

# Redesigning MIS140: Business Data Communication and Networking through Active Learning

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## Project Overview and Objectives

- Transform the MIS140 course from a theory-heavy structure into an engaging, hands-on experience using labs, simulations, and visual aids to support diverse learning styles.
- Increase diversity and success among student groups by making the course more inclusive and removing barriers like restricted access to tools such as Wireshark.
- Equip students with practical skills aligned to industry standards and certifications, preparing them for employment in data communications.
- Strengthen the MIS Program by splitting the course into foundational and advanced levels to attract a broader student base.

## Course Structure & Overview

**MIS140** – Data Communications and Networking (Introductory Level):

- Introduces students to foundational concepts in data communication through various active learning methods, hands-on labs, and visual tools.
- Designed to be accessible to students from all backgrounds, with a focus on experiential learning to build confidence and engagement in technical subjects.

**MIS1XX** – Advanced Topics in Networking and Communication (Elective):

- Explores advanced topics such as network security, cloud networking, routing protocols, and performance optimization using real-world case studies and simulations.
- Prepares students for industry certifications and careers in advanced IT roles through practical application of networking technologies.

## Summary of Active Learning (AL) Methods

The redesigned courses use active learning strategies to boost engagement and practical skills. AL methods such as Flipped Classroom, Project-Based Learning, and Team-Based Learning transform students from passive listeners to active participants. These strategies boost engagement, deepen understanding, and build practical skills, particularly in technical courses, by emphasizing collaboration, problem-solving, and real-world application. These methods create a more interactive, inclusive, and career-relevant learning experience.

## Current Project Results

- Attended Association of College and University Educators (ACUE) Course in Promoting Active Learning!
- Integrated several Active Learning techniques into MIS140 in Spring 2025, focusing on student engagement and concept application.
  - Example: Effective Note-Taking, Using Technology in Large Classes, Jigsaw Technique, Creating Small Group Activities

## Expected Outcomes

- Attract a broader and more diverse student population.
- Enhance engagement, reduce DFW rates, and boost academic performance.
- Equip students with practical skills aligned to industry needs and certifications, improving employability.
- Boost program reputation with a scalable, industry-relevant curriculum for diverse, larger cohorts

## Future Directions

- Implement other Active Learning techniques and make MIS140 course.
- Introduce more visual aids and hands-on activities to make MIS140 more engaging for students.
- Develop the advanced networking course MIS1XX

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