Objective 1) PREPARE ENGINEERING STUDENTS TO ANALYZE COST/REVENUE DATA AND CARRY OUT MAKE ECONOMIC ANALYSES IN THE DECISION MAKING PROCESS TO JUSTIFY OR REJECT ALTERNATIVES/PROJECTS ON AN ECONOMIC BASIS.

Outcomes
1. BE ABLE TO PERFORM AND EVALUATE PRESENT WORTH, FUTURE WORTH AND ANNUAL WORTH ANALYSES ON ONE OF MORE ECONOMIC ALTERNATIVES.
2. BE ABLE TO PERFORM AND EVALUATE PAYBACK PERIOD AND CAPITALIZED COST ON ONE OR MORE ECONOMIC ALTERNATIVES.
3. BE ABLE TO CARRY OUT AND EVALUATE BENEFIT/COST, LIFE CYCLE AND BREAK-EVEN ANALYSES ON ONE OR MORE ECONOMIC ALTERNATIVES.

Assignments that demonstrate accomplishment of this outcome:

1. READ ENGINEERING ECONOMIC TEXT AND SUBMIT ASSIGNED PROBLEMS FOR INSTRUCTOR EVALUATION OF TEACHER/STUDENT PERFORMANCE.
2. EXAMS (PROJECTS) ASSIGNED TO MEASURE STUDENT KNOWLEDGE OF ENGINEERING ECONOMIC ANALYSES AND ABILITY TO MAKE DECISIONS ON PROJECT ALTERNATIVES.

Objective 2) PREPARE ENGINEERING AND COMPUTER SCIENCE STUDENTS TO WRITE TECHNICAL REPORTS.

Outcomes
1. BE ABLE TO OUTLINE THE PAST HISTORY, PRESENT POSITION AND EXPECTED PERFORMANCE OF A COMPANY ENGAGED IN ENGINEERING PRACTICE OR IN THE COMPUTER INDUSTRY.

Assignments that demonstrate accomplishment of this outcome:

1. STUDENTS ARE REQUIRED TO RESEARCH AND SUBMIT AN OUTLINE OF THE PAST, PRESENT AND FUTURE POSITION OF A COMPANY OF THEIR CHOICE. THE OUTLINE MUST INCLUDE AT LEAST ONE PROPERLY LABELED TABLE AND FIGURE AND AT LEAST TWO REFERENCES.
2. INITIAL OUTLINE IS EVALUATED BY INSTRUCTOR, CORRECTED BY STUDENT AND SUBMITTED FOR FINAL GRADE.
COURSE OBJECTIVES & OUTCOMES
COLLEGE OF SCIENCE & ENGINEERING

Department: CIVIL ENGINEERING
Course Number: CE 3361
Course Name: ENGINEERING ECONOMICS AND MANAGEMENT

Objective 3) PREPARE ENGINEERING STUDENTS TO OBTAIN PROFESSIONAL LICENSURE.

Outcome
1. PROVIDE THE STUDENTS WITH THE KNOWLEDGE NEEDED TO PASS THE ENGINEERING ECONOMICS PORTION OF THE FUNDAMENTALS OF ENGINEERING EXAM.

Assignments that demonstrate accomplishment of this outcome:

1. STUDENTS ASSIGNED AND GRADED ON HOMEWORK PROBLEMS TAKEN OR ADAPTED FROM FE REVIEW MATERIALS.

Objective 4) PREPARE ENGINEERING STUDENTS TO FUNCTION IN THE BUSINESS AND MANAGEMENT SIDE OF PROFESSIONAL ENGINEERING PRACTICE.

Outcomes
1. PROVIDE THE STUDENTS WITH A BASIC UNDERSTANDING OF CONTRACT MODELS.
2. BE ABLE TO PREPARE CONTRACT PLANS AND SPECIFICATIONS.
3. BE ABLE TO PREPARE QUANTITY TAKE-OFFS, PRODUCTIVITY ANALYSES, COST ESTIMATES AND SCHEDULES FOR GIVEN PROJECTS.
4. UNDERSTAND ELEMENTS OF PROCUREMENT AND BIDDING STRATEGIES.
5. HAVE KNOWLEDGE OF LIABILITY, INSURANCE AND SAFETY/ENVIRONMENTAL REQUIREMENTS ON PROJECTS.
6. UNDERSTAND ETHICAL BUSINESS PRACTICES.

Assignments that demonstrate accomplishment of this outcome:

1. EXAMS (PROJECTS) ASSIGNED TO MEASURE STUDENT KNOWLEDGE OF CONTRACTS INCLUDING CONTRACT DOCUMENTS, BUSINESS PRACTICE, COST ESTIMATING, PROJECT SCHEDULING, SAFETY AND ENVIRONMENTAL RESTRICTIONS.