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**FW 524 Introduction to Fisheries Assessment**  
3 credits, on-line

| **Course Developer:** | Wade D. Smith  
E-mail: wade.smith@oregonstate.edu  
Oregon State University, Hatfield Marine Science Center  
2030 SE Marine Science Dr.  
Newport, OR 97365 |
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| **Course Supervisor:** | Dr. Selina S. Heppell  
E-mail: selina.heppell@oregonstate.edu  
Oregon State University, Dept. of Fisheries & Wildlife  
104 Nash Hall  
Corvallis, OR 97330 |

**Course Description:** Marine fisheries management strategies rely on models that predict a population’s responses to exploitation. Introduction to Fisheries Assessment is a graduate-level, on-line course developed for managers, biologists, and others who need to understand what stock assessments are and how they work by introducing the approaches that are commonly used to assess and evaluate the dynamics and status of a fish population. This course provides an overview of the terminology, data requirements, underlying rationale, assumptions, limitations, and uncertainty associated with stock assessments. Our objective is not to provide you with training in the development of stock assessment models. Opportunities to do so are available through other courses on campus. Instead, this course will focus on the interpretation and evaluation of assessments rather than the derivation and mathematical construction of assessment models. We will review key principles of population biology that serve as a basis for stock assessments and explore a variety of models that are critical to the development of stock assessments. We will also examine approaches, data needs, and challenges associated with incorporating ecosystem-based considerations into stock assessments.

**Course Description:** Topics covered in this course include: purpose and objectives of assessments in fisheries management, population structure, estimation of model parameters from field data, density-dependence and stock-recruit relationships, biological reference points and indicators of population status, overview of biomass-based and age-based assessment methods, effects of uncertainty and environmental variability, and ecosystem considerations in fisheries management. A list of topics by week and
associated readings are provided on the last pages of this document. This course combines approximately 90 hours of instruction, online activities, and assignments for 3 credits.

Learning Outcomes: By the end of this course, all students will have demonstrated their ability to:

■ describe the data requirements and assumptions of typical stock assessment methods  (knowledge)
■ discuss the influence of uncertainty and abiotic processes on biological reference points  (comprehension)
■ compare, contrast, and summarize details from published stock assessments (synthesis)
■ identify alternative assessment approaches (application)
■ evaluate the strengths and weaknesses of a stock assessment (analysis)
■ demonstrate ways in which ecosystem considerations could be incorporated into an assessment  (evaluation)
■ apply skills in verbal and written communication through PowerPoint presentation and group discussions (application)

Course Organization: The course will consist of 1-2 PowerPoint lectures each week, weekly discussions of assigned reading, and four homework exercises. Discussions based on assigned reading and lectures represent the core of this course. Students will regularly interact with each other and the instructor via Blackboard. Within the course Blackboard site, students will access all required materials, homework exercises, discuss course material, and communicate with other students and the instructor. A discussion board on Blackboard will serve as a question-answer forum. To preview how an online course works, visit the Ecampus Course Demo. For technical assistance, Blackboard and otherwise, see http://ecampus.oregonstate.edu/services/technical-help.htm.

Course Credits: 3

Prerequisites: College algebra and introductory statistics are recommended, as well as basic biology and ecology. For those unfamiliar with terminology, data collection and analysis methods in fisheries, Fishery Biology (e.g. FW 454/554) is a good precursor to this course.

Reading/Discussion: Portions of book chapters or published research articles will be assigned each week as required reading (see course schedule for specific details). On-line discussion based on assigned reading serves as a foundation for this course. Participation in each week’s discussion forum is required. You will need to check and contribute to discussion boards frequently each week. A majority of your grade will be derived from your participation and contributions in these discussions (see Expectations for Student Conduct for more information). If you will be unable to participate over the course of a week, please notify and make arrangements with the instructor in advance. In order to develop these discussion forums, you will be expected to have completed
each week’s assigned reading by Wednesday of each week. Each week, a question to prompt conversation and questions on the assigned reading will be posted to Blackboard under the “Discussion Board” menu. This initial post is not intended to serve as the sole emphasis of our weekly conversation. Your additional questions, musings, criticisms, or accolades are likely to take our discussion in many interesting directions. Although the instructor will initiate discussions most weeks, each student will be responsible for prompting discussion one time during the quarter. Dates and assignments for these student-initiated discussion weeks will be presented in detail on Blackboard as the quarter progresses.

The objectives of our reading/discussion group are to: critically evaluate the reading, identify links between the paper and other material introduced in the course, and gain a better understanding of the topic by carefully considering the opinions and comments of your classmates. If you have questions about the reading, please ask. Keep checking in on the Discussion Board over the course of each week. Discussions typically develop and take new directions as the week progresses.

Your level of participation in discussions will determine about half of your grade, so it is important to keep up with the readings. Discussions will be graded as follows:

Total Points Possible (out of 20):
- 20: Question and insightful response posted, your questions/comment starts a thread of discussion, and you offer useful comments on another student’s posting. Introducing additional information is welcomed, but not necessary.
- 19: Insightful response posted, and your comment starts a thread of discussion. Replies to other discussion threads.
- 18: Substantial response/questions posted. Replies to other discussion threads.
- 17: Substantial response/questions posted. Replies to other discussion threads.
- 16: Brief response or question related to assigned reading or weekly topic posted. Brief, general comments on another posting.
- 15: Response or question to assigned reading posted (single posting).
- 10: Maximum points for a late posting – contribute in a timely fashion so that others may consider and respond to your post. If your first comment on a weekly reading is posted on a Monday, it will be considered late (initial questions for the week’s reading will be posted each Tuesday).
- 0: No comment posted on a weekly discussion of assigned reading. Posting to a discussion more than 7 days after it was initiated will be considered as “no comment” rather than “late” since other members of the class will not benefit from the contribution.

Note: “I really liked this paper” or “I agree with John’s comments” will not be considered insightful or substantial responses. You’re welcome to make such statements, but substantial comments will reflect a clear familiarity with the assigned reading and/or material
presented in lectures. Questions posted to help clarify aspects of the assigned reading are encouraged and helpful. Insightful questions or comments often link the assigned reading to lecture, reading from other weeks, or personal experience.

**Homework Assignments:** Four assignments will be due over the course of the quarter. Each assignment will be available on our Blackboard site at least one week in advance. Two assignments will be in the form of Excel spreadsheet exercises and two will be based on your review and interpretation of stock assessments.

**Excel Spreadsheet Exercises.** The objective of these assignments (assignments 2 and 3) is to give you hands-on experience with the response and output of several common fishery models and concepts discussed in the lectures. Each assignment is worth 30 points and should take 2-4 hours to complete, depending on your previous experience with Excel. These exercises will always be due by midnight on the due date (see course schedule for specific details), with 2 points deducted per day late. If you have trouble with a homework assignment, don’t frustrate yourself – ask questions using the Discussion Board on Blackboard or email the instructor.

Some ToolPaks needed for the assignments may not be running on your computer because they are “optional” during program installation. In particular, you will need the Data Analysis ToolPak. This can be found under Add-Ins and will then appear in “Data” menu (though location may differ depending upon which version of Excel you are using). If you are a Mac user, you will need to do the assignments while running in PC format or on a PC. If you are not familiar with Excel, please examine the assignment early so that you can identify problems and ask questions well before the due date.

**Stock Assessment Reviews.** To become more familiar with the terminology, outputs, and procedures associated with formal fisheries assessments, we will read through selected stock assessments. Reading through this material can be time consuming. Begin reading through the assessments early in the quarter to ensure that you have time address any questions that come up.

For the first assignment (Assignment 1), you will compare and contrast two stock assessments, providing background on the fisheries, status of the stock, parameters, models and assumptions used. Specific details to address in your review will be given at the time the assignment is made. The assignment is worth 60 points. Please use 1.5” line spacing and 12 point font.

For the second review (Assignment 4), you will prepare a PowerPoint presentation that summarizes a fishery, status of a stock, and the method used for assessment. Please detail any ecosystem considerations that were incorporated into the assessment and, most importantly, outline your own recommendations for incorporating ecosystem considerations into future assessments. This assignment will be presented among small groups during the last week of class and is worth 50 points. Specific details to address in your review will be given at the time the assignment is made.
**Lectures & Lecture Notes:** Lecture files will be posted on Blackboard under the Course Documents menu Monday of each week. The majority of lectures will be recorded and accessed through Blackboard and Adobe Connect. If you have difficulty connecting with these lectures please promptly notify the instructor so that you can be provided with a PowerPoint (or Adobe pdf version) and a set of notes to help explain the slides. Though these notes will help, they are not intended to be comprehensive and should not deter you from taking additional notes on your own. We strongly recommend that you keep up with the weekly lectures, but don’t skip ahead – the topics build on each other and are cumulative.

**Course Materials:** The course was developed for delivery through Microsoft PowerPoint and Excel files, supported by online information, and activities. Lectures, assignments, and reading will be provided through Blackboard, the online teaching portal for OSU. PowerPoint files will also be available as Adobe PDF files for those that do not have access to PowerPoint. We may also access OSU’s Dept. of Fisheries & Wildlife Adobe Connect link for announcements or lectures. Stock Assessment for Fisheries Managers presents material from a wide range of sources. As such, a single text is not required. Assigned reading will be made available as .pdf files through Blackboard. However, Hilborn and Walters (1992), Haddon (2001), and Jennings et al. (2001) are recommended as valuable references. Supplementary references and recommended reading, including selected pdfs, are provided under “Course Documents”. Excel spreadsheet exercises used in this course were adapted and modified from Haddon (2001).


You will need access to the Blackboard website and the use of Microsoft PowerPoint and Excel spreadsheet software. As noted in the homework section, you will also need to install the Data Analysis ToolPak to complete the Excel spreadsheet modeling exercises. A link provided for you should directly connect you to recorded lecture material. However, if your schedules allow, we may arrange for a live, interactive meeting through Adobe Connect. If you have never attended an Adobe Connect meeting before, you can test your connection or get a quick overview at:

http://www.adobe.com/go/connectpro_overview
**Grading:** Your course grade will be based on participation in group discussions and homework assignments. Grades will be assigned as follows:

- 93%+ = A  
- 83-86.9% = B  
- 73-76.9% = C  
- 90-92.9% = A-  
- 80-82.9% = B-  
- 70-72.9% = C-  
- 87-89.9% = B+  
- 77-79.9% = C+  
- 67-69.9% = D+  
- 63-66.9% = D  
- 60-62.9% = D-  
- < 60% = F

Participation in discussion based on weekly reading assignments is an essential component of this course and will account for 55% of your overall grade. Performance on Excel spreadsheet exercises (16%) and writing assignments based on reviews of stock assessments (29%) will comprise the remainder of your course grade. See the separate sections on Reading/Discussion and Homework Assignments for additional details.

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**Statement Regarding Students with Disabilities:** Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS) with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 541-737-4098.

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**Expectations for Student Conduct:**

[http://oregonstate.edu/studentconduct](http://oregonstate.edu/studentconduct)

*Conduct in the online discussion forum.* Participation in the discussion forums is required. Although a discussion related to the week’s assigned reading will be the primary theme, this is an open forum. Comments and questions related to the lecture or current news events relating to population dynamics and stock assessment are welcome. Please feel free to post a comment that adds relevant information, fact, or opinion. All comments are to be treated with fairness and equality. Debate and disagreement about individual comments is acceptable, but must be carried out in a civil and professional manner. Absolutely NO personal attacks! Students come to this course with a diversity of experience and opinions, and I hope that you not only learn factual information from each others’ postings but that you also thoughtfully consider perspectives that you may not have considered in the past.
Please do **not** use ALL CAPITALS or **BOLD** when speaking to someone electronically! This often comes across as overly aggressive or rude. Be cautious with irony, humor, and satire. Do not jump to conclusions about others' communications. Remember: You cannot see the people you are communicating with and they cannot see you. Because you cannot rely on visual cues, you need to exercise an additional measure of care when you communicate online.

_Academic honesty in the performance of coursework._ From the OSU Office of Student Conduct ([http://oregonstate.edu/admin/stucon/achon.htm](http://oregonstate.edu/admin/stucon/achon.htm)):

Academic dishonesty is defined as an intentional act of deception in which a student seeks to claim credit for the work or effort of another person or uses unauthorized materials or fabricated information in any academic work. Academic dishonesty includes:

- **CHEATING** - use or attempted use of unauthorized materials, information or study aids or an act of deceit by which a student attempts to misrepresent mastery of academic effort or information. This includes unauthorized copying or collaboration on a test or assignment or using prohibited materials and texts.

- **FABRICATION** - falsification or invention of any information (including falsifying research, inventing or exaggerating data and listing incorrect or fictitious references.

- **ASSISTING** - helping another commit an act of academic dishonesty. This includes paying or bribing someone to acquire a test or assignment, changing someone's grades or academic records, or taking a test/doing an assignment for someone else (or allowing someone to do these things for you). It is a violation of Oregon state law to create and offer to sell part or all of an education assignment to another person (ORS 165.114).

- **TAMPERING** - altering or interfering with evaluation instruments and documents.

- **PLAGIARISM** - representing the word or ideas of another person as one's own OR presenting someone else's words, ideas, artistry or data as one's own. This includes copying another person's work (including unpublished material) without appropriate referencing, presenting someone else's opinions and theories as one's own, or working jointly on a project, then submitting it as one's own.

Engaging in any of the above described activities will not be tolerated and are grounds for dismissal from and a failing grade in this class. **YOU** are responsible for knowing the rules, regulations, and ethics associated with these policies; ignorance is not an acceptable excuse. For more information on plagiarism, please visit: [http://osulibrary.oregonstate.edu/instruction/classign/Plagiarism.html](http://osulibrary.oregonstate.edu/instruction/classign/Plagiarism.html). For more information on academic honesty, start at the OSU Office of Student Conduct website above.
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<td>11</td>
<td>Ecosystem Considerations: Environmental Influences</td>
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<td>NO LECTURE OR READING ASSIGNMENT - TIME ALLOCATED TO WORK ON FINAL PROJECT (ASSG. 4)</td>
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