

# NRSM 500 Conservation Social Science Methods Syllabus

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**Meetings:** I enjoy working with students and am happy to meet with you outside of class to discuss the course, your graduate work, etc. Just let me know you want to meet and we will find a time in short order.

## Course Description

This course explores research methods relevant to the practice of social science in natural resource management.

Historically in our field (natural resource management and allied professions), social science research methods courses have emphasized the question of measurement/representation because it is seen both as a missing link and an Achilles heel. It is viewed as a missing link because measurement/representation tends not to be treated in depth in statistics classes. And, in the not too distant past, the concept of qualitative data representation generally was absent or highly marginalized. Also, when research entails the study of psychological and social constructs rather than simply opinion polls, people often fail to appreciate the competencies required for developing measures accepted as valid in science. Yet measurement/representation truly is the Achilles heel of research. No matter how significant the research question, how profound the underlying theory, how sophisticated the research design, or how elegant the analytic technique, nothing can overcome flawed, invalid, or poor measurement/representation.

But competency in social science research methods requires far more than just an understanding of measurement/representation. It also requires the ability to analyze and understand research traditions. Research traditions can be thought of as being comprised of world views, paradigms, and research programs. Methods are used in research programs to carry out empirical studies that are guided by the normative standards of a particular paradigm that must in turn meet the concept of science reflected in a worldview. This course also explores these linkages.

Because the nature of research questions and research traditions in our field are so diverse, a single course cannot begin to cover all the paradigms/methods that might potentially be of interest to prospective students. Further, this is not a course in statistics, statistical analysis software (SPSS, SAS, R, etc.), qualitative data analysis software (NVivo, ATLAS.ti, Taugette, etc.), sampling, or writing the first draft of a thesis/dissertation proposal. The first four items in the preceding list are the focus of other courses you can take, while the last item (drafting your thesis proposal) best unfolds through conversations with your graduate committee that are tailored to your specific research project.

The goals of this course are to provide graduate students: (a) a foundation from which to extend your understanding of social science research methods throughout your career, (b) an overview of the realm of possibilities, (c) a basic competency in selected research logics (chosen for their prominence and/or relevance to our field), and (d) tools to help you synthesize scientific literature, conduct peer reviews, and design studies as your career unfolds.

## Student Learning Outcomes

By the end of the semester students should be able to:

- (1) Explain a framework incorporating three foundational concepts from the philosophy of science (ontology, epistemology, axiology) that define the normative commitments guiding the practice of any specific scientific paradigm and that distinguish a particular paradigm from other possible scientific paradigms;
- (2) Apply the above framework as an analytical tool to help: interpret scientific paradigms not included in this class, peer review individual research papers, organize literature reviews for research proposals, and develop a research design with internally consistent elements that reflect the nature of the guiding

- paradigm adopted;
- (3) Explain and contrast the research logic and methods underlying four social science paradigms (Psychometrics, Structural Equation Modelling, Grounded Theory, Hermeneutics) relevant to researchers studying social and psychological issues in forestry, human geography, resource conservation, wildland recreation, and human dimensions of wildlife;
  - (4) Evaluate (peer review) at a graduate level research papers employing the four research paradigms listed above (the ability to evaluate Structural Equation Modelling-based papers will be at a more introductory level than the other three due to the extent of prior statistical knowledge SEM requires);
  - (5) Describe/debate key questions and fundamental tensions/tradeoffs commonly faced in research design (e.g., objectivity, bias, validity, testing logics, transparency, rigor, relevance, etc.);
  - (6) Explain why it is not reasonable to conceive of science as a method and provide a more meaningful explanation of what science actually is.

### ***Required Texts:***

There is no textbook for this course. See schedule of classes below for a list of assigned readings. These readings will be made available via the course's [Moodle website](#).

### ***Prerequisites:***

There is no specific course prerequisite. But you need to have graduate level reading, writing, and discussion skills; an interest in the subject; a willingness to thoughtfully read all assigned readings before class, and a willingness to participate actively in class discussions and your learning.

## **Teaching/Learning Philosophy**

At the graduate level, I believe my role as teacher is to use my past experiences in the field to layout the territory that students with an interest in social science research methods should explore if they intend to become practitioners or advanced consumers of social science & interdisciplinary research. Ideally that territory starts at the near edge of what you believe you know about science and disappears beyond what I currently believe I know. Our goals are to explore what we really do understand about the near edges and to reach as far as we can to explore what exists on the far side of what we (including myself) feel comfortable we know. My roles also include introducing tools that I have found helpful in exploring this territory, facilitating discussions, and offering exercises that provide you the opportunity to work through and record our emerging insights.

Learning is not just collecting information, the kind of learning you need comes only when you are actively transformed. Transformation does not come easily – arduous (but exciting) are its ways, long and uphill is the task. It is nice to have someone who can give you a clue. That's the teacher's job – to structure an opportunity to learn and to offer a map, compass, and other support that their experience suggests can assist you. But the kind of insight that leads to transformation must come from within you. If you expect it to come from outside, you will seek in vain. Only through your own effort and engagement will you ever be transformed.

The course emphasizes critical thinking skills such as analysis, evaluation, synthesis, and integration across readings/discussion topics rather than simple memorization of definitions and methodological rules. I promise to never give you an assignment requiring you to regurgitate anything from memory. So, don't waste time memorizing things – you'll always be able to look at your notes, revisit readings, etc. But please also note this is a graduate course and I have high expectations about the level of effort and quality of work that goes with a course of this nature.

***I expect you to do every reading assigned for the course before you come to that class.*** There are different levels at which one can potentially do the readings: (1) ***reading to be familiar*** with what the author says; (2) reading ***to analyze and interpret*** what the author says (every reading assigned has a deeper message than just the "facts and methods" presented); and (3) reading critically ***to synthesize/integrate*** this reading ***with previous readings***/class discussions ***and to find something to say about the reading in a discussion***. I expect you to read at all three levels. To accomplish this, you should do readings ahead of time; highlight key points; and review these highlights an additional time before class, making notes of points worth discussing, things that are confusing, and links to topics being covered in the class. ***If you fall behind, the material will overwhelm you***

because later material often builds on earlier material. Class discussions will help prevent that, we're a team seeking insights and trying to resolve confusion together. Just be sure you do the ground work required for you to contribute to the effort.

## **Course Requirements**

### ***Class Participation – 40%***

Because of its importance to the design of the class, participation is a substantial portion of the grade. The course will operate primarily as a discussion rather than lecture format; therefore, the success of the class depends on the quality of your preparation and participation. Come to class ready to contribute to the discussion through questions, observations, or insights (see above section).

This approach is intended to recognize/acknowledge your efforts. It is not meant to be stressful (I hope you enjoy coming to class to talk about the ideas we are exploring, I do). And it certainly is not meant to be competitive between students (e.g., student A commented more times than student B therefore gets a better grade). We're a community contributing to each other's learning, it's not a competitive game. With this in mind I determine grades for this aspect of the course based on the following three assessments: 1) did you proactively contribute to class discussions (this isn't a number counting thing, some people enter conversations more easily than others and quality of contributions matters), 2) the extent to which you demonstrate that you consistently read and thought about course materials, and 3) the extent to which your contributions help you and us grow (remember, sharing questions or articulating the nature of confusion are equally as valuable as sharing other kinds of insights). With the bi-weekly assignments (see section below) I will ask you to include a statement reflecting your thoughts about your participation since the last assessment. If it does not match my impression, I will follow up with an outside of class conversation.

I treat absences as a separate dimension. Active engagement during the class sessions is one of the core teaching/learning principles underlying design of this class, this is a forum where a lot of learning emerges. If you are not present and contributing during these sessions, at some point you let your colleagues as well as yourself down. So, regarding attendance, perfect attendance is most desirable; missing more than 3 classes represents an excessive number of absences (at that point you have missed nearly 15% of the class). So, after 3 absences I start reducing the grade at a rate reflecting the percent absences.

This attendance dimension is intended to emphasize the learning principles underlying the design of the class, not to be blindly punitive. Hopefully not, but sometimes life happens making more than 3 absences necessary. If you know going into the class that this is the situation, please consider taking the class another semester, you will get a better return on your investment that way. If a situation emerges during the semester that creates challenges for your presence in class; please let me know in as timely a manner as you are able, and we'll figure out how to work through it. Communication is key here, don't be scared to reach out.

Finally, if at any point during the semester you feel that the class sessions/discussions are not valuable learning opportunities, please let me know; it is a failure that we want to redress.

### ***Biweekly Written Assignments - 60%***

Approximately every two weeks you will have a written assignment to turn in.

- Most often these will be 1-2 page (single spaced) pieces that ask you to reflect on, synthesize, integrate, critically evaluate, etc. course readings/discussions since your last reflection piece. Sometimes I may pose a specific question or set of questions to choose from. Other times I will ask you to determine the focus. For you, see these as opportunities to capture and/or work through what you are learning from the readings/discussion. Ideally, you'll view these as a resource you can draw on after the class is done. For me this is a chance to understand what you are getting from the class, possibly identify ideas we might want to revisit in discussion, and in all likelihood learn new things from your insights.
- Some assignments may be a bit more extensive (especially the final). These will be worth more than the regular 1-2 pagers and I will let you know beforehand which category a particular assignment falls into.
- Finally, as noted in the class participation section above, to each biweekly assignment I will ask you to

add your self-assessment of your contributions to class participation since the last assessment. You also can use this as an opportunity to comment on how you think the class is contributing and/or to make suggestions about how I might facilitate better – e.g., I need to be more attentive to recognizing when you're trying to enter the conversation so I can help make space (this was a big challenge for me when I was a student), you'd appreciate it if I'd call on you directly, implicit biases are a problem in our discussions and should be addressed, or etc. The space you use to write this won't count against any space limits associated with the other parts of the assignment. Try to see this as an opportunity to communicate rather than having to live in mystery all semester about how you are doing, that will help make this feel less painful and more useful to you.

**Grading Scale:** See separate handout posted on Moodle.

### ***Student Conduct Code***

All students should be familiar with the [Student Conduct Code](#). All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University.

### ***For Students with Disabilities***

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

### ***Student Well-being***

Students can experience stressors that can impact both your academic experience and your personal well-being. These may include academic pressure and challenges associated with relationships, mental health, alcohol or other drugs, identities, finances, or other things.

If you are experiencing well-being concerns, seeking help is a courageous thing to do for yourself and those who care about you. If the source of your stressors is academic, please contact me so that we can find solutions together. For personal concerns, UM offers many resources to support student well-being. Below are some of the resources. If you are not sure where the boundary between academic and personal is, please know that I care, wish to be approachable, and will help guide you to the best available resource I know.

- [Curry Health Center Counseling](#)
- [Student Advocacy Resource Center \(SARC\)](#)
- [UM Equal Opportunity and Title IX Office](#)
- [UM Student Wellness Advocates](#)
- UM [Food Pantry](#)
- Other [Food Resources](#)
- [Emergency Housing Options](#)
- Providence St. Patrick Hospital [First STEP](#) (dedicated to reducing trauma and promoting healing for child victims of abuse and adult victims of sexual assault)

## Class Readings, Reading Guide Notes, Schedule

### NRSM 500 Conservation Social Science Methods

Please Note: Each reading set is prefaced by [Reading Guide Notes](#) that will help identify why I selected the reading (and sometimes how it is related to ideas we have covered earlier). A citation in **page numbers in red** means that I am asking you to read only a subset of the pages. Occasionally, I might encourage you to **only skim** a particular article. Finally, you should read the articles in the order listed for a given day as frequently there is an order effect.

#### ***Course Introduction & Foundational Framework***

- 1) Course Intro
  - No assigned reading
  
- 2) Is this science?
  - Mayr, E. (1996). The autonomy of biology: The position of biology among the sciences. *The Quarterly Review of Biology*, 71, 97-106.
  - SCAN reading packet
  
- 3) Nature of Research Traditions
  - Patterson, M. E., & Williams, D. R. (2005). Maintaining research traditions on place: Diversity of thought and scientific progress. *Journal of Environmental Psychology*, 25, 361-380.
  - Berbary, L. (2019). Creative analytic practices: Onto-Epistemological and theoretical attachments, uses, and constructions within humanist qualitative leisure research. *Leisure Sciences* 41(3):148-166.
  
- 4) Nature of Research Traditions
  - Morrison, M. L., Block, W. M., Strickland, M. D., Collier, B. A., & Peterson, M. J. (2008). Wildlife study design (2nd ed.). New York: Springer. (pp. 1-2, 19-22)
  - Persson, J., Thorén, H., Olsson, L. (2018). The interdisciplinary decision problem: Popperian optimism and Kuhnian pessimism in Forestry. *Ecology and Society*, 23(3):40.
  - Gould, S. J. (1989). Wonderful life: The Burgess Shale and the nature of history. New York: W. W. Norton & Company. (Chapter IV pp. 277-285).
  
- 5) Objectivity
  - Porter, T. M. (1992). Quantification and the accounting ideal in science. *Social Studies of Science*, 22(4), 633-651.

#### ***The Predominant “Quantitative” Measurement Paradigm in Social Psychology: Psychometrics***

- 6) Logic of psychometrics & Scale development
  - Anderson, A. B., Basilevsky, A., and Hum, D. P. J. (1983). Measurement: theory and techniques. In P. H. Rossi, J. D. Wright, and A. B. Anderson (Eds.), *Handbook of Survey Research*. San Diego, CA: Academic Press, Inc. **Your primary focus should be Section 7.1 Introduction (pp. 231-236). Also read Section 7.3 Scaling Techniques (Introduction, Thurstone Scales, Likert Scales pp. 246-255 and Semantic Differential, Magnitude Scaling pp. 264-266).**

- Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research* 16:64-73.
- 7) Peer Review and the Right [Psychometric] Attitude
- Lutz, R. J. 1990. The role of attitude theory in marketing. In H. H. Kassarjian and T. S. Roberson (eds.) *Perspectives in Consumer Behavior*, 4th Edition. (pp. 317-319). Englewood Cliffs, NJ: Prentice-Hall. (Note: these pages were scanned out of order and there are some extra pages there).
  - Buys, C. G. 1975. Predator control and rancher's attitudes. *Environment and Behavior* 7:81-98.
- 8) Falsificationism
- Chalmers, A. F. (1982). *What is this thing called science?* St Lucia, Queensland: University of Queensland Press. (Chapters on Falsificationism)
- 9) Psychometrics, scale development, and falsificationism
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (Fifth ed.). Boston: Pearson. (Read Chapter 13 pages 607-615, 633-651)
  - Noar, S. M. (2003). The role of structural equation modeling in scale development. *Structural Equation Modeling*, 10(4), 622-647. (Read pages 627-628 – sections on validity and reliability)
  - Moss, P. A. (1992). Shifting conceptions of validity in educational measurement: Implications for performance assessment. *Review of Educational Research*, 62(3), 229-258. (Read pages 229-244)
- 10) Psychometrics, scale development, and falsificationism
- Williams, D. R., & Vaske, J. J. (2003). The measurement of place attachment: Validity and generalizability of a psychometric approach. *Forest Science*, 49, 830-840.
  - Lance, C. E., Butts, M. M., & Michels, L. C. (2006). The sources of four commonly reported cutoff criteria. What did they really say? *Organizational Research Methods*, 9(2), 202-220. (Read page 205-206, 210-212)

### ***Revenge of the Sith – Structural Equation Modeling (SEM): Psychometrics on Steroids?***

#### 11) Structural Equation Modeling 1

- Byrne, B. M. (1994). *Structural equation modeling with EQS and EQS/Windows*. Thousand Oaks, CA: Sage Publications. (Chapter 1 Structural Equation Models pp. 3-22)
- Marsh, H. W., Morin, A. J. S., Parker, P. D., and Kaur, G. (2014). Exploratory structural equation modelling: An integration of the best features of exploratory and confirmatory factor analysis. *Annual Review of Clinical Psychology* 10:85-110.

#### 12) Structural Equation Modeling 2

- Langlois, L., Lapointe, C., Valois, P., and de Leeuw, A. (2014). Development and validity of the ethical leadership questionnaire. *Journal of Educational Administration* 52(3):2014.

- Lee, C., Payne, L. L., and Berdychevsky, L. (2020). The roles of leisure attitudes and self-efficacy on attitudes toward retirement among retirees: a Sense of Coherence Theory approach. *Leisure Sciences* 42(2):152-169.

13) Recap, Catch up, or assessment day as needed

- TBA

### ***In-Depth Exploration of an “Interpretive” Paradigm from Psychology: Hermeneutics***

14) Hermeneutics – the paradigm

- Patterson, M. E., & Williams, D. R. (2001). *Collecting and Analyzing Qualitative Data: Hermeneutic Principles, Methods, and Case Examples*. Champaign, IL: Sagamore Publishing. 127 pp. Chapter 3 (pp. 11-36).

15) Hermeneutics – an application (peer review 2)

- Patterson, M. E., Watson, A. E., Williams, D. R., and Roggenbuck J. W. (1998) An Hermeneutic Approach to Studying the Nature of Wilderness Experiences, *Journal of Leisure Research* 423-452).

16) Hermeneutics – thoughts about how it is done

- Methodology Exemplars Reading Packet. Microsoft Word Document.
- Mishler, E. G. (1990). Validation in inquiry-guided research: The role of exemplars in narrative studies. *Harvard Educational Review* 60(4):415-442.
- Cowan, G. (1998). The legal and ethical limitations of factual misrepresentation. *The Annals of the American Academy of Political and Social Science*, 560, 155-164.

17) Hermeneutics – a chance to practice with data

- Lady Musgrave Interview

18) Hermeneutics – peer review 3

- Felt, L. F. (1994). Two tales of a fish: The social construction of indigenous knowledge among Atlantic Canadian salmon fishers. In C. L. Dyer & J. R. McGoodwin (Eds.), *Folk management in the world's fisheries: Lessons for modern fisheries management* (pp. 251-286). Niwot, CO: University of Colorado Press.

### ***Grounded Theory***

19) Ground Theory 1: An introduction

- McCann, T. and Clark, E. (2003). Grounded theory in nursing research: Part 1 Methodology. *Nurse Researcher* 11(2):7-18.
- McCann, T. and Clark, E. (2003). Grounded theory in nursing research: Part 2 Critique. *Nurse Researcher* 11(2):19-28.
- McCann, T. and Clark, E. (2003). Grounded theory in nursing research: Part 3 Application. *Nurse Researcher* 11(2):29-39.

20) Grounded Theory 2: Clarifying Misinformation and Confusion

- Birks, M., Hoare, K., and Mills, J. (2019). Grounded Theory: The FAQs. *International Journal of Qualitative Methods* 18:1-7.

- Makri, C. and Neely A. (2021). Grounded Theory: A guide for exploratory studies in management research. *International Journal of Qualitative Methods* 20:1-14.
- Timonen, V., Foley, G., and Conlon, C. (2018). Challenges when using Grounded Theory: A pragmatic introduction to doing GT research. *International Journal of Qualitative Methods* 20:1-10.

#### 21) Grounded Theory 3: Analysis and Coding

- Giske, T. and Artinian, B. (2007). A personal experience of working with Classical Grounded Theory: From beginner to experienced Grounded Theorist. *International Journal of Qualitative Methods* 20:1-14.
- Qureshi, H. A. and Ünlü, Z. (2020). Beyond the paradigm conflicts: a Four-step coding instrument for Grounded Theory. *International Journal of Qualitative Methods* 19:1-10.

#### 22) Peer review 4

- Beckley, T. M., Stedman, R. C., Wallace, S. M., & Ambard, M. (2007). Snapshots of what matters most: Using resident employed photography to articulate attachment to place. *Society and Natural Resources*, 20, 913-929.

### **Indigenous Research Methods**

#### 23) Indigenous Methods 1

- Kovach, M. (2018). Doing indigenous methodologies: A letter to a research class. In Denzin, N. K. and Lincoln, Y. S. *The Sage Handbook of Qualitative Research*, 5th ed. Pp. 214-234.
- Michell, H. (2012). The canoe trip: A Northern Cree metaphor for conducting research. In *Education* 18(1): 2-8.

#### 24) Indigenous Methods 2

- Hovey, R. B., Delormier, T., McComber, A. M., Lévesque, L., and Martin D. (2017). Enhancing indigenous health promotion research through two-eyed seeing: A hermeneutic relational process. *Qualitative Health Research* 27(9):1278-1287.
- Lavallée, L. (2009). Practical Application of an Indigenous Research Framework and Indigenous Research Methods: Sharing Circles and Anishnaabe Symbol-Based Reflection. *International Journal of Qualitative Methods*. 8(1):21-40.

#### 25) Indigenous Methods 3

- Tuk, E. and Yang, K. W. (2019). Series editor introduction. In Windchief, S. and San Pedro, T. (eds.) *Applying indigenous research methods: Storying with peoples and communities*. NY: Routledge, pp. x-xiii.
- Windchief, S. and San Pedro, T. (2019). Preface – reflection, action, and conscientization. In Windchief and San Pedro, T. (eds.) *Applying indigenous research methods: Storying with peoples and communities*. NY: Routledge, pp. xiv-xxv.
- Munson, M. M. and San Pedro, T. (2019). Re-centering tribally specific research methodologies within dominant academic systems. In Windchief and San Pedro, T. (eds.) *Applying indigenous research methods: Storying with peoples and communities*. NY: Routledge, pp. 122-137.

## ***Other Paradigms/Methods***

### 26) Other QDA Methods Peer review 5

- [Graduate Coach's Qualitative Data Analysis 101 Tutorial](#), May 12, 2021, accessed August 3, 2021
- Bengston, D. N., Potts, R. S., Fan, D. P., & Goetz, E. G. (2005). An analysis of the public discourse about urban sprawl in the United States: Monitoring concern about a major threat to forests. *Forest Policy and Economics*, 7, 745-756.

### 27) Critical Theory

- Murray, J. B. and J. L. Ozanne (1991). The critical imagination: emancipatory interests in consumer research. *Journal of Consumer Research* 18: 129-144.
- Larsen, V. and N. D. Wright (1993). A critique of critical theory: response to Murray and Ozanne's "The Critical Imagination." *Advances in Consumer Research* 20: 439-443.

### 28) What is a case study?

- Gerring, J. (2004). What is a case study and what is it good for? *American Political Science Review*, 98(2), 341-354.
- Flyvbjerg, B. (2011), "Case Study," in Norman K. Denzin and Yvonna S. Lincoln, eds., *The Sage Handbook of Qualitative Research*, 4th Edition (Thousand Oaks, CA: Sage, 2011), Chapter 17, pp. 301-316.
- Shrader-Frechette, K. and E. D. McCoy (1994). Applied ecology and the logic of case studies. *Philosophy of Science* 61: 228-249.

### 29) Recap or catch up

- TBA