CONSTRUCTION ENGINEERING MNGMT (CEM)

CEM 263. PLANE SURVEYING. (3 Credits)
Use of field surveying equipment; error analysis; plane surveying methods applied to construction; plane coordinate computations; topographic mapping; and introduction to GPS. Lec/lab.
Prerequisites: ENGR 211 with C or better or ENGR 211H with C or better

CEM 311. HYDRAULICS. (4 Credits)
Pressure and energy concepts of fluids, fluid measurements, flow in pipes and open channels.
Prerequisites: ENGR 211 with C or better or ENGR 211H with C or better

CEM 326. CONSTRUCTION SAFETY. (3 Credits)
Training in construction safety with emphasis on hazard identification, avoidance, control, and prevention. Lec/rec.

CEM 341. CONSTRUCTION ESTIMATING I. (4 Credits)
Fundamentals of estimating and bidding construction projects; plan reading, specification interpretation; quantity take-off; types of estimates; estimating and methods of construction for sitework, concrete, and carpentry; estimating subcontracts, estimating job overhead and home office overhead; estimating profit, and computer-aided estimating.
Prerequisites: CEM 341 with C or better

CEM 342. CONSTRUCTION ESTIMATING II. (4 Credits)
Fundamentals of estimating and bidding construction projects; plan reading, specification interpretation; quantity take-off; types of estimates; estimating and methods of construction for sitework, concrete, and carpentry; estimating subcontracts, estimating job overhead and home office overhead; estimating profit, and computer-aided estimating.
Prerequisites: CEM 341 with C or better

CEM 343. CONSTRUCTION PLANNING AND SCHEDULING. (4 Credits)
Principles of construction planning, scheduling, and resource optimization; scheduling techniques and calculations; methods for integrating project resources (materials, equipment, personnel, and money) into the schedule.
Prerequisites: CEM 342 (may be taken concurrently) with C or better

CEM 381. STRUCTURES I. (4 Credits)
Introduction to statically determinate analysis and design of steel structures. Lec/rec.
Prerequisites: ENGR 213 with C or better or ENGR 213H with C or better

CEM 383. STRUCTURES II. (4 Credits)
Analysis and design of building elements of concrete and timber; detailing and fabrication. Lec/rec.
Prerequisites: CCE 321 (may be taken concurrently) with C or better and CEM 381 [C]

CEM 403. THESIS. (1-16 Credits)
This course is repeatable for 16 credits.

CEM 405. READING AND CONFERENCE. (1-16 Credits)
This course is repeatable for 16 credits.

CEM 406. PROJECTS. (1-16 Credits)
This course is repeatable for 16 credits.

CEM 407. SEMINAR. (1 Credit)
Professional practices of construction engineering management.
CEM 553. CONSTRUCTION BUSINESS MANAGEMENT. (4 Credits)
Introduction to concepts of business structures associated with
the construction industry; enterprise-level management techniques;
extra-organizational risk management; and operational management
structuring.