

# Goals and Criteria for Interdisciplinary Teaching

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## Some Interdisciplinary Teaching Experience

The Rise of Modern Science – introductory History / STS course

Perspectives in Agricultural History – Jefferson Scholars first-year multidisciplinary seminar

History of the Life Sciences – advanced History / STS

Darwinism in Science and Society – advanced History/ STS

Food and Drugs in American History – History senior seminar

The Body in History – History senior seminar

Interdisciplinary Studies Independent Study – Jefferson Scholars senior thesis (co-faculty)

Ecology of Animal Behavior – Cornell summer course (team-taught)

Reading Darwin – Zoology graduate seminar (co-faculty)

Evolution and the Meaning of Humanity – MALS graduate seminar

# GEP Design

10 courses in the disciplines

32 hours

For simplicity, ignore 2 hours of PE

2 courses of Interdisciplinary Perspectives

One course must integrate disciplines from the humanities/social sciences and from math/natural sciences/engineering/technology

# Assumptions for IP courses

1. High value of interdisciplinarity as an experience of and foundation for later integrative understanding.
2. High value of interdisciplinarity as a method.
3. Problem that our students cannot do interdisciplinary integration.
4. Two courses are necessary to accomplish the goals of interdisciplinarity in general education.
5. The 38 hours of General Education will be taken during the first and second years.

# Assumptions for IP courses

1. High value of interdisciplinarity as an experience of and foundation for later integrative understanding.

Goal of IP courses:

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# Assumptions for IP courses

2. High value of interdisciplinarity as a method.

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2. High value of interdisciplinarity as a **problem-oriented approach**.

# Rationale as problem-oriented approach

1. to synthesize knowledge and skills essential to the understanding of **complex problems**,
2. to make **connections** between fields of study,
3. to consider more than one disciplinary **approach** or methodology, and
4. to bring to bear the **insights** from two or more disciplines in examining and/or responding to the complex problems facing our world.

# Rationale: the natural sciences

Training in the natural sciences is essential to help students develop skills to distinguish between testable and un-testable ideas, recognize scientifically valid tests of theories, and understand how information relates to those tests. By studying the natural sciences, students learn to reason both inductively and deductively, develop and test scientific hypotheses, and understand the value and limitations of scientific studies.

# Objectives for IP courses

Instruction and guidance that help students to:

1. explore and synthesize the approaches or views of two or more disciplines; and
2. identify and apply authentic connections between two or more disciplines; and
3. distinguish between the essential concepts of the individual disciplines.

# Presumed distinctions

## **Multidisciplinary**

- separate contributions that selected disciplines make to a problem
- not concerned with integration.

## **Cross-disciplinary**

- one discipline having hegemony over the other
- one field becomes a passive object of study rather than an active system of thought.

## **Interdisciplinary**

- integration of the contributions of several disciplines to a problem
- necessary, more comprehensive and self-conscious perspective for addressing complexity.

# Assumptions for IP courses

3. Problem that our students cannot do interdisciplinary integration.

# Assumptions for IP courses

3. Problem that our students cannot do interdisciplinary integration, **but we don't have to expect the most advanced level of interdisciplinarity in general education.** T

# Criteria

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## **Add:**

efforts to meet the objectives should be evident across the entire syllabus and be reflected in lectures, readings, discussions, and assignments

# Assumptions for IP courses

4. Two courses are necessary to accomplish the goals of interdisciplinarity in general education.

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4. Two courses are necessary to accomplish the goals of interdisciplinarity in general education, **but not for interdisciplinary majors.**

# Assumptions for IP courses

5. The 38 hours of General Education will be taken during the first and second years.

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5. The 38 hours of General Education will be taken during the first and second years, **but our students do not and should not do so for Interdisciplinary Perspectives.**

# Summary

## Create a “big tent” of inclusive definition

- resist hierarchies of interdisciplinarity
- encourage courses from introductory to advanced levels
- encourage a wide variety of teaching modes
- defining rubric is the evident structure of interdisciplinarity throughout the design, syllabus, readings, and student work.

## Scale our expectations to course level

## Include advanced courses in General Education goal