



COURSE SYLLABUS

STRUCTURES

COURSE NUMBER: CIVE 528

COURSE TITLE: DESIGN OF MASONRY

COURSE DESIGNATION

TECHNICAL ELECTIVE FOR CIVIL AND CONSTRUCTION ENGINEERING MAJORS

COURSE DESCRIPTION

MATERIALS FOR MASONRY CONSTRUCTION. DESIGN PROCEDURES UTILIZING THE ALLOWABLE STRESS AND ULTIMATE STRENGTH PRINCIPLES. EMPHASIS ON HOLLOW CONCRETE MASONRY UNITS. SEISMIC DESIGN OF MASONRY BUILDINGS. (3 CREDITS)

PRE-REQUISITE

CIVE 321

LECTURES SCHEDULE

LECTURE — 3 SESSIONS PER WEEK, 50 MINUTES PER SESSION

TEXTBOOK

BAYASI, Z., "INTRODUCTION TO REINFORCED CONCRETE MASONRY DESIGN," LINUS PUBLISHERS, NY, FIRST EDITION, 2014.

COURSE LEARNING OUTCOMES

- 1) SOLVE PROBLEMS IN MATHEMATICS THROUGH MULTI-VARIABLE CALCULUS, CALCULUS-BASED PHYSICS, AND ONE ADDITIONAL AREA OF SCIENCE
- 2) SOLVE WELL-DEFINED ENGINEERING PROBLEMS IN FOUR TECHNICAL AREAS APPROPRIATE TO CIVIL ENGINEERING
- 3) APPLY RELEVANT TECHNIQUES, SKILLS, AND MODERN ENGINEERING TOOLS TO SOLVE A SIMPLE PROBLEM
- 4) ANALYZE A COMPLEX SITUATION INVOLVING MULTIPLE CONFLICTING PROFESSIONAL AND ETHICAL INTERESTS, TO DETERMINE AN APPROPRIATE COURSE OF ACTION
- 5) DEMONSTRATE THE ABILITY TO LEARN ON THEIR OWN, WITHOUT THE AID OF FORMAL INSTRUCTION

TOPICS COVERED

- INTRODUCTION AND MATERIALS
- FLEXURAL DESIGN
- RETAINING WALLS
- SHEAR DESIGN
- COLUMNS
- COMBINED BENDING AND AXIAL FORCES
- SHEAR WALLS
- BEARING WALLS
- DESIGN OF MASONRY BUILDINGS
- BRICK MASONRY
- ADVANCED TOPICS
- EXAMS AND REVIEW

GRADING

HOMEWORK ASSIGNMENTS AND QUIZZES	20%	
EXAMS		50%
FINAL		30%