

**NRM 420/620**  
**Scenarios in Natural Resources Management, 2 credits**  
**Instructor: Dr. Jack Norland**  
**Class Time: TuTh 2:00-3:15**  
**Room: Living & Learning 104**  
**Fall 2011**

**Office & Office Hours:** Morrill 307C (Northeast corner third floor): Hours=Anytime  
**Phone:** (701) 231-9428

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**Catalog Description:** An interdisciplinary course designed to understand the driving forces that will shape future natural resource management actions and philosophies.

**Required Resources:** Readings from various sources posted on Blackboard.

**Course Objectives:**

At the end of this course, the student will be able to:

- Identify and explain the different perspectives used to develop scenarios for various social-ecological systems and natural resources management fields.
- Compare and contrast the tools and skills needed for the development of scenarios in terrestrial social-ecological systems.
- Critically integrate and apply the different scenarios that pertain to various social-ecological systems and natural resources management fields.
- Evaluate current terrestrial management efforts and how developing scenarios can improve management efforts.
- Prepare scenarios and research portfolio of a real-world natural resources management problem.
- Communicate the prepared scenarios to peers, faculty, and other interested individuals and how scenarios can inform management efforts.

**Course Requirements:**

<i>Required Items</i>	<i>Percent of Grade &amp; Points Graduate Students</i>	<i>Percent of Grade &amp; Points Undergraduate Students</i>
One Test	30% 360	30% 300
Scenario	30% 360	40% 400
Presentation	15% 180	10% 100
Team evaluation	10% 120	10% 100
Discussion	15% 180	10% 100

\*Total points undergraduates = 1000 points.

\*Total points for graduate students = 1200 points.

\* Teams of undergraduate and graduate students will develop scenarios for certain natural resource problems.

Graduate students are expected to take a leadership role in the teams and their contributions will be assessed differently than undergraduates. Graduate students are required to put more time and energy into the

presentation and written scenarios. Graduate students are expected to work among the teams providing additional input because of their advanced academic experience. This additional input will be assessed by the instructor and the teams. Graduate students are expected to contribute more to discussions and take leadership in the discussions.

**Grading:**

A = 90 to 100%
B = 80 to 89%
C = 70 to 79%
D = 60 to 69%
F = <60%

Makeup or extra credit work will not be available.

**Special Needs:** Any students with disabilities or other special needs, who need special accommodations in this course are invited to share these concerns or requests with the instructor and contact the [Disability Services Office](#) as soon as possible.

**Academic Honesty Statement:** All work in this course must be completed in a manner consistent with NDSU University Senate Policy, Section 335: Code of Academic Responsibility and Conduct ([NDSU Policy 335: Code of Academic Responsibility and Conduct](#)) along with the College of Agriculture, Food Systems, and Natural Resources Honor System (<http://www.ag.ndsu.edu/academics/honor.htm>). The honor pledge is “On my honor I have neither given nor received aid in completing this assignment.”

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**Veterans and student soldiers with special circumstances or who are activated are encouraged to notify the instructor in advance.**

**Tentative Schedule:**

Weeks	TOPICS
1	<b>Class overview and expectations</b> <b>Readings:</b> <a href="http://www.gbn.com/about/scenario_planning.php">http://www.gbn.com/about/scenario_planning.php</a> , <a href="http://www.gbn.com/about/believe.php">http://www.gbn.com/about/believe.php</a> , Shell explorers guide.pdf
2	<b>Introduction to scenarios</b> <b>Readings:</b> Scenario Planning Conservation.pdf, Teaching scenarios graduates.pdf <b>Decide on regional area for scenario development</b>
3	<b>Survey of tools and skills used in scenario building</b> <b>Readings:</b> GBN strategic surprises.pdf
4	<b><i>No class Sept 13 -- instructor gone to workshop</i></b> <b>Cont. survey of tools and skills used in scenario building</b> <b>Readings:</b> Qualitative scenario development.pdf
5	<b>Develop list on interviewees and collect information on region</b>

	<b>Study how scenarios are built</b> <b>Readings:</b> Nassim Taleb the future.pdf, Future of the lakes.pdf, NPS scenario project.pdf, <a href="http://www.csc.noaa.gov/alternatives/">http://www.csc.noaa.gov/alternatives/</a>
6	<b>Start interview process</b> <b>Study how scenarios are built</b> <b>Readings:</b> Paul Saffo uncertainty.pdf, GBN Learnings from the Long View PS 2011.pdf
7	<b>Examine examples of scenarios for natural resources management</b> <b>Assign teams and scenarios</b> <b>Readings:</b> <a href="http://www.gbn.com/consulting/article_details.php?id=30&amp;breadcrumb=ideas">http://www.gbn.com/consulting/article_details.php?id=30&amp;breadcrumb=ideas</a>
8	<b>Retrieve, organize, assess, analyze and summarize information (cont.)</b> <b>Readings:</b>
9	<b>Retrieve, organize, assess, analyze and summarize information (cont.)</b> <b>Readings:</b>
10	<b>Retrieve, organize, assess, analyze and summarize information (cont.)</b> <b>Critique of scenario methods and plausibility</b> <b>Reading:</b>
11	<b>Retrieve, organize, assess, analyze and summarize information (cont.)</b> <b>Critique of scenario methods and plausibility</b>
12	<b>Retrieve, organize, assess, analyze and summarize information (cont.)</b> <b>Critique of scenario methods and plausibility</b>
13	<b>Retrieve, organize, assess, analyze and summarize information (cont.)</b> <b>Critique of scenario methods and plausibility</b>
14	<b>Develop scenarios and presentation</b>
15	<b>Presentations and submission of scenarios</b>
16	<b>Presentations and submission of scenarios</b>
17	<b>Finals week: Wrap-up and summery</b>