

**NRM 601 Research Methods in Natural Resources Management
Fall 2004**

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Description: This course is designed as an introduction for graduate students to the research methods employed in the various fields of natural resources management, including agriculture, forestry, ecology, economics, and social sciences. This course is intended to acquaint students with the relationship between theory and research, the nature of scientific inquiry, the approaches to research, the sequence of steps involved in scientific investigation, obtaining grant funds to support research, analysis and interpretation of research results, and presentation of results.

Objectives: The two major objectives for this course are:

- 1) to help students become critical consumers of research information and
- 2) to guide students in planning and carrying out their own research.

This course will be taught by faculty in the School of Agriculture and Land Resources Management. Different faculty will have different presentation styles and different expectations for students. For example, some lecturers will require reading or completion of some project either before, during, or after his or her lecture. Topics will vary greatly, including discussions of research methods in the natural sciences, survey techniques in the social sciences, and qualitative research.

Expectations for students are:

- attend class and participate in class discussions
- complete each lecturer's requirements
- write a grant proposal for a research project in natural resources management
- present proposal orally to the class
- help evaluate other students' proposals by actively participating in panel discussions

Grades for this class will be based on the following criteria:

- 1) Class attendance and participation (25% of grade)
- 2) Letter of intent (5%)
- 3) Draft proposal (10%)
- 4) Final proposal (40%)
- 5) Proposal presentation (10%)
- 6) Leading and participating in panel discussions on proposals (10%)

**Request for Proposals
NRM 601**

Letter of intent due: 22 September 2004

Draft proposals due: 10 November

Final proposals due: 08 December

The NRM Research Foundation solicits proposals for research on the management or understanding of natural resources in Alaska. Proposals of either an applied or basic nature are encouraged. The foundation is interested in funding studies which will lead directly to better management of natural resources in Alaska or in studies which will produce basic knowledge about natural resources in Alaska with a goal of ultimately impacting their management. Research on any of the natural resources in Alaska, including agricultural, range, forest, aquatic, or marine ecosystems, social aspects of natural resources management, resource economics, or natural resource education is welcome.

A formal, one-page letter of intent, which briefly describes the topic you plan to write your proposal on, should be submitted by 22 September 2004. I encourage, but do not require, that your proposal topic be the same or closely related to the topic of your planned thesis research. Draft proposals will be due by 10 November 2004. Copies of these will be distributed to the class for review. A panel of judges (students in NRM 601), with one chief reviewer, will be assigned to review the proposal. You will be required to **briefly** present your proposal to the class on the date it is due to be discussed. The panel of judges will discuss your proposal in class and provide constructive criticism. The course instructor will also give feedback. You will then be allowed to rewrite your proposal, with the final document due on 08 December 2004. Proposals will be graded based on intrinsic merit, relevance, organization, and quality of writing.

Submit proposals in hard copy to Stephen Sparrow, 315 O'Neill Building **OR** via email to stephen.sparrow@uaf.edu.

NRM 601, Research Methods in Natural Resources Management

Tentative Schedule for Fall 2004

Date	Topics	Presenters
08 Sep	Introduction. Identification of research goals and role of the hypothesis. Discussion of Crichton speech on environmentalism.	S. Sparrow. G. Juday. Class.
15 Sep	Obtaining knowledge: Fundamentals and methods of inquiry.	J. Fox
22 Sep	Literature search Letters of intent due	E. Packee.
29 Sep	Identification of funding sources and requirements. Identification of study limitations and practical constraints. Proposal writing	D. Valentine.
06 Oct	The role of statistics: Pitfalls and research design. Alternative views on statistical testing and interpretation.	D. Verbyla. S. Sparrow.
13 Oct	Sampling techniques. Role of modeling.	S. Rupp.
20 Oct	Research methods in Natural Resource Policy and Law.	J. Lurman.
27 Oct	Qualitative research.	S. Todd.
03 Nov	Psychometric theory in resource management: application to survey design. Survey and questionnaire design.	P. Fix C. Lewis.
10 Nov	Formal hypothesis. Error and uncertainty in scientific sampling. Draft proposals due	J. Greenberg.
17 Nov	Student presentations Review panel discussions	
24 Nov	No class.	
01 Dec	Native Community Involvement and Collaboration in Natural Resources Research. Involvement of K-12 Students and Teachers in Natural Resource and Environmental Research.	TBA S. Stephens, E. Sparrow.
08 Dec	Information transmission. Final proposals due	P. Holloway.