

Applied Wildlife Management – WILD 480, The Upshot

Spring Semester 2016

Instructor: Dr. Mike Mitchell

Natural Science 205

243-4390

mike.mitchell@umontana.edu

TA: Sarah Bassing

Natural Science 312

sarah.bassing@umontana.edu

Class meeting time and location: T/TH 11:10-12:30 GBB 222

Dr. Mitchell's office hours: TH 2:00-4:00

Ms. Bassing's office hours: MW 9:00-10:00 or by appointment

Required Readings

Hammond, J. S., R. L. Keeney, and H. Raiffa. 1999. Smart choices: a practical guide to making better decisions. Harvard Business Review Press.

- *Read for class on 4 February*

Runge, M. C., J. B. Grand, and M. S. Mitchell. 2013. Structured decision making. Pages 51-72 in P. R. Krausman and J. W. Cain III, editors. Wildlife management and conservation: contemporary principles and practices. The Johns Hopkins University Press.

- *Read for class on 4 February*

Thomas, J. W. 1986. Effectiveness– the hallmark of the natural resource professional. Transactions of the North American Wildlife and Natural Resources Conference 51:27-38.

- *Read for class on 26 April*

COURSE PURPOSE

This semester we will pull together everything you have learned over your undergraduate career to address real-world challenges in wildlife biology. Working in groups, you will be assigned a pressing conservation problem and will collaboratively develop practical solutions using Structured Decision Making (SDM). As part of this process, groups will also develop research to address uncertainties that impede finding the best resolution to your assigned challenge. Importantly, this class is designed to help prepare you for success in the real world that follows an undergraduate education. You will learn from experts in wildlife management and research how the real world works. You will be expected to participate in all aspects of the course as a professional, remaining accountable to supervisors and to peers. You will learn how to critically evaluate, analyze, and effectively present the results of your collaborative work to a professional audience, orally and in writing.

TENTATIVE SCHEDULE

January	26	Course introduction and context
January	28	Introduction to SDM
February	2	Introduction to adaptive management
February	5	Quiz on Hammond et al (1999) and Runge et al. (2013) ; assignment of conservation issues and working groups; introduction to the problem statement
February	9	Guest lecture;
February	11	Guest lecture;
February	16	Guest lecture;
February	18	Questions/answers on problem statements
February	23	Draft problem statement due ; introduction to fundamental objectives
February	25	<i>Annual meeting, MT chapter of The Wildlife Society</i>
March	1	Questions/answers on fundamental objectives
March	3	Guest lecture;
March	8	Guest lecture;
March	10	Draft fundamental objectives due ; introduction to alternatives
March	15	Guest lecture;
March	17	Writing an effective research proposal
March	22	Questions/answers on alternatives
March	24	Draft alternatives due ; introduction to decision analysis
<i>Spring Break</i>	<i>4 March to 8 April</i>	
April	5	Guest lecture;
April	7	Guest lecture;
April	12	Guest lecture;
April	14	Questions/answers on decision analysis
April	19	Draft decision analysis due ; giving effective presentations
April	21	Guest lecture; graduate students
April	26	Course wrap up... Discussion of Thomas (1986)
April	28	Presentations
May	3	Presentations
May	5	Presentations

GRADING:

This course is designed to allow you to cooperatively apply critical thinking to solving demanding, real-world conservation issues through management and research. Importantly, this will be done in accordance with the professional expectations you will encounter as you pursue a career in wildlife biology. You will thus be graded on the products your group produces as part of this course, as well as your own professionalism. Your final grade will consist of:

- Attendance 5%
- Smart Choices/Runge et al. quiz 5%
- Peer review 20%

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- Decision analysis report 25%
- Decision analysis presentation 20%
- Research proposal 25%

Attendance:

Professionals show up for work, on time.

Hammond et al. (1999)/Runge et al. (2013) Quiz: Professionals prepare for their tasks.

Peer Review:

Professionals earn the trust and respect of people they work with. Accordingly, at the end of the semester each member of your group will *independently* and *confidentially* assign points to you in each of the following categories:

- Participation and preparedness (do you show up for all meetings, on time, and are you ready to do your job?)
 - 1 to 5 points
- Collegiality (do you work effectively and positively with others, even under stress?)
 - 1 to 5 points
- Contribution (do you do your job and shoulder your responsibilities to the group well?)
 - 1 to 10 points
- Leadership (do you effectively guide and help others to achieve group success?)
 - 1 to 5 **BONUS** points

Your peer review score will be based on 1) your completion of reviews for all of your group members, and 2) the average of scores you received from members of your group. I will share with you the average score you received from your peers, but not the raw scores or names of people that submitted them. It is very important that scores remain independent and confidential; do not discuss them with the person you are scoring or with other group members. It is also very important that you are candid. The real world does not reward substandard, unprofessional behavior, and neither should you; by inflating scores you would also be doing a disservice to someone in need of feedback that could help them be a successful professional. On the flip side of that coin, positive feedback is critical but rare; you will also have the opportunity to provide affirmation of good performance. If I perceive any attempt to collaborate in scoring, breach confidentiality, or otherwise game the system, you will receive no points for the peer review. *Electronic copies of peer reviews will be due by 5:00 pm on the first day of finals week (13 May).*

Decision Analysis Report:

Professionals work with groups to communicate complex information professionally and effectively to their supervisors, in writing. You will work with your group to prepare a written report to your supervisors on the results of your SDM exercise; your report will walk them through the steps in a clear and concise manner and fully explain a recommended decision to them based on your results. All members of the group will receive the same grade for this report. Assigning group members to prepare different aspects of the report is acceptable

provided all members contribute equally and the report is coherent and consistent in presentation (i.e., does not read as if different contributions were simply pasted together). The foremost criterion for evaluating this report will be effectiveness, i.e., how well does it assist the decision-maker in solving this conservation challenge? A supervisor will quickly reject an effort such as this that does not capture the reality of the problem to be solved, analyze it comprehensively and convincingly, or recommend realistic and effective actions. Your job will be to accomplish all of these tasks clearly and concisely; after reading your report, your decision-maker should understand your process, what your results are and how you arrived at them, and how he/she can justify and explain your results to others (including those that may not fully understand the conservation challenge). Accordingly, there are no page limits to this report. It will be up to you to provide the appropriate amount of information your decision-maker will require: too much and the message is lost in unnecessary detail, too little and the decision-maker will lose confidence in your results. *Electronic copies of reports will be due by 5:00 pm on the first day of finals week (13 May).*

Decision Analysis Presentation:

Professionals must be able to present complex information orally to audiences comprising both experts and lay people. You will work with your group to distill the contents of your decision analysis report into a presentation that you will give to your supervisors in front of a public audience. All members of the group will receive the same grade for this presentation, under the same criteria listed for the report. Again, the evaluation criterion will be effectiveness, realizing that the presentation must be comprehensible to all that are viewing it; members of the public must understand, not just the supervisors and the experts. This is *very* important—many decisions, however good they might have been, were not made because the public did not understand them and disapproved. Your group will have half of a class period to present your decision analysis and answer questions from your peers in the audience (we will recruit audience members from outside the class as well—other undergraduates, graduate students, and faculty). Your group will be allotted 30 minutes for your presentation and 10 minutes for fielding questions from the audience. Again, consider the appropriate amount of information needed to effectively inform the diversity of people in your audience. *Presentations will take place during the final class periods of the semester.*

Research Proposal:

Professionals acknowledge uncertainties associated with their decisions. Many decisions cannot be postponed until such uncertainties are resolved, but research can be designed to reduce them for future iterations of the decisions. Working with your group, you will identify uncertainties that make your decision difficult and design a research project that will reduce them. Your group will produce a proposal formatted for evaluation under the research prioritization process used by Montana Fish, Wildlife and Parks. All members of the group will receive the same grade for this presentation, under the same criteria listed for the report. Again, the evaluation criterion will be effectiveness. In this case, effectiveness will be defined by the quality of the proposed study (i.e., effective study design, quality of data, appropriate analyses, clear contribution to decision), the feasibility of the study in time, people hours, and funding, and the ability to compete successfully with other research proposals (i.e., What is the

management need and how well does the research address it? How critical is the research? Is it timely? How realistic is it?). As with the report and presentation, concise and clear communication of information is critical, but this time the audience is a group of wildlife managers and researchers; you will therefore need to make a convincing case to scientifically trained people who are not necessarily experts on your proposed research but will understand a well-crafted proposal with technical content. *Electronic copies of proposals will be due by 5:00 pm on the first day of finals week (13 May).*

Note: The decision analysis report, presentation, and research proposal are all due at the end of the semester. *I **strongly** advise that you begin work on your final products **immediately** and maintain a **consistently high level of diligent effort** on them throughout the semester.* It is extremely unlikely that last minute efforts on any of these products will rise to the professional standards that are expected.

PLAGIARISM

Plagiarism will not be tolerated and will result in failing the course.

STUDENTS WITH DISABILITIES

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students (DSS). If you think you may have a disability adversely affecting your academic performance, and you have not already registered with DSS, please contact DSS in Lommason 154 or 406.243.2243. I will work with you and DSS to provide an appropriate modification.

DROP DATES (Important Dates Restricting Opportunities to Drop a Course):

Date	Description	Date Range
To 15 th instructional day	Students can drop classes on Cyberbear with refund	February 12 = last day
16 th to 45 th instructional day	Drop requires form with instructor and advisor signature, a \$10 fee from registrar’s office, student will receive a ‘W’ on transcript, no refund.	February 13 through March 28
Beginning 46 th instructional day	Students are only allowed to drop a class under very limited and unusual circumstances. Not doing well in the class, deciding you are concerned about how the class grade might affect your GPA, deciding you did not want to take the class after all, and similar reasons are not among those limited and unusual circumstances. If you want to drop the class for these sorts of reasons, make sure you do so by the end of the 45 th instructional day of the semester.	March 29