SAN DIEGO STATE UNIVERSITY

COURSE SYLLABUS

COURSE NUMBER: CIVE 525
COURSE TITLE: DESIGN OF STEEL

STRUCTURES

COURSE DESIGNATION

TECHNICAL ELECTIVE FOR CIVIL AND CONSTRUCTION ENGINEERING MAJORS.

COURSE DESCRIPTION

MECHANICAL BEHAVIOR OF STRUCTURAL STEEL. DESIGN OF STEEL BEAMS, GIRDERS, COLUMNS AND MEMBERS SUBJECTED TO COMBINES STRESSES. DESIGN OF VARIOUS TYPES OF CONNECTIONS OF STEEL STRUCTURES; PLATE GIRDERS, CONTINUOUS BEAMS AND RIGID FRAMES. (3 CREDITS)

PRE-REQUISITE

CREDIT IN CIVE 321.

LECTURES/LABORATORY SCHEDULE

LECTURE – 3 SESSIONS PER WEEK, 50 MINUTES PER SESSION

TEXTBOOKS

MCCORMAC, J. AND CSERNAK, S., "STRUCTURAL STEEL DESIGN," FIFTH EDITION, 2012.

MANUAL OF STEEL CONSTRUCTION – LOAD AND RESISTANCE FACTOR DESIGN, 14TH ED, 2011.

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
- LOADS AND DESIGN METHODS
- TENSION MEMBERS
- AXIALLY LOADED COMPRESSION MEMBERS
- BEAMS
- BEAM – COLUMNS
- SIMPLE CONNECTIONS
- ECCENTRIC CONNECTIONS
- COMPOSITE BEAMS
- ADVANCED TOPICS

GRADING

HOMEWORK ASSIGNMENTS AND QUIZZES	15%	
EXAMS		45%
FINAL		40%