



American University of Beirut
Maroun Semaan Faculty of Engineering and Architecture
Department of Industrial Engineering and Management

INDE 501: Final Year Project I

Fall 2023

Administrative details

Instructors:

- Dr. Nabil Nehme
 - **Email:** nn58@aub.edu.lb
 - **Office location:** Bechtel 409
 - **Office hours:** Tuesday from 2:00 PM- 4:00 PM
- **Credits:** 3
- **Textbook:** none; resources will be provided on Moodle

Catalog description

This is a capstone course where IE students utilize knowledge they acquired from different courses to design and develop an IE-related product or service. This is the first part of the course that spans through the final year of the student's study. *Prerequisites: Completion of third year in IE requirements.*

Course objectives

The objectives of INDE 501 are to:

- a) Allow students to apply the knowledge and skills from a wide variety of IE fields, including engineering economy, project management, operations research, supply chain management, ergonomics, and quality control, to a real-world complex system
- b) Encourage multidisciplinary approaches to tackling industrial engineering problems
- c) Allow students to enhance their problem-solving and analytical skills
- d) Make students aware of real-life constraints and allow them to critically evaluate alternatives before selecting a final option
- e) Foster teamwork and effective collaboration skills
- f) Enhance students' technical writing and professional communication skills

Course learning outcomes

After completing INDE 501, students will be able to

- Identify and describe a real-life industrial engineering problem and explain its practical importance to the system

- Conduct a literature review on a set of topics in industrial engineering that are related to the selected problem
- Identify all the economic, environmental, safety, and time constraints that characterize the real-life problem
- Select the most appropriate tools and techniques to tackle the selected problem, where the tools selected straddle more than one industrial engineering discipline
- Use the selected tools and techniques to find creative and feasible solutions to the selected problem, such as designing an improved product, developing a model, redesigning a layout, etc., that will improve the effectiveness and efficiency of the system
- Consider different alternative solutions and choose the most appropriate one based on a combination of criteria related to costs, safety, health, efficiency, etc.
- Work effectively as a team
- Give a clear and coherent presentation that summarizes their findings
- Write a well-structured technical report that details all their results.

Course grading

• Class and Team Meeting Attendance	10%
• Proposal	10%
• Progress Report	20%
• Final Report	30%
• Final Presentation	30%

Notes:

- *Details on each of the deliverables above will be communicated during the semester.*
- *All deliverables will need to be uploaded to Moodle by the due date and time. Late submissions will not be accepted.*
- *With the exception of the class attendance and presentation grade, all of the grades above will be group (i.e., not individual) grades.*
- *Students are expected to meet weekly with their assigned advisor.*
- *Any student who misses more than five lectures or meetings will be automatically dropped from the course.*

Course schedule

Date	Topic/ Deliverable
August 28	Introduction and proposal instructions
September 4	Proposal Discussion



September 11	Proposal Discussion
September 18	Deliverable 1: Proposal
September 25	Proposal Feedback
October 2	Literature Review Session
October 16	Progress Report Instructions
November 6	Deliverable 2: Progress Report
November 20	Final Report Instructions
December 1	Deliverable 3: Final Report
TBA	Deliverable 4: Presentations

Notes

1. It is expected that all material for this course will be a student's own original work. Plagiarism will not be tolerated and will result in a failing grade for all group members.
2. AUB strives to make learning experiences as accessible as possible. If you anticipate or experience academic barriers due to a disability (including mental health, chronic or temporary medical conditions), please inform me immediately so that we can privately discuss options. In order to help establish reasonable accommodations and facilitate a smooth accommodations process, you are encouraged to contact the Accessible Education Office: accessibility@aub.edu.lb; +961-1-350000, x3246; West Hall, 314.