INTERDISCIPLINARY GENERAL EDUCATION

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About us

• All have been members of the Board of the Association for Interdisciplinary Studies
• All have taught interdisciplinary courses and written about interdisciplinary research and teaching
Our goal today

• Is to suggest that an interdisciplinary approach to General Education is both desirable and feasible

• In particular we will introduce you to a variety of resources that facilitate such a curriculum.
Scholarship of Interdisciplinarity

• There is a growing literature on interdisciplinary best practices that has achieved considerable consensus.
• See the Association for Interdisciplinary Studies [http://www.oakland.edu/ais](http://www.oakland.edu/ais), and especially “About Interdisciplinarity”
The Agenda

1. The GenEd Program at UND
2. Some Exercises in Interdisciplinary Education
3. The “Interdisciplinary General Education” website
4. Discussion of how Interdisciplinary General Education might work at your institution
Interdisciplinary General Education at the University of North Dakota
Complete Interdisciplinary Integration
Results of UND Interdisciplinary Learning....

- Lower GPAs, less college preparation, lower expectations of success
- Average or higher GPAs
- Similar retention rates
- Development of critical thinking, creative thinking, & interdisciplinary integration skills
- Higher levels of engagement at end of First Year
- Maintained higher levels of engagement in Senior Year
The Nature of the Interdisciplinary Research Process

• Ten (iterative) steps, with recommended strategies or criteria for each
• Choosing a suitable ID research question
• Identifying relevant disciplines, theories, methods, phenomena, literature
• Evaluating disciplinary insights
• Reconciling and integrating disciplinary insights
• Reflecting, communicating, testing
An Exercise

• In small groups choose an interdisciplinary research question. This should be a question that necessarily draws on more than one discipline, and can be stated in a clear manner.

• Then draw a concept map illustrating the main phenomena (variables) and how these are related
Relevant Theories and Methods

• Now groups can reflect on the theories and especially methods that they might apply in studying each arrow in their concept map

• Students could then be asked to perform a cross-disciplinary literature search
Relevant Methods

• Only a dozen: experiments, statistical analysis, modeling, interviews, surveys, observation, textual analysis
• Important to appreciate that disciplines choose methods compatible with their theories.
• This has both good and bad effects.
Evaluate Disciplinary Insights

• Evaluate in terms of disciplinary perspective: the limitations of its theories and methods, but also ideological, ethical, and epistemological biases. (phenomena). **Note that students need to learn what a discipline is.**

• Economists downplay governments
• Economists celebrate growth
• Economists are confident we see reality
Integration

- Strategies to achieve integration:
  - **Redefinition**: Meanings of concepts are clarified.
  - **Theory extension**: A theory is broadened in scope to envelop the concerns of other theories.
  - **Organization**: Seemingly unrelated concepts are placed in some relationship or classification.
  - **Transformation**: Opposing insights are placed on a continuum.
- We hope to perform an exercise around at least one of these strategies.
Reflect, Test, Communicate

- Reflect on one’s own biases. Science studies, critical thinking provide list.
- Think of how the new common ground can be ‘tested.’ The messy nature of interdisciplinary analysis may call for a variety of tests.
- Communicate to diverse audiences.
The Key Lesson:

- This material on how to do interdisciplinary research must be applied by students as they learn it. Having students perform and discuss in class their own research projects is one valuable strategy. Students must become self-consciously interdisciplinary.
A Note on Expertise

• It must be stressed that the interdisciplinarian need not master each discipline.
• Familiarity with the key strengths and weaknesses of all theory types and methods is easily achieved.
• So is an appreciation of disciplinary perspective
• Only some fields within each discipline are particularly relevant to any question.
The Interdisciplinary General Education Website

- Two parts: “Advantages” and “Instituting”
- A little over a dozen pages in each part, with numerous hyperlinks among these.
- The hyperlinks serve to illustrate the inter-related benefits of a coherent interdisciplinary approach.
- Each page generally has just a couple of paragraphs of texts summarizing main insights and then a guide to relevant literature.

- [https://sites.google.com/a/ualberta.ca/rick-szostak/about/interdisciplinary-general-education](https://sites.google.com/a/ualberta.ca/rick-szostak/about/interdisciplinary-general-education)
- Link from AIS website
Advantages

- Curricular Cohesion
- Understanding the Scholarly Enterprise
- Addressing Information Overload
- Teaching the Conflicts
- Preparing Students for Lifelong Learning
- Self-Actualization
- Citizenship
- Creativity
- Values
- Skills
- Retention
- High Impact Practices (writing, performance, collaboration, research)
- Other Goals
Instituting Interdisciplinary General Education

- Defining Disciplines and Interdisciplinarity, Understanding their History
- Teaching Interdisciplinary Integration
- Teaching Creativity
- Integrating across Differences in Values
- Thematic Interdisciplinary Courses
- Integrative Learning
- Synergies with Community Service Learning
- Interdisciplinary Communication
- Evaluation
- Pedagogy
- Designing a General Education Curriculum
- Faculty Development
- Advising
Designing an Interdisciplinary General Education Curriculum

• Ideally a course or courses that communicate strategies for interdisciplinary analysis.
• But it is also possible to communicate such material within thematic interdisciplinary courses that address a particular problem or issue.
• Thematic interdisciplinary courses will be strengthened if students are familiar with techniques of interdisciplinary analysis.
• Institutions can thus emphasize themes and curricular structures that work best for them.
Such a curriculum provides a (potential) place for a treatment of:

- Ethics and transcending ethical disagreements
- Creativity
- Community service learning and integrative learning
- Key elements of philosophy of science and rhetoric and critical thinking and perhaps mixed methods research
- Information Literacy
Interdisciplinarity as a pedagogical strategy in Menu-Option Gen Ed

INFO 110 Library Research Skills & Information Literacy 3 cr.
In this course, students will learn researching skills using databases, computers, the Internet and electronic media along with traditional print information sources. Understanding the commonalities of how information is indexed and organized will allow students to develop a contextual framework vital to finding and evaluating relevant information for their research needs. Students will develop the ability to make ethical and legal choices in using the information they find.
The first textbook on how to perform interdisciplinary research (3rd ed., 2016)
The Repko and Szostak book:

- Reflects the development of a robust literature on interdisciplinarity (which has achieved consensus in several key areas)
- Also draws on insights from fields such as cognitive science
- Outlines an iterative ten-step process for performing interdisciplinary research, and several strategies that are useful for each step.
- Provides examples of these steps and strategies from across the humanities, social science, and natural science.
- Complements other research on team science, community interaction, and policy advice.