SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

ACADEMIC AFFAIRS

Course Number: ABT-120 Class/Lect. Hours: 2 Lab Hours: 1 Credits: 3 Dept.: ARCH & BUILDING TECH (TECH ARTS & DESIGN)

OBJECTIVES/COMPETENCIES

Course Objectives	Competencies
1. STUDENTS WILL DEVELOP AN APPRECIATION FOR THE ROLE OF THE BUILDING CONSTRUCTION ESTIMATOR (BCE)	1. UNDERSTAND THE IMPORTANCE OF KEEPING ACCURATE PROJECT RECORDS 2. UNDERSTAND THAT ACCURATE HISTORICAL DATA IS THE BCE'S BEST SOURCE FOR FUTURE ESTIMATES 3. UNDERSTAND THAT WITHOUT ACCURATE AND COMPREHENSIVE ESTIMATING, SUCCESS ON A PROJECT IS NOT POSSIBLE 4. BCE'S MUST DEVELOP SKILLS TO VISUALIZE A BUILDING AT ALL STAGES OF CONSTRUCTION
2. STUDENTS WILL UNDERSTAND THAT A BCE MUST BE ABLE TO ANTICIPATE A WIDE RANGE OR VARIABLES THAT WILL IMPACT A PROJECTS OVERALL COST	1. STUDENTS LEARN TO APPRECIATE THE ROLE THAT WEATHER CAN PLAY ON A PROJECT AND HOW GLOBAL CLIMATE CHANGE MAY INFLUENCE A PROJECTS OVERALL COST 2. STUDENTS LEARN TO APPRECIATE HOW MATERIAL AVAILABILITY AND SUBSTITUTIONS MAY IMPACT A PROJECTS COST

Course Objectives	Competencies
3. STUDENTS WILL UNDERSTAND THAT PROFIT IS THE PRINCIPLE MOTIVATION TO BE IN BUSINESS AND TAKE THE NECESSARY RISKS IN A FREE MARKET ECONOMY	1. STUDENTS WILL LEARN THE DIFFERENCE BETWEEN GROSS PROFIT AND NET PROFIT 2. STUDENTS WILL LEARN THAT WITHOUT SHOWING A PROFIT A BUSINESS CANNOT JUSTIFY THE RISK ON A CONSTRUCTION PROJECT
4. STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE THREE PRINCIPLE TYPES OF ESTIMATE FOR A BUILDING CONSTRUCTION PROJECT	1. STUDENTS WILL UNDERSTAND THAT "CONCEPTUAL" ESTIMATES ARE ONLY BASED ON A CONCEPT AND CANNOT BE USED FOR CONTRACT PURPOSES 2. PRELIMINARY ESTIMATES CAN BE USED FOR BUDGETING PURPOSES ONLY AND ARE BASE ON DATA FROM RECENT BUILDING PROJECTS 3. DETAILED ESTIMATES ARE THE ONLY RELIABLE ESTIMATE THAT CAN BE USED FOR CONTRACT PURPOSES.
5. STUDENTS WILL LEARN THE DIFFERENCE BETWEEN DIRECT, INDIRECT, AND GENERAL OVERHEAD COSTS	1. STUDENTS WILL LEARN THAT DIRECT COSTS ARE COSTS THAT ARE PERMANENTLY AND PHYSICALLY INTEGRATED INTO THE BUILDING. 2. STUDENTS WILL LEARN THAT INDIRECT COSTS ARE MOST OFTEN OVERLOOKED AT THE CONTRACTS PERIL AND ARE COSTS FOR ITEMS THAT SUPPORT THE FIELD CONSTRUCTION EFFORTS. 3. STUDENTS LEARN THAT GENERAL OVERHEAD COSTS ARE COSTS THAT CANNOT BE READILY CHARGED TO ANY ONE BUILDING CONSTRUCTION PROJECT

Course Objectives	Competencies
6. STUDENTS WILL LEARN HOW TO CALCULATE THE DIFFERENT TYPES OF QUANTITY TAKE-OFFS THAT ARE USED IN A BUILDING CONSTRUCTION PROJECT	1. STUDENTS WILL CALCULATE "LINEAR" TAKE-OFFS FOR ITEMS SUCH AS DRIPEDGE, MOULDINGS AND CONDUIT 2. STUDENTS WILL CALCULATE "AREA" TAKE-OFFS FOR ITEMS SUCH A CARPETING, PLYWOOD AND ROOFING 3. STUDENTS WILL CALCULATE A SIMPLE "VOLUMETRIC" TAKE-OFF FOR ITEMS SUCH AS CONCRETE. 4. STUDENTS WILL CALCULATE "UNIT" TAKE-OFFS FOR SPECIFIC ITEMS SUCH AS WALL STUDS, JOISTS AND RAFTERS.
7. STUDENTS WILL LEARN TO APPRECIATE THAT THE MOST DIFFICULT ITEMS TO ESTIMATE INVOLVE HUMAN PERFORMANCE AND THE VARIABLES THAT CAN IMPACT PERFORMANCE.	1. STUDENTS WILL DISCUSS VARIABLES SUCH AS WEATHER, EXPERIENCE, EFFICCIENCY, COMPATABILITY, TRAINING, SAFETY AND HEALTH AND HOW THESE VARIABLES CAN IMPACT A PROJECTS LABOR ESTIMATE AND SUCCESSFUL COMPLETION.
8. STUDENTS WILL LEARN THE IMPORTANCE OF THE ROLE THAT PROJECT SAFETY PLAYS IN PROJECT COMPLETION AND PROJECT SUCCESS	1. STUDENTS WILL BE INTRODUCED TO OSHA STANDARDS. 2. STUDENTS WILL BE ENCOURAGED TO COMPLETE AN "ON-LINE" OSHA 10 SAFETY COURSE.