



## ΠΠΜ 515: Προχωρημένα Θέματα Διεύθυνσης Κατασκευαστικών Έργων

Εαρινό Εξάμηνο 2007

Πέμπτη 6:00 μμ – 9:00 μμ

Advanced and contemporary topics in construction project management. The topics include, among other, offerings on Fully Integrated and Automated Project Processes (FIAPP), 3D/4D computer-aided modeling of construction processes, decision-support systems in construction, construction and the law, etc. The course is taught based on a real-life construction project and entails heavy use of specialized software (Primavera Project Planner, AutoCAD/Microstation, MS-Project, NavisWorks, MS-Excel, MS-Access).

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Ειδικά προχωρημένα θέματα διεύθυνσης κατασκευαστικών έργων. Θέματα επικαιρότητας στο τομέα Διεύθυνσης Κατασκευαστικών Έργων όπως Πλήρως Ολοκληρωμένα και Αυτοματοποιημένα Συστήματα Διεύθυνσης Έργων (FIAPP), Νομοθεσία και Κατασκευαστικά Έργα, Συστήματα Πληροφοριών και Αποφάσεων στη Διαχείριση των Κατασκευών, Οικονομική Εκτίμηση Κύκλου Λειτουργίας Συστημάτων και Διαχείριση Έργων, Εκτίμηση και Ανάλυση Κινδύνων, κλπ.  
(6 π.μ. ECTS:3-0-8)

Τα θέματα διδάσκονται με βάση συγκεκριμένο κατασκευαστικό έργο και με σημαντική χρήση λογισμικών (Primavera Project Planner, AutoCAD/Microstation, MS-Project, NavisWorks, MS-Excel, MS-Access).

**Το μάθημα θα περιλαμβάνει αγγλική ορολογία και βιβλιογραφία.**

<b>Καθηγητής</b>	Δρ. Συμεών Χριστοδούλου Τηλ. : 22-892270, <b>e-mail : schristo@ucy.ac.cy</b>
<b>Ώρες Γραφείου</b>	Τρίτη, 11:00πμ – 12:00μμ Πέμπτη, 5:00μμ – 6:00μμ, ή με ραντεβού
<b>Ιστοσελίδα Μαθήματος</b>	<a href="http://www.eng.ucy.ac.cy/schristo/CEE515.htm">http://www.eng.ucy.ac.cy/schristo/CEE515.htm</a>





### Recommended Textbooks

None available

### References

Instructor's Notes

### Software

Primavera Project Planner (ή MS-Project), NavisWorks, AutoCAD/  
Microstation, MS-Excel, MS-Access, MonteCarlo, Stroboscope.



### Course Requirements:

Produce a professional quality proposal for FIAPP-Based CM/GC services consisting of (1) an estimate and a schedule for the term project; (2) a project control system with examples; and (3) 3D/4D animations of proposed construction sequences.

### Course Evaluation/Grading:

Students will work in teams of 3-4. Each team will submit two deliverables. The first involves the submission of a bid and a schedule for the term-project. The second is a proposal for managing the construction of the project, including all relevant information on the firm's competence in FIAPP. The team grade is based on the quality of the proposals and meeting of the deadlines.

Evaluation Method	Weight
Participation	5 %
Individual Assignments	15 %
Midterm Exam	-
Term Project	
Part A	20 %
Part B	25 %
Part C	10 %
Final Exam	15 %
Presentation	10 %



### Sequence of Lectures:

<i>Week</i>	<i>Date</i>	<i>Topic</i>	<i>Reference</i>
1	Th. 25-Jan	Introduction to FIAPP. Introduction to Term Project. <ul style="list-style-type: none"><li>○ <i>Evolution of FIAPP, integration and automation, data-centric vs. data-as-component models</i></li></ul>	Instructor's Notes HWK 1 (individual): Literature Review on FIAPP/FIATECH
2	Th. 01-Feb	Project Scheduling <ul style="list-style-type: none"><li>○ <i>The project plan &amp; principles of project scheduling</i></li><li>○ <i>Computer-based project scheduling (Primavera)</i></li></ul>	Instructor's Notes, Term Project HWK 2 (individual):
3	Th. 08-Feb	Computer-based project scheduling (Primavera)	Instructor's Notes HWK 3: Primavera (Individual) Term Project (Group)
4	Th. 15-Feb	Introduction to relational databases. <ul style="list-style-type: none"><li>○ <i>Data structures, relational databases, primary/secondary keys, client-server applications, queries, SQL, reports, interface development, event-driven applications, ODBC.</i></li></ul>	Instructor's Notes HWK 4 (individual): MS-Access
5	Th. 22-Feb	Term Project: Traditional Construction Management <ul style="list-style-type: none"><li>○ <i>Quantity takeoff</i></li><li>○ <i>Bill of materials/Estimating</i></li><li>○ <i>Scheduling</i></li><li>○ <i>Project Controls</i></li></ul>	Instructor's Notes HWK 5 (group): Term Project (scheduling, cost estimating)
6	Th. 01-Mar	Term Project: FIAPP <ul style="list-style-type: none"><li>○ <i>Quantity takeoff</i></li><li>○ <i>Bill of materials/Estimating</i></li><li>○ <i>Scheduling</i></li><li>○ <i>Project Controls</i></li></ul> Relational databases (workshop). <ul style="list-style-type: none"><li>○ <i>Development of project databases (tables, modules, primary keys, relationships)</i></li></ul>	Instructor's Notes
7	Th. 08-Mar	Relational databases (workshop continued). <ul style="list-style-type: none"><li>○ <i>Project Scheduling: Process definition, data definition, and development of database structures.</i></li><li>○ <i>Cost Estimating: Process definition, data definition, and development of database structures.</i></li></ul>	Instructor's Notes HWK 6 (group): Term Project Database system



<i>Week</i>	<i>Date</i>	<i>Topic</i>	<i>Reference</i>
8	Th. 15-Mar	Introduction to 4D Modeling ○ <i>From 3D to 4D, Enterprise Navigator and Schedule Simulator.</i>	Instructor's Notes
9	Th. 22-Mar	Group Work (workshop)	HWK 7 (group): Term Project 4D simulation (ES/LS)
10	Th. 29-Mar	Legal issues, dispute resolution and construction claims	Guest Lecturer
	<b>Th. 05-Apr</b>	<b>SPRING BREAK</b>	
	Th. 12-Apr	<b>SPRING BREAK</b>	
11	Th. 19-Apr	• Risk Analysis and construction claims ( <i>MonteCarlo for P3</i> )	Instructor's Notes
12	Th. 26-Apr	• Equipment selection, productivity analysis • Cycle time analysis, computer-aided simulation ( <i>Stroboscope</i> )	Instructor's Notes
13	Th. 03-May	• FIAPP, <i>Putting it all together (workshop)</i>	Instructor's Notes
	<b>END OF CLASSES</b>	<b>04-May</b>	
		Study Period	
	<b>EXAMS PERIOD</b>	<b>12-May – 27-May</b>	
		<b>Term Project Presentations</b>	