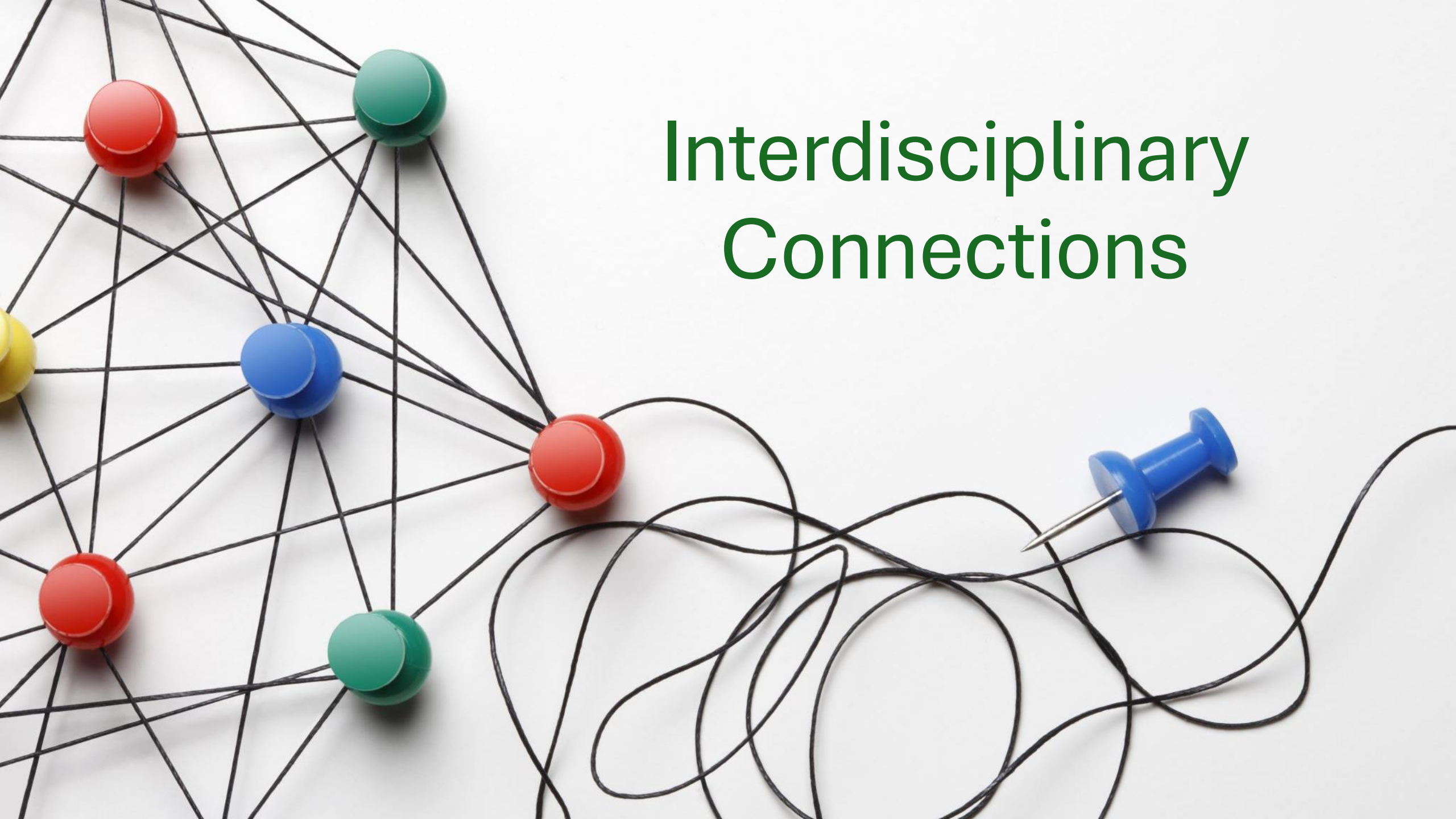


Interdisciplinary Connections

Goals

01

Describe key components of interdisciplinary collaboration.

02

Explore the common challenges and benefits of working across academic disciplines.

03

Identify practical strategies for designing interdisciplinary, student-centered assignments.

Interdisciplinary Connections Are Not…

A mash-up of topics

Side-by-side lessons without integration

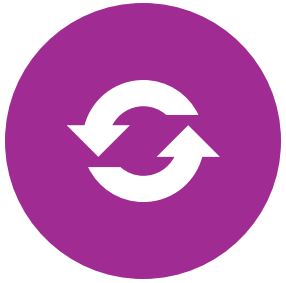
“Extra work” for students

Interdisciplinary Connections Are...

Centered on real-world questions

Designed for synthesis

Student Centered



Collaborative and Iterative

The Challenge is Real!

Interdisciplinary work sounds easy: “Just collaborate!”

In practice, it often means leaving your comfort zone.

You may be paired with someone you don’t know, from a field that sees the world very differently.

Why Interdisciplinary?

Interdisciplinary work models the kinds of problem-solving students will need in life and careers.

Today's global challenges are complex, interconnected, and unsolvable within a single discipline.

Interdisciplinary connections allow students to experience college more holistically—not as siloed courses, but as a web of overlapping experiences.

Interdisciplinary Work Supports the SDGs

The SDGs are inherently interdisciplinary.

Each goal requires insights from multiple fields to understand and address fully.

Solving real-world problems means bridging disciplines.

For example, reducing pollution (SDG 3.9) involves chemistry, public policy, ethics, history, and community engagement.

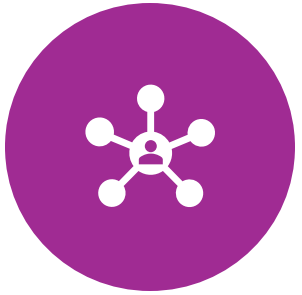
The SDGs give students a global, purpose-driven context for applying what they learn across courses.

Use these questions to guide you:

What shared problem or SDG are you addressing?

How does each discipline understand or approach this topic?

What kind of student work would both fields value?



How can you scaffold the experience to support connections between disciplines?

Developing Interdisciplinary Assignments Using Backwards Design

1. Identify the SDG that will be the unifying theme
2. Identify relevant individual learning outcomes from your course
3. Draft a shared learning goal
4. Decide on acceptable evidence for assessment
5. Plan learning experiences and instruction

Example 1- SDG 3 Good Health and Well Being

ECE 270 - Health, Safety and Nutrition

- Identify strategies and community resources that promote health, safety, and wellness (including topics on nutrition and vaccination) for families that are culturally responsive and reflective of their values.

COM 134 - Interpersonal Communication

- Generate organized, logical communication appropriate to the needs of a specific communication environment.
- Use precise writing, speaking and listening for a variety of audiences and purposes.

Example 1- SDG 3 Good Health and Well Being

Stage	Guiding Question	Example
Outcomes	What do we want students to learn?	1. Explain how cultural beliefs affect vaccine messaging. 2. Create a public service announcement addressing different cultural audiences.
Evidence	How will we know they've learned it?	• Students will create a public service announcement for two different cultural audiences. • Students will reflect on their choices in messaging and how it addressed different cultural beliefs around vaccinations.
Experiences	What will students do to get there? What resources will be needed?	Analyze real PSAs, co-write scripts, case studies, informative articles.

Example 2- SDG 13 Climate Action

BIO105 – Environmental Biology

- Collect quantifiable data using various field methods.
- Analyze data using graphical and statistical methods.

ART131 - Graphic Design 1

- Use typography as an artistic and technical element in design solutions.

Example 2- SDG 13 Climate Action

Stage	Guiding Question	Example
Outcomes	What do we want students to learn?	1. Explain the biological impact of climate change on a specific local or global ecosystem. 2. Design an infographic that communicates scientific findings.
Evidence	How will we know they've learned it?	• Students will submit an original infographic with accurate environmental data. • Students will reflect on their visual choices and how those choices reflect both the scientific content and intended audience.
Experiences	What will students do to get there? What resources will be needed?	• Analyze datasets on climate change indicators (e.g., sea level rise, species migration). • Study sample infographics. • Learn basic design principles (layout, color, hierarchy, typography) and tools (e.g., Canva, Adobe Illustrator). • Receive peer and instructor feedback on draft designs.

Example 3- SDG 6 Clean Water and Sanitation

CHM130 – Fundamental Chemistry

- Use scientific vocabulary to describe chemical phenomenon.
- Interpret the numerical and graphical presentation of scientific data.
- Use data to support a conclusion or interpretation.

SOC101 - Introduction to Sociology

- Analyze social stratification and social class.
- Explain how human diversity contributes to different perspectives.
- Define the relevant terminology and apply it to problems or issues.

Example 3- SDG 6 Clean Water and Sanitation

Stage	Guiding Question	Example
Outcomes	What do we want students to learn?	1. Identify the chemical properties and contaminants that affect water quality and human health. 2. Analyze how access to clean water is shaped by social inequality, policy, and infrastructure.
Evidence	How will we know they've learned it?	• Students will create a community awareness brochure or digital poster on a local or global water issue. • Include explanations of chemical contamination (lead, arsenic, nitrates) and a sociological analysis of who is most affected and why.
Experiences	What will students do to get there? What resources will be needed?	• Conduct a water quality simulation or analysis using provided chemical data. • Read case studies on water crises (e.g., Flint, Navajo Nation, or Dhaka). • Explore relevant chemical concepts (solubility, pH, ions, heavy metals). • Discuss sociological frameworks related to environmental justice and resource access.