



IE477 - IE 478 Systems Design

GENERAL INFORMATION AND SCHEDULE

Course Coordinators:

Dr. Savaş Dayanık

Dr. Nesim Erkip

Dr. Emre Uzun

Administrative Coordinator:

Yeşim Gülseren

Teaching Assistants:

Yunus Emre Çakır

Aslı Eroğlu

Defne Tan



Outline

- IE 477 Wrap-up and Feedback
- IE 478 Notes on Implementation/Integration
- IE 478 Summary of Requirements followed by details
- Project Fair
- Reminder of the Assessment Criteria



Feedback

General Observations

- **Grading issues**
 - grading IE477 – “not the whole picture visible”
 - grade you will receive from IE478 is the correct indicator of your performance
 - regardless of the grade received for IE477, **ALL** of the groups have a chance of presenting in the project fair.
- **Academic Advisor’s** presence - in developing/enhancing project ideas. Make sure that you make use of the expertise by preparing and asking correct questions



Feedback

General Observations

- **Relevant for almost all groups/individuals**
 - Change of approach: A student versus an engineer. Not a standard course in this respect.
 - Realizing IA's role: Validation/Implementation/Integration
 - Problems in reporting persists; for some presentation styles have improved – always room for improvement
 - Performance in meetings – Will improve with the level of maturity of your work
Best individual preparation is to be a part of the team continuously.



Feedback

General Observations

- **Work-in Progress and Issues Regarding Validation / Implementation / Integration:** Only a few groups are aware of the vast challenges in the real environment and its relations with what we call “implementation” of the project and further integration with the current system



Feedback

Communicating your work as a group

- Re-visit ENG 401 until it's too late
 - Presentations
 - Rehearse your presentation mimicking the conditions of the real presentation
 - Practice presenting **without any printed presenter notes or reading directly from the slides/tablet**
 - Make sure that you emphasize the relevant and most critical parts - limited time
 - Tables, figures and animations are critical in presentations
 - All material put on the slides must be easily readable. However, do not expect the audience to read paragraphs-long text in seconds!
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Feedback

Communicating your work as a group

- Reports: lack coherence
 - titles, subtitles are instrumental in emphasizing what your actual strong points are
 - **figures, tables are very powerful** instruments
 - read/upgrade with full capacity
 - prepare for **limited number of pages**, as well
 - minor but important issues:
 - Write dates on reports and presentations (first page)
 - relevant and meaningful titles for the project
 - Title page of presentations/reports



Notes on Implementation (1)

- Most of the projects are related to developing procedures which will be repeatedly exercised.
- One important task for the this semester (systemic characteristic):
Frequency of exercising the developed procedures, algorithms, etc.;
 - Need to make sure that information needed to run those will be available at the required times
 - We see this is crucial while integrating your approach to company's decision-making procedures.
- Options for sensitivity analyses



Notes on Implementation (2)

- Your IA should be able to use your developed procedures as seamlessly as possible, meaning that you should have a working user interface (not necessarily the final one) that will streamline all steps of your procedure
 - leave the user with almost no complicated manual task
 - include any intermediate steps requiring data/file transfer
- Without these, it will be unattractive to an end user and hence your project will not likely be implemented extensively, if not at all



Notes on Implementation (3)

- State the limits of your project openly (should NOT be data related).
- Another systemic characteristic: When do you recommend your industrial advisor to repeat your analyses (IE477+) to adapt to changes?
 - Specify information and/or data which will be a determinant to decide on the timing of this change.
 - Crucial part of system implementation/integration and an approach to keep it alive in the future should be recommended.

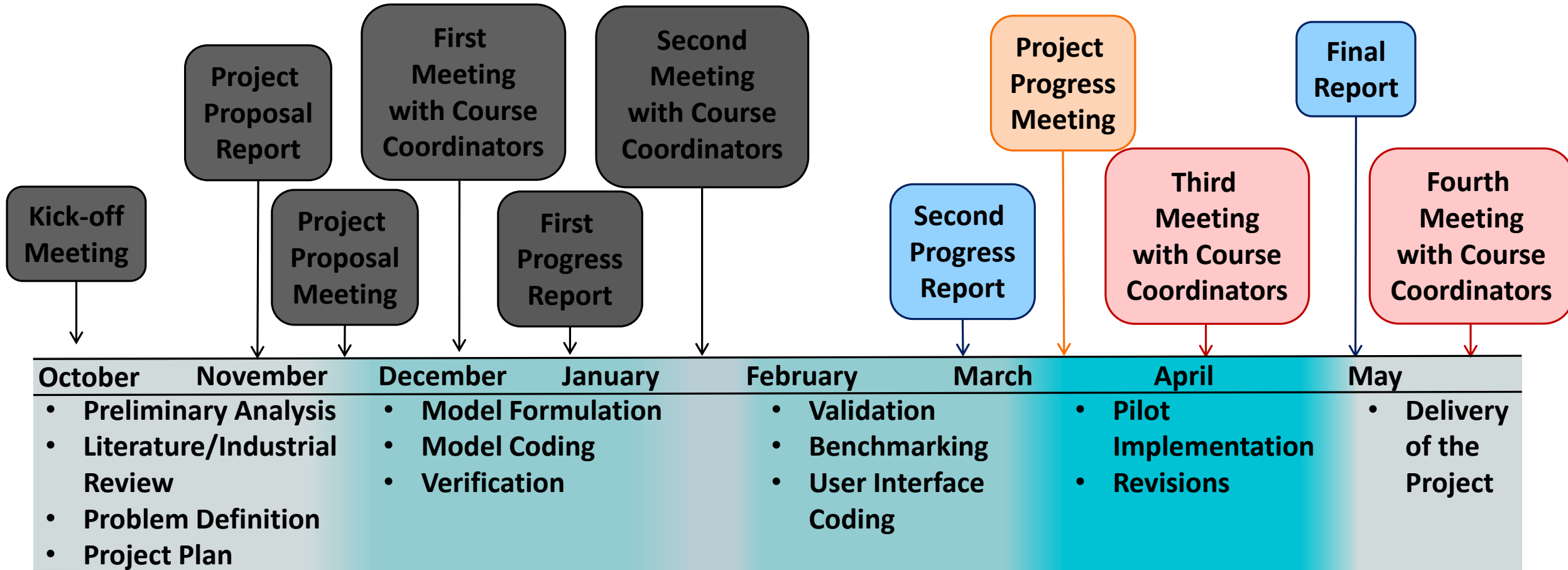


Notes on Implementation (4)

- A limited number of project themes are based to **one-time implementation**. Hence, we do not expect the developed methodology to be repeated soon – no need to be integrated with the current system
- In those projects you must make sure that you covered several scenarios
 - Sensitivity analyses of your input
 - Role of your assumptions
- Make sure that the approach is valued



Roadmap





SUMMARY of REQUIREMENTS

- Second Progress Report
 - Final Report
 - 10-Page Project Summary (Booklet Report)

 - Progress Meeting and Presentation
 - Third Meeting with Course Coordinators
 - Fourth Meeting with Course Coordinators

 - Submission of the Deliverables

 - Project names (In Turkish and English)
 - A poster to be displayed/presented in the project fair
 - A one-page PowerPoint slide

 - Two peer evaluation forms filled individually
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Second Progress Report and Progress Presentation

- Status of progress with respect to deliverables (including reports/manuals)
- Approach, model, codes must be verified; validation either is completed or about to be completed
 - Additional needs for validation (data collection, etc) are firm and clear.
- Project must be almost ready for implementation and project team must provide an implementation plan of the project



Second Progress Report and Progress Presentation

- Company Representatives
- Academic Advisor
- Coordinator

Draft due: **February 19**
Report Submission: **March 1**

Presentations: **March 11 – March 29**
(All groups should be ready by March 11)



Third Meeting with Course Coordinators

- All groups will present the status of their projects to all course coordinators.
- This meeting will determine in part the 12 groups that will be short-listed for the project fair qualification.

Meetings: **April 15, April 17 and April 19**

(Presentation and videos should be ready by April 5)



Final Report

- This report should contain all the relevant work you have done for the project and will be in English.
- Company requirements (if any): An example is a User Manual for using your approach for decision making (or support decision making) put it as an Appendix.

Draft due: **May 6**

Report Submission: **May 17**



Fourth Meeting with Course Coordinators

- All presentations are **in Turkish**
- Total duration for presentation is **5 minutes**
- Dates and times and mode to be announced later (during the final exam period)
 - Short listed groups will be announced by **May 18**
- Rehearsal for the project fair; 8 groups only.
 - Finalists will be announced shortly after the meetings.
 - **Live Rehearsal: June 3**



Projects Booklet (To share at large)





Projects Booklet

- 10-page summary report in English with a Turkish abstract.

Report draft to academic and industrial advisor and teaching assistant: April 16

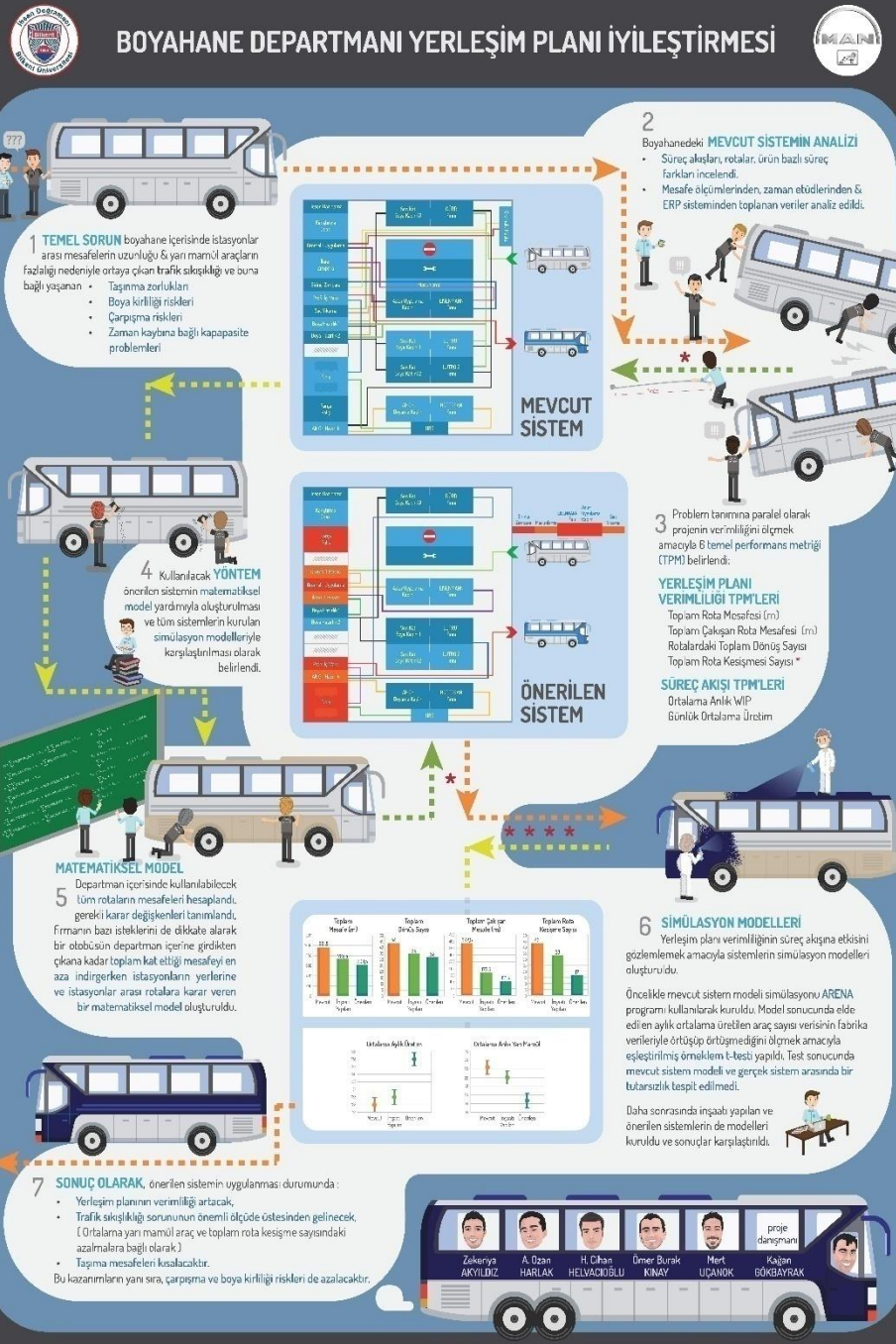
Final version: April 30

- **MUST BE approved by the company!**
- Please pay attention to format requirements!
- Use the Turkish Terminology Dictionary!



Poster

- In Turkish
 - Draft Submission: May 10
 - Feedback: On or about May 15
 - Final Submission: May 18



Mağaza İçi Teşhir Yönetimine Yardımcı Karar Destek Sistemi

Merve Büyükbaş anısına... Değerli dostumuz Merve Büyükbaş'ın 25 Mayıs 2015'te kaybettiğimiz. Projeimiz boyunca varlığı ve emeği ile bizim için hep ilham kaynağı olan Merve'nin değerini anısına...

Ali Bozkurt
Elife Buluç
Merve Büyükbaş
Nilgün Dönmez
Yağmur Güven
Sertuğu Kostik

TepeHome

Problem Tanımı ve Amaç

Tepe Home mağazalarının ürün sergileme süreçlerinin belirli bir standart çerçevesinde gerçekleştirilmesi ve bu durumdaki kaynakların mağaza içi komplikasyonlar-Kararsız yerleşim örnekleri

Tepe Home mağazalarının aksesuar koleksiyonunun sergilenişine yardımcı olacak bir karar destek sistemi tasarlanarak müşteri dikkatini yüksek tutmak ve satışlarda artış yakalamak.

Önerilen Süreç

Yeni ürün → ürün değerlendirme (Sistem kullanıcıları tarafından boyut, koleksiyon ve satış bilgileri girilir)

ürün yerleşimi ↔ bilgi girişi ve çıkışı (görsel örnekler diğer ürünlerle ilişkilendirilir)

Önerilen Matematiksel Model

Kar ve uyumluluk enilemesi

Ürünlerin alanlara yerleşimi

Sonuç

Raf 1	Çay bardağı	Su bardağı	Amerikan servisi
Raf 3	Sampir marm	Musluk	Tart marm
Raf 4	Kupa	Kıyafet ayacı	Dekoratif obje 1
		Dekoratif obje 2	Etiket askısı
		Sabunluk	Elanyo kovası



Project Fair and Competition 2024

Thursday, June 4, 2024 at Bilkent ODEON





Important

- Time to devote to the project in the **spring semester** is **even more significantly challenging** than a regular course and IE 477
 - Too much course load is not desired
- Part-time Jobs, Internships
 - No excuse for any **part time job** you may have.
 - You have to perform all of your duties that are assigned to you in your group.
 - You have to attend all meetings with your advisors and coordinators!

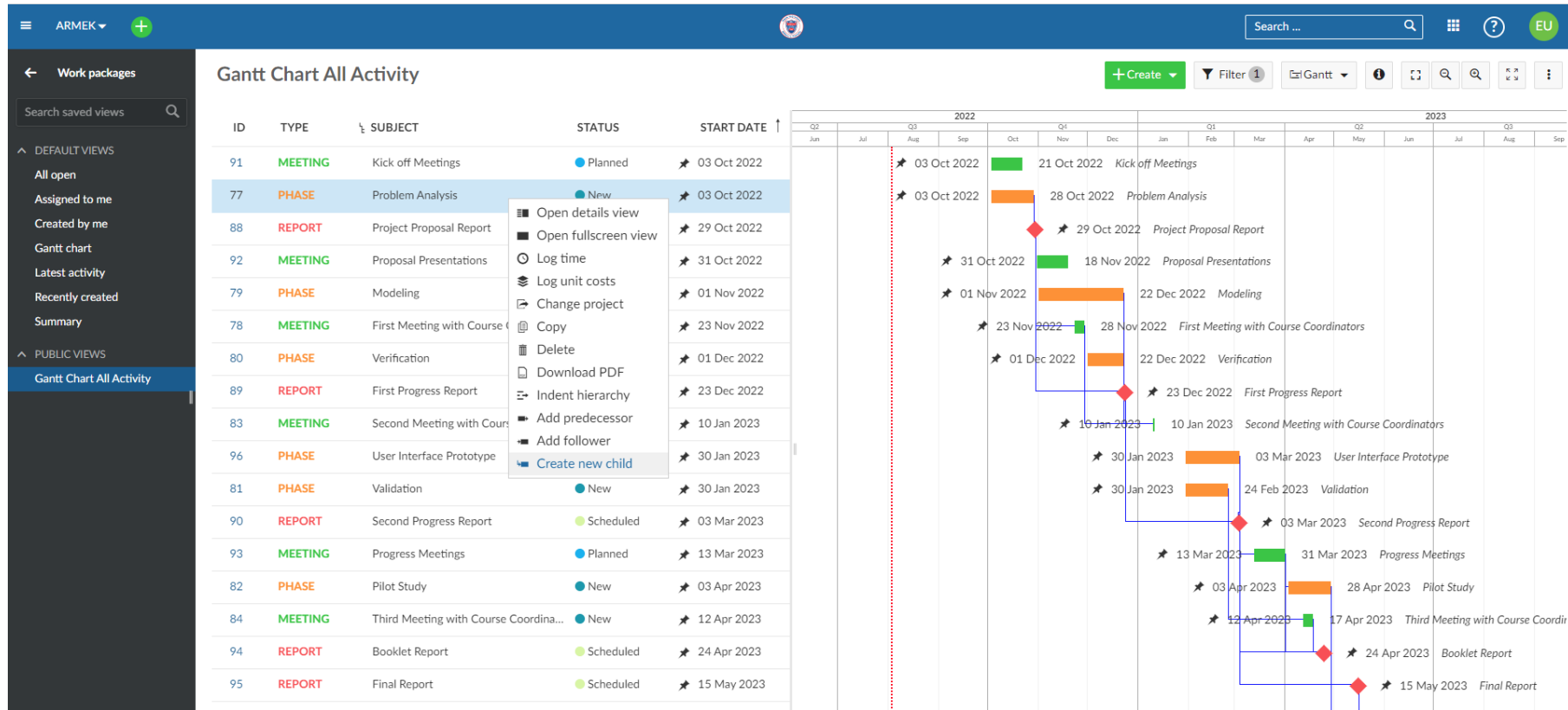


Upload / Naming Principles

- You will upload a lot of documents to the links provided.
 - Your **file names** must contain your 4-5 character project **short-code** along with its purpose:
 - Example from previous years:
 - Arçelik Bolu Pişirici Cihazlar Fab: ARBOL
 - BSH Ev Aletleri: BSHE
 - ETİ Talep Tahmin: ETIT
 - DHL Depo İyileştirme: DHLD
 - File name could be: ARBOL-ProposalReport
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Project Management





Project Management

- 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



General Meetings

- This semester there are 3 general meetings scheduled*:
 - **Jan 31 (Today):** Introduction and General Schedule
 - **Apr 24:** General Feedback on Progress
 - **Apr 24 or 26**:** Booklet Photoshoot Day

* Subject to change

** Weather permitting



Capstone Projects Assessment Criteria

- System design:
 - **Model development and validation:** The proposed model can be an optimization, statistical, database, marketing or simulation model.
 - **Consideration of alternatives:** Extent to which the team demonstrated critical thinking in the design process.
 - **Scenario / what if analysis:** Model usage for changing environments.
 - **Creativity:** Extent to which the team developed a novel solution to the design problem while still achieving a functional design.
 - **Technical competencies:** Extent to which and validity of the technical aspects have been used properly, including methods, tools and techniques.
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Capstone Projects Assessment Criteria

- Success of the design:
 - **Attainment of project deliverables:** Extent to which the goals of the project and end-user specifications have been met.
 - **Benchmarking:** A comparison of the current and proposed systems should be provided along with a cost/benefit analysis.
 - **Implementation and system integration:** Extent to which the proposed system is successfully implemented and integrated into the existing system. (If not applicable a detailed implementation plan and a pilot study should be provided.)
 - **End-user evaluation and assessment:** A written statement from the industrial advisor(s) evaluating the project.
 - **Impact on the organization:** Effect of the proposed system on the organization in large (financial impact, affect on company's operational policies, etc.).
 - **Global and societal impact:** Consideration
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Grading

- Grading is based on evaluations on:
 - **Reports**
 - Second Progress Report
 - Final Report Report
 - Booklet Report
 - **Meetings and Presentations**
 - Progress Meeting and Presentation
 - Third Meeting with Course Coordinators
 - Fourth Meeting with Course Coordinators
 - **Group dynamics**
 - Academic/Industrial Advisor Individual Evaluation
 - Peer Evaluation
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Grading

- You will not see individual grades for these evaluations
 - **Feedback** during the semesters
 - **Letter grades** at the end of each semester
- What might land you on a lower letter grade?
 - Not participating to key parts of the project
 - Not providing a satisfactory answer to questions about your project
 - Not attending to meetings
 - Not submitting required documents on time