

Submit originals (including syllabus) and one copy and electronic copy to the **Faculty Senate Office**
 See <http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures/> for a complete description of the rules governing curriculum & course changes.

CHANGE COURSE (MAJOR) and DROP COURSE PROPOSAL
 Attach a syllabus, except if dropping a course.

SUBMITTED BY:

| | | | |
|----------------------|----------------------------|------------------------|---------------------|
| Department | Fisheries Division | College/School | SFOS |
| Prepared by | Trent Sutton | Phone | 474-7285 |
| Email Contact | tmsutton@alaska.edu | Faculty Contact | Trent Sutton |

1. COURSE IDENTIFICATION: As the course now exists.

| | | | | | |
|-------------|-------------|-----------------|------------|-----------------------|----------|
| Dept | FISH | Course # | 487 | No. of Credits | 3 |
|-------------|-------------|-----------------|------------|-----------------------|----------|

| | |
|---------------------|-----------------------------|
| COURSE TITLE | Fisheries Management |
|---------------------|-----------------------------|

2. ACTION DESIRED: Check the changes to be made to the existing course.

| | | | | |
|----------------------|-------------------------------------|--|--------------------|--------------------------|
| Change Course | <input checked="" type="checkbox"/> | If Change, indicate below what is changing. | Drop Course | <input type="checkbox"/> |
|----------------------|-------------------------------------|--|--------------------|--------------------------|

| | | | | | |
|-----------------------|-------------------------------------|--------------|--|------------------------------|--|
| NUMBER | | TITLE | | DESCRIPTION | |
| PREREQUISITES* | <input checked="" type="checkbox"/> | | | FREQUENCY OF OFFERING | |

*Prerequisites will be required before a student is allowed to enroll in the course.
 Reference the registration implications below due to Banner coding of these terms:
Prerequisite: Course completed and grade of "C" (2.0) or higher prior to registering for the course that requires it.
Concurrent: Course may be taken simultaneously (and allows for a course to have been previously completed).
Co-requisite: Courses MUST be taken simultaneously and does NOT allow for fact that a course was previously completed!

| | | | |
|--|--------------------------|------------------------------|--------------------------|
| CREDITS (including credit distribution) | | COURSE CLASSIFICATION | |
| ADD CROSS-LISTING See #8 if intent is to stop an existing cross-listing. | <input type="checkbox"/> | Dept. | <input type="checkbox"/> |
| STACKED (400/600) Include syllabi. | <input type="checkbox"/> | Dept. | <input type="checkbox"/> |
| | | Course # | <input type="checkbox"/> |

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.

| | |
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| OTHER (please specify) | |
|-------------------------------|--|

3. 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 and the appropriate Faculty Senate curriculum committee. Furthermore, any core course compressed to less than six weeks must be approved by the core review committee.

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|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| COURSE FORMAT: (check <u>all</u> that apply) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| OTHER FORMAT (specify all that apply) | | | | | | | |
| Mode of delivery (specify lecture, field trips, labs, etc) | Lecture only | | | | | | |

4. **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 X NO

IF YES*, check which core requirements it could be used to fulfill:

O = Oral Intensive, *Format 6 also submitted W = Writing Intensive, *Format 7 submitted Natural Science, *Format 8 submitted

4.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

5. **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

6. **COMPLETE CATALOG DESCRIPTION** including dept., number, title, credits, credit distribution, cross-listings and/or stacking, clearly showing the changes you want made. (Underline new wording ~~strike through old wording~~ and use complete catalog format including dept., number, title, credits and cross-listed and stacked.)

Example of a complete description:

PS F450 Comparative ~~Aberiginal~~ Indigenous Rights and Policies (s)
3 Credits
Offered As Demand Warrants
~~Case study~~ Comparative approach in ~~assessing Aberiginal~~ to analyzing Indigenous rights and policies in different nationstate systems. ~~Seven Aberiginal situations~~ Multiple countries and specific policy development examined for factors promoting or limiting self-determination. Prerequisites: Upper division standing or permission of instructor. (Cross-listed with ANS F450.) (3+0)

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. Application of quantitative methodologies for the assessment and manipulation of aquatic habitats, sport and commercial fish populations, and stock assessment are considered, as is the setting of appropriate goals and objectives for effective, science-based management. 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)

7. **COMPLETE CATALOG DESCRIPTION AS IT SHOULD APPEAR AFTER ALL CHANGES ARE MADE:**

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. Application of quantitative methodologies for the assessment and manipulation of aquatic habitats, sport and commercial fish populations, and stock assessment are considered, as is the setting of appropriate goals and objectives for effective, science-based management. Prerequisites: COMM F131X or COMM F141X; ~~ENGL F111X; ENGL F211X or ENGL F213X;~~ ENGL F414; FISH F425; STAT 200X; or permission of instructor. ~~Cross-listed with NRM F487.~~ (3+0)

8. **IS THIS COURSE CURRENTLY CROSS-LISTED?**

YES/NO If Yes, DEPT NRM NUMBER 487
DROPPING A CROSS-LISTING:
YES DEPT NRM NUMBER 487

Changing or dropping requires written notification of each department and dean involved. Attach a copy of written notification.

9. **GRADING SYSTEM:** Specify only one.

LETTER: PASS/FAIL:

10. **ESTIMATED IMPACT**

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

This change in prerequisites will have no impact on budget, facilities/space, or faculty as the changes reflect current requirements in the undergraduate fisheries program. This course is covered by the instructor (Trent Sutton) as part of his negotiated workload. SFOS currently has the space and facilities to allow for the delivery of this course.

11. **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"/> | I did meet with Anne Christie on 02 August 2012 to discuss a future textbook purchase for this fall that can be used for this course when it is next offered in spring 2013. Anne said she will make that purchase; otherwise, the library still has all of the necessary resources for this course. |
|----|--------------------------|-----|-------------------------------------|--|

12. **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)

No other programs, except NRM, will be affected by these proposed changes.

13. **POSITIVE AND NEGATIVE IMPACTS**

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

There are no negative impacts to SFOS regarding to the proposed course change. The positive impact is that students will be better prepared to succeed in FISH 487 by having taken STAT 401 and/or 402. A negative to NRM would be dropping the cross-listing of this course with that program. However, we have only had 2-3 students sign up for NRM 487 over the past five years, so the impact of losing those student credit hours and tuition would be minimal.

JUSTIFICATION FOR ACTION REQUESTED

The purpose of the department and campuswide 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. If you ask for a change in # of credits, explain why; are you increasing the amount of material covered in the class? If you drop a prerequisite, is it because the material is covered elsewhere? If course is changing to stacked (400/600), explain higher level of effort and performance required on part of students earning graduate credit. Use as much space as needed to fully justify the proposed change and explain what has been done to ensure that the quality of the course is not compromised as a result.

I have requested dropping ENGL F111X and ENGL F211X or ENGL F213X as explicit requirements since they are required for the listed prerequisite ENGL F414. That change is just a cleanup of the listed prerequisites. I have dropped FISH F425 Fish Ecology as a requirement since that course is no longer a requirement in our program (it is one of three courses along with FISH F426 and FISH F428 that are used to fulfill the ecology requirement in the fisheries curriculum). I have added STAT 200X as a prerequisite to this course because there is a section of the course on stock assessment which requires the use of basic statistical procedures that are covered in those courses. Both STAT 200 currently fulfills a statistics requirement in the fisheries program, so all I am doing is making sure that students have taken that course before taking FISH F487 Fisheries Management.

Regarding dropping the cross-listing of FISH 487 with NRM (NRM 487), the primary rationale is that the NRM requirements currently listed for this course are different than the Fisheries requirements, which creates problems in administering the FISH 487. This is particularly a challenge since we have developed FISH 487 to be the capstone course in our BS in Fisheries degree program and may also be evolving it to

also serve that purpose for the BA in Fisheries program. A secondary justification for dropping the cross-listing is that few students sign up for the NRM offering. Over the past five years, only one NRM student has signed up for the course. There have been 1-2 other students that have signed up for the NRM listing, but those have been Fisheries undergraduates that were confused as to which offering (FISH or NRM) to take. By offering this course only as a FISH option, it will be less confusing for students.

APPROVALS: (Additional signature blocks may be added as necessary.)

| | | |
|---|--------------------|----------|
| | Date | 09/16/12 |
| Signature, Chair, Program/Department of: | Fisheries Division | |

| | | |
|---|------|----------|
| | Date | 09/06/12 |
| Signature, Chair, College/School Curriculum Council for: | SFOS | |

| | | |
|--|------|--------|
| | Date | 9/6/12 |
| Signature, Dean, College/School of: | FOI | |

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

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

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

| | | |
|--|--|--------------------------------|
| | Date | |
| Signature, Chair Faculty Senate Review Committee: | <input type="checkbox"/> Curriculum Review | <input type="checkbox"/> GAAC |
| | <input type="checkbox"/> Core Review | <input type="checkbox"/> SADAC |

ADDITIONAL SIGNATURES: (As needed for cross-listing and/or stacking; add more blocks as necessary.)

| | | |
|---|-------------|---------|
| | Date | 9-20-12 |
| Signature, Chair, Program/Department of: | H&E - SNRAS | |

| | | |
|---|-------|---------|
| | Date | 9/21/12 |
| Signature, Chair, College/School Curriculum Council for: | SNRAS | |

| | | |
|--|-------|---------|
| | Date | 9-25-12 |
| Signature, Dean, College/School of: | SNRAS | |

ATTACH COMPLETE SYLLABUS (as part of this application).

The guidelines are online:

<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 may be a convenient way to publicize this.) Faculty Senate Meeting #171
<http://www.uaf.edu/uafgov/facultysenate/meetings/2010-2011-meetings/#171>

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.

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.

8/1/2012

**FISH F487 W, O FISHERIES MANAGEMENT
SPRING 2013**

Instructor

Dr. Trent M. Sutton, Professor
1W02 AHRB; Phone: 474-7285
E-mail: tmsutton@alaska.edu

Office Hours

Tu, Th: 11:15 a.m. – 1:00 p.m.
W: 10:15 a.m. – 12:00 p.m.; or by appt

Meeting Times

8:00 – 9:30 a.m., Tu - Th, 1W09 Arctic Health Research Building

Course Description

Theory and practice of fisheries management, with an emphasis on strategies utilized for the management of freshwater and marine fisheries. Application of quantitative methodologies for the assessment and manipulation of aquatic habitats, sport and commercial fish populations, and human resource users and non-users are considered, as is the setting of appropriate goals and objectives for effective, science-based management. This course meets both the writing (W) and oral (O) intensive requirements. Prerequisites: COMM F131X or COMM F141X; ENGL F414; STAT 200; or permission of instructor. 3 credits (3 + 0).

Course Objectives

1. To develop knowledge of the basic principles and strategies utilized to assess and manage aquatic habitats, recreational and commercial fish populations, and human users and non-users, particularly those within inland freshwater environments of North America.
2. To provide practical experience in fishery-resource assessment, data analysis and reporting, and decision making as it pertains to fisheries biology and management issues and scenarios.
3. To sharpen critical thinking, written and oral communication, and professional skills relative to fisheries biology and management resource issues.

Special Needs

If you need course adaptations or accommodations because of a disability, please contact me as soon as possible in order to make the necessary arrangements.

Reading Assignments

The required course text is Inland Fisheries Management in North America, Third Edition by Quist and Hubert. Journal reprints and lecture outlines will also be provided for this course and will provide additional required readings for lecture topics and class discussions.

Fisheries Management Data Analysis and Research Report

One major assignment that will be completed this semester is the analysis of fish survey data, and a written and oral report of your findings. Specific focal areas will be assigned on January 24, and the project will be conducted as a team effort, with each team consisting of three or four students. Prior to the report deadline, each group will be required to complete a literature search of peer-reviewed periodicals, turn in a reference section for your project (25 points; due on February 28), and meet with the course instructor after the reference section has been completed for a progress feedback meeting. Information obtained from the Internet will not be considered a valid source of information unless approved by the instructor and will not be accepted for your report. The research report itself will include the following sections: introduction, methods, results, discussion, management recommendations, and literature cited (150 points; due on April 25). Prior to submission of the final report, each student group must submit their report components to the instructor for feedback. This feedback will assess whether the stipulated report guidelines have been followed and demonstrate writing competency and to also ensure that all aspects of the research report have been addressed adequately. One requirement of the management report is that it must follow the *Guide for Authors* requirements as outlined in

American Fisheries Society journals. Each team will also be required to give an oral presentation of their report to the class on May 02 (maximum of 25 minutes; 50 points); all student groups will be required to meet with the instructor prior to the presentation for assistance in developing this component of the project and must follow the presentation guidelines to demonstrate competency. In addition, students will be required to complete an evaluation of the contribution to the project effort by each team member (25 points; due at the time of the oral presentation). The total assignment value is 250 points, with 150 points (60%) toward the writing-intensive (W) requirement and 50 points (20%) toward the oral-intensive (O) requirement

Microthemes

Four short writing exercises will be assigned to help you develop and sharpen your critical thinking and writing skills. For each microtheme, you can receive up to 50 points (200 total points). These assignments may take one of several forms: answer a question, solve a problem, support a thesis statement, or summarize an issue. Each microtheme is limited to 225 words, requiring you to address the statement, question, or problem in a clear and concise manner using language that a reader unfamiliar with the subject topic could understand. Each microtheme will be evaluated following the stipulated criteria and returned to students within one week of submission with appropriate content- and writing-based feedback. All 200 points (100%) of this assignment are dedicated toward the writing-intensive (W) criteria.

Exams

Two lecture exams (100 points each) and the final exam (150 points) will be administered during the semester. Lecture exams are tentatively scheduled for Feb 26 and April 09, and you will be allowed 90 minutes to complete these exams. The final exam will be given during the two-hour time period designated by the university (May 07). In all cases, students will not be allowed to retain copies of the exams.

Information Presentations and Class Participation

Three class discussion/information presentation periods, each covering material relevant to previous lecture topics, are scheduled throughout the semester. Prior to each of these periods, students will receive instruction on the requirements for achieving information presentation and discussion competency. Following each presentation period, students will receive written feedback on how well they demonstrated competency in meeting those requirements. Because involvement of all students is critical for these discussion presentations, it is imperative that students prepare themselves by completing any necessary readings and preparing presentation materials before the scheduled periods. To provide incentive to sufficiently prepare for and participate in these exercises, each discussion/presentation period is worth up to 25 points (75 points total). An additional 25 points is also available for general class participation and attitude during the other class meeting periods. The total value for this component of the course grade is 100 points, with 75 points (75%) dedicated toward meeting the oral-intensive (O) criteria.

Additional Assignments

One problem set will be given out as a homework assignment related to material covered during the lectures on fishery stock assessment (100 points). Interpretation of data and critical thinking will be a requirement of this exercise, with 100% (100 points) of this assignment dedicated toward meeting the written-intensive (W) course requirement.

Grading

Grades will be based on a 90-80-70-60 scale. If the class average falls below 75%, this scale will be adjusted accordingly. 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 and missed exams or class discussion periods will be assigned a zero score. If you cannot take an exam, turn in an assignment, or attend a class discussion period 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, exam make-up 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. Point and percentage values for each evaluation component are as follows:

| Component | Points Available | Percentage of Total |
|-----------------------------------|-------------------------|----------------------------|
| Management Research Report | 250 | 30% |
| Microthemes | 200 | 15% |
| Exams | 350 | 30% |
| Presentations/Class Participation | 100 | 15% |
| Homework Assignments | 100 | 10% |
| TOTAL | 1,000 | 100% |

Based on these component point values and percentage criteria, 48% and 17.25% of the graded work in this course will be based on effectiveness of written (W) and oral (O) communication, respectively.

Honor System

All assignments submitted are to be entirely your own work, unless you receive specific instructions to the contrary. All aspects of your course work are covered by the Honor system. Any suspected violations (e.g. cheating, plagiarism) will be promptly reported and appropriate action(s) will be taken. Additionally, you will receive a zero for that assignment or exam; two such violations and you will automatically fail this course. Honesty in your academic work will develop into professional integrity. The faculty and students of Purdue University will not tolerate any form of academic dishonesty.

LECTURE OUTLINE

| <u>Topic</u> | <u>Date</u> | <u>Readings</u> |
|--|-------------|-------------------------------|
| INTRODUCTION | | |
| Overview of Fisheries Management | Jan 17 | |
| Fisheries Management Perspective | Jan 22 | IFM 1-41; 107-155 |
| Process of Fisheries Management | Jan 24 | IFM 133-156; Crowe |
| AQUATIC HABITAT MANAGEMENT | | |
| Watershed Management | | |
| Watershed Characterization | Jan 29 | IFM 295-307, 570-578 |
| Land-Use Practices; Microtheme I | Jan 31 | IFM 295-307 |
| Lotic Communities | | |
| Habitat Factors | Feb 05 | IFM 307-308 |
| Habitat Manipulation | Feb 07 | IFM 312-321 |
| Lentic Communities | | |
| Habitat Factors | Feb 12 | IFM 308-312, 395-412, 545-570 |
| Habitat Manipulation | Feb 14 | IFM 312-321, 412-419 |
| Fisheries Habitat Issues; Microtheme II | Feb 19 | |
| Class Discussion | Feb 21 | Class Handouts |
| Lecture Exam I | Feb 26 | |
| FISHERY ASSESSMENT | | |
| Population Estimation; | Feb 28 | IFM 43-46 |
| Literature Search | | |
| Estimation of Growth Rates | Mar 05 | IFM 55-58, 59 |
| Estimation of Mortality Rates; | Mar 07 | IFM 43-55 |
| Microtheme III | | |
| Spring Break – No Class | Mar 12 | |
| Spring Break – No Class | Mar 14 | |
| Stock-Recruitment Relationships and Models | Mar 19 | IFM 58-77 |
| AQUATIC ORGANISM MANAGEMENT | | |
| Management of Introduced Fishes; | Mar 21 | IFM 213-228 |
| Microtheme IV | | |
| Stocking of Fishes | Mar 26 | IFM 261-293 |
| Management of Undesirable Fishes; Problem Set | Mar 28 | IFM 228-248 |
| Endangered Species Management | Apr 02 | |
| Class Discussion | Apr 04 | Class Handouts |
| Lecture Exam II | Apr 09 | |
| PEOPLE MANAGEMENT | | |
| Human Dimensions | Apr 11 | Kellert and Brown |
| Constituency Identification | Apr 16 | IFM 193-202 |
| Angler Statistics and Socioeconomic Values | Apr 18 | Malvestuto; IFM 425-448; |

| | | |
|---|--------|-------------------------------|
| Public Relations | Apr 22 | Swanson and McCollum |
| Public Involvement | Apr 25 | Pringle; McMullin and Neilsen |
| Data Analysis and Management Report | | Knuth and McMullin; |
| Class Discussion | Apr 30 | IFM 157-184 |
| | | Class Handouts |
| Class Presentations; Group Evaluations | May 02 | |
| Final Exam (10:15 a.m. - 12:15 p.m.) | May 07 | |