

ISEN 4821 - Capstone Design 1

Fall 2026 Syllabus, Section 01, CRN 40853,

Credit hours: 3

Instructor

Bharat Yelamanchi

Email: byelamanchi@ysu.edu

Public Instructor Information

Instructor Title: Assistant Professor

Instructor Professional Qualifications:

Ph.D., Materials Science and Engineering, Youngstown State University

M.S., Industrial and Systems Engineering, Youngstown State university

B.Tech, Mechanical Engineering, KLCE

Instructor Office Location: Moser Hall 2420

Instructor Office Phone: 330.941.3466

Course Description

4821. Capstone Design 1. The application of engineering techniques to the analysis, design, layout, and justification of manufacturing and service facilities. Subjects covered include, equipment selection, process flow, and material flow. The system design involves field investigation, acquisition and analysis of data, use of computer-aided facilities planning and design software, preparation of drawings, and writing a final report. Prereq.: ISEN 3723, ISEN 3720, ISEN 3727, and DATX 5801. Coreq.: ISEN 5801. 3 s.h.

Course Readings

Group	Title	Author	ISBN
	No readings		

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Week of	Proposed Topic	Due/To Prepare for Class
8/24	Introduction, Project Description, Team Dynamics in Project Management	
8/31	Introduction, Project Description, Team Dynamics in Project Management	
9/7	Introduction, Project Description, Team Dynamics in Project Management	
9/14	Project Classifications and Organization, Project Scheduling, Engineering Documentation; [Project Assignment from Industry Partners]	
9/21	Project Classifications and Organization, Project Scheduling, Engineering Documentation; [Project Assignment from Industry Partners]	



9/28	Project Classifications and Organization, Project Scheduling, Engineering Documentation; [Project Assignment from Industry Partners]
10/5	Interim report development methods
10/12	Work Sessions: Problem Statement/Definition of Problem, Customer Needs, Future Stat, Schedule
10/19	Work Sessions: Problem Statement/Definition of Problem, Customer Needs, Future Stat, Schedule
10/26	Work Sessions: Problem Statement/Definition of Problem, Customer Needs, Future Stat, Schedule
11/2	Work Sessions: Problem Statement/Definition of Problem, Customer Needs, Future Stat, Schedule
11/9	Work Sessions: Data Methods, Gathering, and Analysis
11/16	Work Sessions: Data Methods, Gathering, and Analysis
11/23	Work Sessions: Data Methods, Gathering, and Analysis
11/30	Work Sessions: Schedule Refinement and Interim Report Development
12/7	Work Sessions: Schedule Refinement and Interim Report Development

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.