS**

Posted on Blackboard. It is *essential* that you are comfortable in this environment. Through the Blackboard system, I will provide details on assignments, important changes to dates on the syllabus, class outlines and notes, class recordings, and supplemental reading material and content.

### **CORE ACTIVITIES & IMPORTANT DATES**

#### *PARTICIPATION & FISH TANK THURSDAYS (FTT)*

On most Thursdays, HALF of our class time will be devoted to FTT in which we will: 1) revisit concepts and ideas that were not as clear as they should have been from previous classes, and 2) have a discussion based on the assigned readings for the week.

Your participation in FTT has three parts and your performance counts toward one third of your course grade.

First, each student will contribute one question or comment on something that they were confused about based on lecture (See GRADING POLICY & EXPECTATIONS FOR EXAMPLES)

These **questions/comments are due on Blackboard by 11:59 pm on the Wednesday before FTT.** Comments will be put into a fish tank (yes, a real fish tank), selected at random during FTT, and discussed.

Second, students are to prepare a ½ page (2 paragraphs) reflection on the readings assigned for the week and we will use these reflections as points for discussion. **Reflections are also due at 11:59 pm on the Wednesday before FTT via Blackboard.** Participation in FTT through comments/questions/reflection will count heavily toward your participation grade.

Third, students are to directly contribute to discussions with substantive and well thought out points. Very specifically, students are expected to speak at each FTT; however, full points for this criteria of the participation score can be achieved through speaking during at least 6 FTT discussions. Trivial statements will receive zero or partial credit. See the section on *Grading Philosophy & Expectations* for more clarification.

## EXAMS & QUIZZES

There will be an in-class mid-term exam (**October 21**) and a cumulative final-exam (i.e. material covers the entire course, **December 15**), which will consist of definitions, short-answer, and essay-type questions. Note: things discussed during FTT will be prime targets for exam questions! To prepare for the exam and to practice the type of questions that will be asked, we will have two short (15 min) in class quizzes.

The final will have twice the weight as the mid-term, and combined the exams will count towards one third of your grade in the course.

## EXPERT PANELS

Students will be assigned to expert panels to explore ‘hot’ current topics (e.g. the use of Marine Protected Areas as a fisheries management tool). Each student will take a specific role (e.g. the expert economist, the hydrologist, the ecologist) and research the assigned topic. The group, as a whole, is responsible for providing the class an ‘executive’ summary of their key findings **prior** to giving an in-class presentation of the issue. Based on the briefing and presentation, the class will then ask questions of the panel. How well do you know the issue? Be prepared for tough questions! The remaining third of your grade will be based on your participation and performance on the panel.

## EVALUATION/GRADING:

Grade scale: 92-100 A; 90-92 A-; 88-90 B+; 80-88 B; 78-80 B-; 65-78 C; 50-65 D; below 50 F. If the class average falls below 75%, this scale will be adjusted accordingly. Point and percentage values for each of the three evaluation components (shown below in **BOLD**) are as follows:

TOPIC	POINTS POSSIBLE	% TOTAL OF 900 POINTS
<b>PARTICIPATION</b>	<b>300</b>	<b>33.3</b>
Questions/ comments for FTT	50	
Two paragraph reflections	200	
Participation in discussions	50	
<b>EXAMS &amp; QUIZZES</b>	<b>300</b>	<b>33.3</b>
Mid-Term	85	
Final Exam	170	
Two quizzes	45	
<b>EXPERT PANELS</b>	<b>300</b>	<b>33.3</b>
Executive summary	100	
Personal presentation	100	
Group presentation/response to questions	100	

**COURSE OUTLINE (SUBJECT TO CHANGE)**

<b><u>DATE</u></b>	<b><u>TOPIC</u></b>	<b><u>READINGS AND ASSIGNMENTS</u></b>
September 4	WELCOME TO FISH 101 CLASS OBJECTIVE (CO): To set the stage for the rest of the course, introductions, clarifying expectations. To provide evidence of the benefits of student-centered learning	Obtain books by Greenberg and Hilborn & Hilborn
September 9	PATTERNS OF FISH HABITAT (CO): To expose students to the diversity and complexity of fish habitat. And...what defines fish habitat anyway?	Greenberg: Introduction (pp. 1-14)
September 11	PATTERNS OF FISH DIVERSITY (CO): To expose students to the diversity of fishes that uses a template of habitat diversity. Develop the ground rules for FTT discussions <b>FISH TANK THURSDAY (FTT)</b>	Greenberg: Salmon (pp. 15-38)
September 23	NATURAL SELECTION & ADAPTATION IN FISHES PART I (CO): To understand how natural selection leads to adaptation in fishes	Greenberg: Salmon (pp. 38-79)
September 25	NATURAL SELECTION & ADAPTATION IN FISHES PART II (CO): To understand how natural selection and adaptation explain <i>why</i> we see certain fish in certain habitats <b>FTT</b>	Greenberg: Sea Bass (pp. 82-108)
September 30	FISH ECOLOGY PART I (CO): To introduce and understand exponential and logistic population growth	Greenberg: Sea Bass (pp. 108-125)
October 2	FISH ECOLOGY PART II (CO): To introduce and understand the concept of food webs and interactions among species <b>FTT</b>	Greenberg: Cod (pp. 127-168) <b>QUIZ 1</b>
October 7	FISHERIES MANAGEMENT PART I (CO): to clarify, what is a fishery? To articulate what is a <i>sustainable</i> fishery? To understand the concept of density-dependence, surplus production, and maximum sustainable yield	Hilborn & Hilborn (pp. 3-10) Greenberg: Cod (pp. 168-188)
October 9	FISHERIES MANAGEMENT PART II (CO): To review the status of the world's fisheries and to articulate prominent opposing views of single-species management <b>FTT</b>	Worm & Myers 2003 Hilborn 2006
October 14	CASE STUDY: NORTHERN COD (CO): To provide an overview of the Newfoundland cod fishery the cause of its collapse and potential explanations for its failure to recover. Understand the 'Tragedy of the Commons'	Greenberg: Tuna (pp. 189-220)
October 16	CASE STUDY: BRISTOL BAY SOCKEYE SALMON (CO): To introduce the concept of biocomplexity,	Greenberg: Tuna (pp. 189-241)

	portfolio dynamics, and to contrast Bristol Bay sockeye with Newfoundland cod <b>FTT</b>	
October 21	<b>MIDTERM EXAM</b> (CO): To gauge your understanding and ability to synthesize material taught to this point in the semester	<b>MIDTERM EXAM</b>
October 23	HABITAT ALTERATION AND LOSS PART I (CO): To review the primary sources of habitat change in oceans and freshwaters <b>FTT</b>	Hilborn & Hilborn (pp. 47-67)
October 28	HABITAT ALTERATION AND LOSS PART II (CO): To examine the consequences of habitat change for communities, species, and populations	Hilborn & Hilborn (pp. 69-90)
October 30	CASE STUDY: ELWHA DAM REMOVAL (CO): To learn about the largest ecosystem restoration project in the US <b>FTT</b>	Hilborn & Hilborn (pp. 91-120)
November 4	INVASIVE SPECIES (CO): To understand the difference between native and non-native, invasive and non-invasive.	Hilborn & Hilborn (pp. 91-129)
November 6	CASE STUDY: RAINBOW TROUT- AN ENTIRELY SYNTHETIC FISH? (CO): To learn about an invasive fish we all love <b>FTT</b>	Halverson (pp 76-113) <b>QUIZ 2</b>
November 11	THE OF RISE OF AQUACULTURE (CO): To learn about the global trend and status of shellfish and finfish aquaculture and to explore some of the costs and benefits	Bostock et al. 2010
November 13	CASE STUDY: GENETICALLY-MODIFIED SALMON (CO): To learn about GM salmon, how they are produced, and potential environmental risks <b>FTT</b>	Sundstrom et al. 2004
November 18	GLOBAL CLIMATE CHANGE (CO): To understand the difference between weather and climate, climate change vs. global warming.	Hansen et al. 2012
November 20	CASE STUDY: FISH IN A WARMING WORLD (CO): To explore the potential biological responses to warming oceans and freshwaters <b>FTT</b>	Cheung et al. 2013
November 25	HUMAN POPULATION GROWTH & FOOD SECURITY (CO): To explore the true costs of our decisions of what we eat, how we use water and power. To think about what challenges we face on Earth with 6 billion other people <b>FTT</b>	Ehrlich and Ehrlich 2013
November 27	<b><u>NO CLASS, THANKSGIVING HOLIDAY</u></b>	

December 2	EXPERT PANEL PRESENTATIONS & DISCUSSION	Briefings and Presentations Due
December 4	EXPERT PANEL PRESENTATIONS & DISCUSSION	Briefings and Presentations Due
December 11	<b>LAST DAY OF CLASS; FINAL EXPERT PANEL PRESENTATIONS &amp; DISCUSSION</b>	Briefings and Presentations Due
December 15	<b>CUMULATIVE FINAL EXAM (CO): To gauge your understanding and ability to synthesize material taught throughout the semester</b>	<b>FINAL EXAM</b>

## GRADING POLICY & EXPECTATIONS

In this section I have provided examples of *writing reflections*, *questions for FTT*, and *discussion comments* that would earn full credit, in contrast to examples that would earn little or no credit. More extensive details concerning expectations for the *expert panels* will be discussed in class.

### WRITING REFLECTION EXAMPLE

SNIPPET OF LANGUAGE FOR FULL CREDIT: In this week's reading of *Four Fish*, the author describes the key attributes of species that make them easily domesticated for human purposes. Among these traits are the ability to live in high densities in fish tanks, have large hearty eggs that are tough to the environment, and the tendency to accept handling by people. I admit I had never thought about why certain species were used by humans while others remain entirely wild. Could these sorts of traits explain why chickens and cows are domesticated, but zebras and hippos are not?

SNIPPET OF LANGUAGE FOR PARTIAL/ZERO CREDIT: I like this week's reading, it was really clear and made a lot of sense. But I didn't understand what 'domesticated' meant.

### FTT QUESTION EXAMPLE

SNIPPET OF LANGUAGE FOR FULL CREDIT: In the lecture where we talked about natural selection, I understood that traits that give an individual a better ability to survive or reproduce should increase in frequency in future generations (assuming there is a genetic link for the trait), but then you gave an example of the brightly colored guppy who is preyed upon at higher rates than the duller colored fish. How is that an exception to natural selection? What am I missing?

SNIPPET OF LANGUAGE FOR PARTIAL/ZERO CREDIT: What date is the mid-term again?

### DISCUSSION COMMENT EXAMPLE

COMMENT FOR FULL CREDIT: "That's a really good point Jack, but it seems to me that if we are serious about reducing the problem of overfishing that the primary goal has got to be to stop killing so many fish!"

COMMENT FOR ZERO CREDIT: "One time at band camp I laughed so hard milk came out my nose!"

## POLICIES

### LATE WORK & ATTENDANCE

As a reminder, we are all in this course *together* and so I expect that students will take a proactive attitude toward the work in Fish 194. I expect you to turn in assignments on-time, and if a rare legitimate reason gets in the way that you will let me know before the assignment is due! Also, I expect that you will attend all class sessions. As stated above, your participation in discussions counts for a large part of your grade. But more importantly, if you are not in class you cannot contribute and everyone has something unique to contribute! Simply put, not coming to class and not participating detrimentally impacts the learning of others. In the event that an emergency will keep you from attending class or completing an assignment on time, I expect an email or in-person conversation IN ADVANCE to discuss. Emails should be respectfully written, with a clear subject heading and concise message. If I do not hear from you and your work is not in on time the grade will be a **Zero**.

#### ACADEMIC DISHONESTY

I, and the University of Alaska Fairbanks as a whole, consider academic dishonesty and plagiarism as a violation of trust and an offense that has major ramifications (e.g. potential expulsion from UAF). This course is about developing your personal thinking with regards to issues of natural resource use and sustainability and I expect your work to be your own. This is different than saying you must work in isolation! I want your thoughts to be shaped through conversation with your peers, through what you read, and what you watch. But the work you turn in needs to be in your own voice, express personal conclusions, and where appropriate acknowledge the contribution of others (through citation). Simply put, I will not tolerate dishonesty (in any form) in Fish 194.

#### **SUPPORT SERVICES AND DISABILITIES**

This class involves writing assignments. You may find it useful to visit the UAF writing center. For more information, go to [www.uaf.edu/english/writingcenter/about.htm](http://www.uaf.edu/english/writingcenter/about.htm). Make sure that your tutor understands the premise and audience for your writing assignments. For students new to Fairbanks and college life, consider using the services provided by Rural Student Services <http://www.uaf.edu/ruralss/>.

If you need special accommodations because of a disability, please contact me as soon as possible and we will work together with the Office of Disabilities Services (203 WHIT, 474-7043) to make the necessary arrangements in order to maximize your learning. To the extent possible I will work to provide reasonable accommodation to students with disabilities.