



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

INDE 501: Final Year Project I

Fall 2017

Administrative details

Instructors:

- Dr. Bacel Maddah
 - **Email:** bm05@aub.edu.lb
 - **Office location:** Bechtel 316
 - **Office hours:** W 2-3 pm
- Dr. Nadine Marie Moacdieh
 - **Email:** nm102@aub.edu.lb
 - **Office location:** Bechtel 529
 - **Office hours:** M 3-4 pm
- Dr. Hussein Tarhini
 - **Email:** ht27@aub.edu.lb
 - **Office location:** Bechtel 504
 - **Office hours:** F 11-12

- **Class time:** F 4:30 - 5:30 p.m.
- **Class location:** IOEC 225
- **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

Component	Percent	Due date, if applicable
Class and group meeting attendance	10%	
Proposal	10%	October 6 at 5 pm
Progress report	20%	November 17 at 5 pm
Final report	30%	TBA (during the final exam period)
Final presentation	30%	TBA (during the final exam period)

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 seven lectures or meetings will be automatically dropped from the course.

Course schedule

Date	Topic	Deliverable
September 1	<i>(No class – Adha)</i>	
September 8	Introduction and proposal instructions	
September 15*	Proposal discussion	
September 22	<i>(No class – Hijra New Year)</i>	
September 29*	Proposal discussion	
October 6	<i>(No class)</i>	Proposal
October 13	Proposal feedback	
October 20	How to do a good literature review	
October 27	How to write good technical reports	
November 3	Progress report instructions	
November 10	How to give good presentations	
November 17	<i>(No class)</i>	Progress report
November 24	Final report instructions	
December 1	<i>(No class – Prophet’s birthday)</i>	
December 8	<i>(No class)</i>	
TBA		Final report + Presentations

*These classes will be held in IOEC 224A and B, in addition to IOEC 225

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.