

RINKER SCHOOL OF CONSTRUCTION MANAGEMENT
UNIVERSITY OF FLORIDA

CONSTRUCTION VALUE ENGINEERING

COURSE NUMBER: BCN 6441

NUMBER OF CREDIT HOURS: 3

“Value Engineering is a vigorous, systematic effort to improve the value and optimize the life cycle cost of a facility.”

CLASS LOCATION: Rinker Hall Room 238

CLASS MEETING TIMES: TU 1:55 – 3:50 PM AND TH 12:50 – 1:40

INSTRUCTORS: Abdol Chini (RNK 332, chini@ufl.edu, 352-273-1165) and Robert Ries (RNK 306, rries@ufl.edu, 352-273-1150)

OFFICE HOURS: Chini: M and W 10:30 AM – 12:30 PM, Ries: TU 4-5 PM and TH 3-4 PM or by appointment

COURSE WEBSITE: <http://lss.at.ufl.edu>

RECOMMENDED MATERIALS:

1. Dell’Isola, A., 1997, Value Engineering: Practical Applications for Design, Construction, Maintenance, and Operations. RS Means, Kingston, MA.
2. Younker, DL, 2003, Value Engineering. Marcel Dekker, New York, NY.

REFERENCES:

3. RS Means Costworks on-line cost data
4. Dell’Isola A, Kirk, S, 2003, Life Cycle Costing for Facilities. Reed Construction Data

COURSE DESCRIPTION:

BCN 6641 Value Engineering introduces students to the fundamental principles of emerging areas in the life cycle of the built environment. This course teaches a framework, methods, and tools that can be applied to decision making in the design, construction, operation, and maintenance of the built environment, particularly when quality, cost, and reducing the environmental impact of construction and construction activities is a goal. The course includes value engineering principles, life cycle cost and decision analysis. Topics include the principles, case studies of applications, methods, and software.

PREREQUISITE KNOWLEDGE AND SKILLS:

Graduate standing, BCN 4612C or BCN 5618C

PURPOSE OF COURSE:

The student will understand the role of VE in construction. Classical VE principles will be emphasized and practical applications for construction managers, contractors, and other construction functions will be described.

COURSE LEARNING OUTCOMES:

Upon completion of the course students will demonstrate their ability to:

- 1. Understand the use of Value Engineering (VE) in the construction industry*
- 2. Understand the concepts of VE with emphasis on functional analysis and life-cycle costing.*
- 3. Develop and apply creativity and problem solving skills*
- 4. Apply VE to improve the value and optimize the life cycle cost of a construction project*

ASSESSMENT METHODS AND TARGETS:

<i>Assessmen</i>	<i>CLO 1</i>	<i>CLO 2</i>	<i>CLO 3</i>	<i>CLO 4</i>	<i>Target</i>
<i>Test 1</i>	<i>X</i>				<i>At least 80% receive a B or better</i>
<i>Test 2</i>		<i>X</i>			<i>At least 80% receive a B or better</i>
<i>M. Project</i>			<i>X</i>		<i>At least 80% receive a B or better</i>
<i>F. project</i>				<i>X</i>	<i>At least 80% receive a B or better</i>

TEACHING PHILOSOPHY:

Our success as teachers is determined by accommodating our students' needs. We continuously seek their feedback to know how they are doing, and to adapt instruction to meet their needs. We establish an environment that encourages students to offer comments, give opinions, ask questions, and share their knowledge. We also give them feedback to know how they are doing and what they can do to improve. In that respect, we grade and return all quizzes and exams promptly.

INSTRUCTIONAL METHODS:

The class meets three lecture hours per week. Some classes will be used for review of the final project, case studies, field trips, guest speakers, and quizzes and exams.

COURSE POLICIES:

ATTENDANCE POLICY:

Attendance is required. Instructor may choose the days for taking the rolls. Attendance grade will be computed in proportion to the number of presence on the days the rolls were taken.

QUIZ/EXAM POLICY:

There will be two exams during the semester. The dates of the exams are provided in the course schedule. Four pop' quizzes will be given throughout the semester.

MAKE-UP POLICY:

No make-up tests will be given, unless arrangements are made prior to your absence. No make-up quizzes will be given

ASSIGNMENT POLICY:

Assigned homework problems are due at the date and time shown on the assignment. Late homework will not be accepted and student will receive a zero on the assignment. All work turned in for this course is expected to be of professional quality in content and presentation. Homework problems may be graded by detailed checking or based on overall attempt. Instructor may choose not to grade some homework. Homework grade will be computed according to these policies.

UF POLICIES:

UNIVERSITY POLICY ON ACCOMMODATING STUDENTS WITH DISABILITIES:

Students requesting accommodation for disabilities must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drc/>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

UNIVERSITY POLICY ON ACADEMIC MISCONDUCT:

*Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the UF Student Honor Code at <http://www.dso.ufl.edu/students.php>. Although joint work on assignments may be acceptable in some cases, duplication of an assignment, both manually or by computer will be considered an act of academic dishonesty and dealt with accordingly. On all work submitted for credit by students at the university, the following pledge is either required or implied: **"On my honor, I have neither given nor received unauthorized aid in doing this assignment."***

GETTING HELP:

For issues with technical difficulties for E-learning in Sakai, please contact the UF Help Desk at:

- Learning-support@ufl.edu
- (352) 392-HELP - select option 2
- <https://lss.at.ufl.edu/help.shtml>

GRADING POLICIES:

Assignment	Percentage
2 Tests @ 17.5% each	35%
Midterm Project	10%
Final Project Report	25%
Final Project Presentation	5%
Assignments	17%
Quizzes	4%
Attendance	4%
Total	100%

GRADING SCALE:

Grades will be computed according to the following scale:

A=93-100; A- =90-92.9; B+ =87-89.9; B=83-86.9; B- =80-82.9; C+ = 77-79.9; C=73-76.9; C- =70-72.9; D+ =67-69.9; D=63-66.9; D- =60-62.9; E<60.

Grade Values for Conversion												
Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E, I, NG, S-U, WF
Grade Points	4.0	3.67	3.33	3.00	2.67	2.33	2.00	1.67	1.33	1.00	.67	0.00

Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu>.

***Disclaimer:** This syllabus represents our current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.*

COURSE SCHEDULE:

<u>Week</u>	<u>SUBJECT AND COVERAGE</u>	<u>ASSIGNMENT</u>
1	Introduction Value Engineering concepts and history	HW#1
2	Project scope and budget	HW#2
3	Modeling techniques	HW#3
4	Creative problem solving - Planning for VE services	HW#4
Feb. 9th	Test #1	
7	Function analysis and FAST diagrams	HW#5
8	The VE Job Plan	HW#6
9	Spring Break	No class
10	Life Cycle Costing	HW#7
11	Decision Analysis	HW#8
March 22nd	Test #2	
13	The VE Report – case studies	
14-15	Final project preparation	
16	Final project presentations	

<u>Date</u>	<u>Activity</u>
1/5	First day of class
To be determined	Field trip
To be determined	Guest Speaker
1/28	College Research Symposium – Gallery in ARC Bldg.
2/16	BCN Career Fair – O’Connell Center
To be determined	Guest speaker
3/10	Midterm project report due
4/18	Final project report due
4/19	Last day of class – Final project presentation