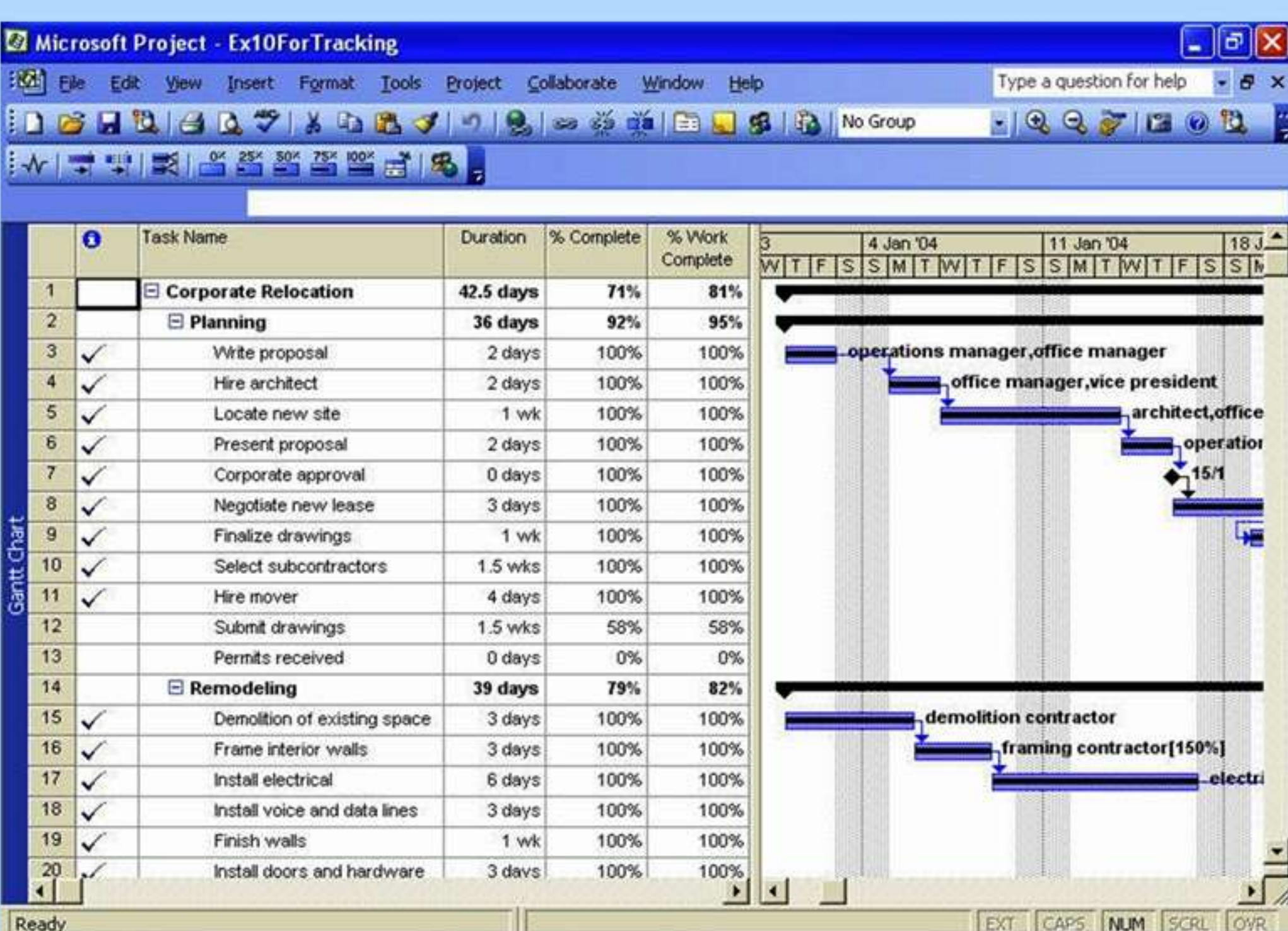


OVERVIEW

The evolution of project planning is increasingly affecting the roles of construction management professionals in the construction industry. Teaching MS Project in construction management (CM) curricula requires more emphasis on learning MS Project as a process improvement methodology rather than only technology. This poster describes this course's experiences on MS Project that was developed to educate the next generation of construction managers to understand MS Project and effectively use an existing MS Project in plan execution for construction projects. This class is a project-based course where students learn about the implementation of MS Project throughout the lifecycle of a project.



OBJECTIVES

This course is designed to provide students with core concepts of project planning, the knowledge of implementing project planning as a process throughout the project life cycle, hands-on experience with MS Project software, and the opportunity to develop collaboration skills and critical thinking through group projects and individual assignments (Johnson & Gunderson, 2009). By taking this course, students will be able to:

- (1) define project planning;
- (2) describe workflow in using MS Project in the building lifecycle;
- (3) apply MS Project for project planning in construction projects.

ACTIVITIES

The course contents are organized into educational modules covering various topics such as cost estimating, construction scheduling, and progress monitoring. As shown in Table 1, every module is composed of four sessions:

- (1) background introduction - introductory lecture supplemented by additional reading assignments;
- (2) lab session I - step by step hands-on tutorial led by a lecturer;
- (3) lab session II - time for questions workshop when students are free to seek help, ask questions, work in groups and interact with other groups and;
- (4) reflection and discussion – assignment delivery and team presentations.

OUTCOMES

In the assignment, students can use MS Project scheduling software to plan activities to visualize and analyze construction processes from the construction schedule. Students can develop schedules for constructing slabs, walls, columns, beams, and windows of a section of a building. This activities can help students in assessing the usefulness of MS Project to understand construction processes.

Students evaluated the lecturer through the university's course survey. The end-of-semester course evaluation and students' learning outcomes both demonstrate the benefits of this approach. The average course rating was 4.4 out of 5.0, ranging from 4.2 to 4.6. The students' positive written feedback includes: "Very valuable course provided me terrific hands-on skills."

CONCLUSIONS

This course emphasizes the study of the MS Project as an important mechanism that affects the overall performance of the project in several ways. Understanding the core concept of project planning and its far-reaching effect with practical training on creative and critical thinking is far more important than mastering a piece of software. Project-based learning offers real-world challenges for lecturer and students (Savery, 2006). A blend of lectures, team-based learning, and individual learning provides students with well-structured skills. It allows them to research the subject in a collaborative atmosphere complemented by self-reflection.

LESSON LEARNED

Reflecting on the course, the main lessons learned include: (1) project-based learning, (2) modular structure of the course design, and (3) constant tracking of learning outcomes. This course can be considered a good MS Project training experience in construction management programs. With continuous adjustment and enhancement over time, the proposed project-based learning method has been successfully adopted and received by students.

REFERENCES

1. Johnson, B.T. and Gunderson, D. E., (2009). "Educating Students concerning Recent Trends in AEC: A Survey of ASC Member Programs." Associated Schools of Construction: Proceedings of the 45th Annual Conference. University of Florida – Gainesville.
2. Savery, J.R. (2006), "Overview of Problem-based Learning: Definitions and Distinctions." The Interdisciplinary Journal of Problem-based Learning, 1(1), 9-20.

Session	Instructional Approach
1. Background/ Introduction	Lecture (topic introduction) + Individual learning (reading assignment and class discussion)
2. Lab session I: tutorial	Lecture (software tutorial) + Team-based learning (hands-on exercises)
3. Lab session II: workshop	Team-based learning (time-for-questions workshop; hands-on exercises)
4. Reflection and discussion	Team-based learning (group presentations and discussion)

Table 1. Structure of Educational Module.