



IE477 - IE 478 Systems Design

FEEDBACK ON FIRST COURSE COORDINATOR MEETING AND FUTURE REQUIREMENTS

Course Coordinators

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December 1, 2023



Common Feedback

- **Our Input:** Your presentation to coordinators (most recent), as well as your previous work
 - **Feedback:**
 - (1) During the First Coordinator Meeting (individual feedback)
 - (2) During this presentation (common feedback)
 - Related to your approach
 - Related to planning your work
 - Related to communicating your work
 - (3) End of this presentation (individual feedback)
 - “STate Of the Project” (STOP) letters
-



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 - ~~“STate Of the Project” (STOP) letters~~ “STate Of the pRojecT” (START) letters
-



Feedback – Related to Approach

It is understandable that some components are missing: first experience

- Need to question the given limits, constraints imposed:
 - Your role: Persuade all sides, if necessary, to lift those limits which are “artificial” and replace them with decisions
 - Do not take anything for granted – critical thinking, systems-view
 - Persuasion requires solid evidences – not words
- Lack of focus on more important/crucial ideas



Feedback – Related to Approach

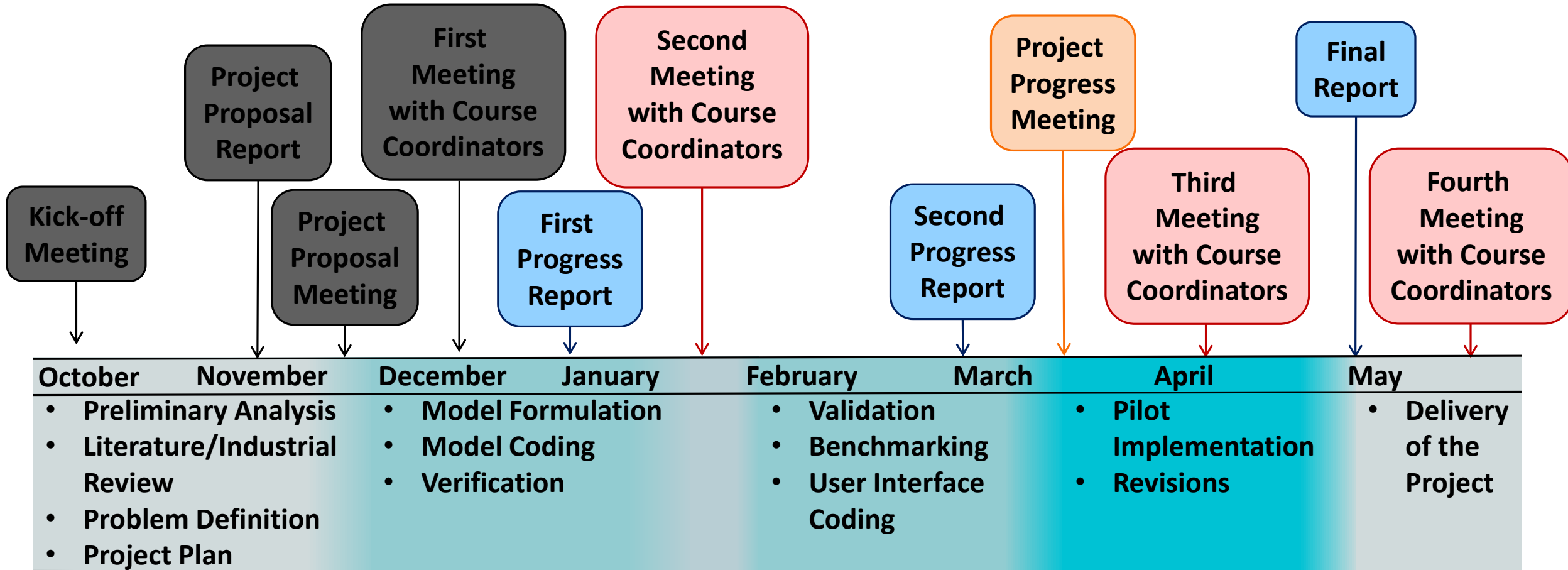
System design issues – mostly not solving a problem at one time, but **implement it repeatedly!**

almost all conditions!

- Does your approach have issues related to infeasibility?
- How fast do you obtain a solution?
- Re-running (or updating) of your proposed solution
- Rolling horizon – keeping track of earlier decisions, applying them for the next decisions?
 - Consider the information you need (state of the system at the time of running your proposed approach) as input every time you run. Make sure that it is available in the current system.



Roadmap





Requirements

- ~~Kick-off Meeting~~
 - ~~Project Proposal Report~~
 - ~~Project Proposal Meeting and Presentation~~
 - ~~First Meeting with Course Coordinators~~
 - First Progress Report **Draft Due December 6 Report Due December 20**
 - Second Meeting with Course Coordinators **January 8, January 9**
-
- Second Progress Report **Report Due Early March**
 - Project Progress Meeting and Presentation **Mid to Late March**
 - Third Meeting with Course Coordinators **Early to Mid April**
 - Final Report **Report Due Mid May**
 - Fourth Meeting with Course Coordinators **Late May**
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First Progress Report and Second Meeting with Course Coordinators

- Brief definition of the Problem
- Literature Review
 - Previous studies in the scientific literature
 - Similar Studies in the industry

- Proposed Methodolgy
- Model Development and Verification
- Plans for Validation
- Time Plan

You will upload a video by **Jan 3**. However you will also present **LIVE** during the meeting.



Verification

What is model verification?

- Check if model constructed (approach) is yielding results, solutions as intended (expected, planned)
 - Do you cover all desired components/cases? Extreme cases? Infeasibilities?
 - Is your approach useful? Do you obtain a solution in a reasonable amount of time when an input comparable to the size of input in real life is provided?
- **No need to have real data for Verification!**
- **Read the document on the course Web Page**

Verification is to be completed by the end of the Fall semester!



Validation

What is model validation?

- Check if models constructed are yielding results comparable to current affairs when current decisions are implemented.
- Is your approach/model **credible**?
- You have to make sure that you know and company agrees on how, when and with what input/output to make the validation of your approach.
- **Start planning **NOW** for Spring Semester.**
- **We want to see the plans for validation in your First Progress Report**



Benchmarking

What is benchmarking?

- Benchmarking is testing and showing the benefit of your approach compared to what is currently done
 - A natural follower of VALIDATION.
- You need the following (for validation, as well):
 - How are the decisions made in the current system?
 - What performance measures are used?
 - Comparison methods: Simulation using the past data; Implementation of your approach by the company; others



Benchmarking

Measure the benefit of the proposed approach

- Make sure that you can quantify the benefits you bring and make comparison with the current system – benchmark your results with the current system.

This is what you need to plan for Spring, after validation (partly with validation)



Time Plan

We want you to make sure that you see your future activities as detailed as possible.

- Some groups did not consider planning Spring semester at all!
 - Verification and plans of validation by the end of December.
 - Work packages and time charts are needed for you to consider these activities
 - **TARGET IS AN ALMOST COMPLETE PROJECT by Mid-March**
 - Then, minor changes.
-



Feedback – Related to communicating your work

- Feedback on reports - take it seriously
- Feedback on presentations - take it seriously
- Prepare for all meetings, including presentations
- Get the feedback – no need to be defensive – may not need to respond immediately – take notes
- Issues mentioned/questions raised during your presentation may either show those you missed or those which you were not able to present properly



Feedback on team work and Peer-Reviews

- Use empathy - Plan ahead - Balance workload
- A suggestion for how to do?
 - Review the state of each ongoing task in every meeting
 - Estimate the probability that task will finish by its deadline
 - Revise the plans if necessary
 - If a task was not finished on time, discuss the reasons together.
Come up with an alternative plan
- Focus on the problems and not on personalities



Project Management System

- Project Management System
 - All project related tasks, task assignments, outcomes will be posted
 - Each student must have a **task** in each **phase** of the project
 - All meetings with your IA and AA (meeting agenda and minutes)
 - Your CC, AA and IA will have access to this system to monitor your progress
- More details available on the course web page



Project Management System

Work packages

Search ...

+ Create Include projects 1 Filter 0 Table

SUBJECT	TYPE	STATUS	PRIORITY	ASSIGNEE	START DATE	FINISH DATE	
Problem Analysis	PHASE	Done	Normal		03 Oct 2022	28 Oct 2022	
Literature Review & Description of the System Sections	TASK	Done	Normal		03 Oct 2022	28 Oct 2022	
Literature Review & Description of the System Sections	TASK	Done	Normal		03 Oct 2022	28 Oct 2022	
Current System Analysis and Problem Definition Sections	TASK	Done	Normal		03 Oct 2022	28 Oct 2022	
Current System Analysis and Problem Definition Sections	TASK	Done	Normal		03 Oct 2022	28 Oct 2022	
Proposed Solution Strategy and Outcomes & Deliverables	TASK	Done	Normal		03 Oct 2022	28 Oct 2022	
Proposed Solution Strategy and Outcomes & Deliverables	TASK	Done	Normal		03 Oct 2022	28 Oct 2022	
Proposed Solution Strategy and Outcomes & Deliverables	TASK	Done	Normal		03 Oct 2022	28 Oct 2022	
Data Manipulation& Wrangling	TASK	Cancelled	Normal		04 Nov 2022	-	
First Meeting with Course Coordinators	MEETING	Planned	Normal		23 Nov 2022	28 Nov 2022	
Modeling	PHASE	New	Normal		01 Nov 2022	22 Dec 2022	
Deciding Weights of K-mean	TASK	Done	Normal		16 Nov 2022	22 Nov 2022	
Searching how to add weight to K-mean algorithm	TASK	Done	Normal		16 Nov 2022	22 Nov 2022	
Searching how to add weight to K-mean algorithm	TASK	Done	Normal		16 Nov 2022	22 Nov 2022	
Searching for similar and alternative algorithms for K-mean	TASK	Done	Normal		16 Nov 2022	22 Nov 2022	
Searching for Stochastic model in inventory replenishment	TASK	Done	Normal		16 Nov 2022	22 Nov 2022	
Searching for Stochastic model	TASK	Done	Normal		16 Nov 2022	22 Nov 2022	
Searching for Stochastic model	TASK	Done	Normal		16 Nov 2022	22 Nov 2022	

(1 - 49/49)

Per page: 20 100



Meeting Agenda and Minutes

- Use the Meetings module of Project Management System
 - Declare the agenda of the meeting well in advance.
 - Take notes of
 - What was discussed and decided?
 - What is to be done next?
 - Who has to complete which task by when?
 - Send minutes to all participants for review (group members, IA, AA, CC, ...) no later than 24 hours after meeting
 - Ask for additions and corrections
 - Include additions and corrections in the revised minutes
 - Send the participants the revised/final version of the minutes
-



Feedback - Attitude

- We see the groups mostly energetic and enthusiastic - we are very happy with that.
 - However, this positive attitude usually has not been transformed into more concrete results in your approach, solution methodologies, etc.
 - Please solve the desired problem. Do not see the milestones as a set of homework assignments.
 - More thorough discussions of various issues related to the project are probably needed within the group.
 - We want to see a more innovative student body.
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Feedback - Other

- We frequently observed some other problems
 - Use of jargon (Turkish, English)
 - You will perform two more Turkish presentations next semester
 - Borrow one copy of the TMMOB IE&MS Terminology Dictionary from the department secretary
 - Meetings: Be active, body language, dress code
 - Professionalism



WE ARE OPTIMISTIC - EXPECTING IT TO CHANGE



IE 477 Course Coordinator Meeting





IE 477 Meeting





IE 477 Meeting





IE 477 Meeting





GENÇ AKADEMİ





Feedback - Other

- Learn to **READ** and **FOLLOW** instructions
 - Format requirements
 - Make sure that you have relevant and meaningful titles for the project (both in English and Turkish) that all parties accept
 - Title page of presentations/reports should contain all names in alphabetical order according to your last names
 - Bilkent logo should be on your presentations
 - Do not exceed the time allotted to your presentation.
 - Check Roadmap page often to get up-to-date with new documents
 - Documents related to spring semester
 - Supplementary documents
-



Feedback - Other

- Emails/Announcements
 - Read the announcement emails carefully!
 - Files/Uploads
 - Filenames must have project short-codes for ALL files you upload.
 - Do not upload any ZIP/RAR files to Bluesky.
 - Handouts for the CC meeting
 - Should be short, precise, and readable by us in less than a minute. We do not look at those after the meeting.
 - Bilwrite
 - Plan in advance to receive feedback on time
-



IE 477 Assessment Criteria

- Our expectation:
 - Brief definition of the Problem
 - Analysis of the current system
 - Literature Review
 - Previous studies in the scientific literature
 - Similar Studies in the industry
 - Proposed System - Methodology
 - Model Development and Verification
 - Project Plan: Timetable + clearly specified work packages (and preliminaries on the work should have been initiated) for IE 478



Final Remarks

grading + final presentations

- We are planning to grant I grade (incomplete grade) for at least two situations described below:
 - Those groups which we think will considerably improve their position after a couple of weeks of additional work
 - Those groups which will fail if the group can not bring the project to an acceptable level
- In the next round of group presentations to us we are planning to ask more questions to individuals - just to confirm team work component of the course.



Reminder: Incomplete Grade Resolution

- The Incomplete grade must be resolved:
 - 14 days after the announcement of the letter grades (Jan 24, 2024)
 - Before the add/drop period of the next semester begins (Jan 26, 2024)
(whichever is earlier). It will become FX if not resolved.
- During this time period the status of the student (Satisfactory, Probation, Unsatisfactory...) cannot be calculated.
 - **Course pre-loads cannot be performed** (Jan 18-24 for mandatory courses, Jan 25 for elective courses)
- When you submit your new work to us, allow for 2-3 days for the actual letter grade to be updated on STARS (paperwork).



Traditional Envelope Ceremony

- In these envelopes you will find:
 - Your group's START letter
 - A surprise gift for one group...