



*SYLLABUS – CNST 6360*

**Computer Applications in Construction Management**

**PROFESSOR:** Dr. Linguang Song  
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**MEETINGS:** Online classes are available in Blackboard. Students in the “Hybrid” session requires to have on-campus meetings, and the instructor will inform you the meeting schedule.

**OFFICE HOURS:** *By appointment (please email me at [LSONG5@uh.edu](mailto:LSONG5@uh.edu))*

**COURSE PREREQUISITE:**  
Graduate Standing or Consent of Instructor

**COURSE OBJECTIVES:**  
This course introduces the application of Information Technology (IT) in the planning, organization, and control of construction projects. Topics include introductions to both well-established IT solutions and emerging trends, such as generic construction software, Excel spreadsheet tools, database management systems, and computation methods. Being a graduate-level course, the instructor will provide you with the guidance but be prepared to spend many hours solving various problems, designing conceptual systems, learning various software applications and reading extensive literatures that exist on the topics.

**SCHEDULE OF TOPICS:**

No	Module/Topic	Assignments
1	Course info & instructor	N/A
2	IT in Construction	Assign. 1 (10pts)
3	Excel for CM applications I	Assign. 2 (10pts)
4	Excel application II Estimating & Bidding	Assign. 3 (10pts)
5	Optimization and Excel	Assign. 4 (10pts)
6	Conceptual Database Design using ER Diagram	Assign. 5 (10pts)
7	Database Implementation in MS Access I & II	Assign. 6 (15pts)
8	BIM & 4D Scheduling	Assign. 7 (10pts)

**ON-CAMPUS MEETINGS**

For students in the hybrid session, attendance to these on-campus meetings are compulsory (2% final grade will be deducted for each absence). On-campus meeting is OPTIONAL for students in the online session.

**Meeting time:** 11am-2pm Monday of dates listed below (**Meeting 1, Meeting 2 ...**)

**Classroom:** 115 T2

No	Module/Topic
1	Course info & instructor
2	IT in Construction
3	Excel for CM applications I
<b>Meeting 1</b>	<b>Topic: Excel and exercise (Oxy case study)</b>
4	Excel application II Estimating & Bidding
<b>Meeting 2</b>	<b>Topic: Monte Carlo simulation &amp; risk management</b>
5	Optimization and Excel
<b>Meeting 3</b>	<b>Baker case study</b>
6	Conceptual Database Design using ER Diagram
<b>Meeting 4</b>	<b>Database (Fluor case study)</b>
7	Database Implementation in MS Access I & II
<b>Meeting 5</b>	<b>P6 exercise I</b>
8	BIM & 4D Scheduling
<b>Meeting 6</b>	<b>P6 exercise II</b>

**TEXTBOOK: No textbook**

Course materials will be distributed by the instructor.

**ADDITIONAL REFERENCE:**

1. Information Technologies for Construction Managers, Architects and Engineers, Trefor Williams, Delmar Learning.
2. Computer-Based Construction Project Management, Tarek Hegazy, Prentice Hall.
3. Project Management: Techniques in Planning and Controlling Construction Projects, Simaan AbouRizk et al., John Wiley and Sons.
4. Fundamentals of Database Systems, Elmasri, R. and Navathe, S. B., Addison Wesley.

**GRADING:**

Assignment	60%
Final Exam	40%

**ACADEMIC HONESTY:**

Each student is responsible for maintaining high standards of academic honesty and ethical behavior. Students are expected to write their exams, quizzes and reports on their own, based on their individual level of progress with the material. Students who violate University rules on

scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and dismissal from the University (See Student Handbook for a detailed description of the UH Academic Honesty Policy).

**STUDENTS WITH DISABILITIES:**

University of Houston provides, upon request, appropriate academic adjustments for qualified students with disabilities. Any student with a documented disability (physical or cognitive) who requires academic accommodations should contact the *Center for Students with DisABILITIES* (713/743-5400) for more assistance.

**COUNSELING AND PSYCHOLOGICAL SERVICES (CAPS)**

Counseling and Psychological Services (CAPS) can help students who are having difficulties managing stress, adjusting to the demands of a professional program, or feeling sad and hopeless. You can reach CAPS (UH main campus [www.uh.edu/caps](http://www.uh.edu/caps), or UH Sugar Land campus <http://www.uh.edu/dsaes/uhsugarland/>) by calling 713-743-5454 during and after business hours for routine appointments or if you or someone you know is in crisis. No appointment is necessary for the “Let’s Talk” program, a drop-in consultation service at convenient locations and hours around campus.

UH main campus [http://www.uh.edu/caps/outreach/lets\\_talk.html](http://www.uh.edu/caps/outreach/lets_talk.html)

UH Sugar Land campus <http://www.uh.edu/dsaes/uhsugarland/>

**EXAM POLICY:**

Exams will include material covered in class discussions and homework assignments. Exam make-up’s will be given only in the event of a verified emergency or doctor-verified sickness. Assignments turned in late will be counted off 33 percent per day (only exceptions listed previously). The student is responsible for all reading assignments and class handouts whether or not covered in class or listed on the syllabus.

**COURSE/INSTRUCTOR EVALUATION:**

A course/instructor evaluation will be conducted online. Any suggestions you have on improving the course, however, are welcome throughout the semester.

For more detailed information about Academic Honesty Policy, UH Academic Calendar, students with disabilities, religious holy days, and Other Information, please visit the following website: <http://www.uh.edu/provost/policies/student/resources/>

*The instructor has the discretion to make changes to this syllabus as circumstances require.*