

CIVIL ENGINEERING TECH. (CIVT)

CIVT 141 Civil Engr Mtls (3 Credits)

Lecture: 2, **Lab:** 2

Civil Engineering Materials (3) Introduction to materials and equipment for civil engineering construction. Properties and uses discussed of steel, alloys, asphalt, timbers, cement, aggregates, acoustics, etc. Two hours of lecture and two hours of laboratory per week.

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

CIVT 223 Water Resource Engineering (3 Credits)

Lecture: 2, **Lab:** 2

Water Resources Engineering (3) Introduction to the science of hydrology and application. Hydro-meteorology ground-water, hydrographic, storm water control, free surface flow and water quality. Two hours of lecture and two hours of laboratory per week.

Prerequisite(s): (MATH 134)

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

CIVT 224 Soil Engineering (3 Credits)

Lecture: 3

Soil Mechanics (3) Geotechnical analysis of soils: application of science and engineering principles; methods of exploration, testing, and classification using ASTM and AASHTO laboratory methods. Two hours of lecture and two hours of laboratory per week. Prerequisites: MATH 134 and CIVT 141.

Prerequisite(s): (CIVT 141) and (MATH 134 or MATH 136)

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

CIVT 231 Plane Surveying I (3 Credits)

Lecture: 2, **Lab:** 2

Surveying I (3) Theory and practice of plane surveying; instruments, measurements of distances, angles, elevations; introduction to traverse, contour, and electronic distance measurements. Two hours of lecture and two hours of laboratory per week. Listed as ENGR 1305 in the Texas Common Course Numbering System.

Prerequisite(s): (MATH 134 or MATH 138)

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

TCCN: ENGR 1307

CIVT 232 Statics (3 Credits)

Lecture: 2, **Lab:** 2

Engineering Mechanics (3) Introduction to applications of equilibrium of rigid bodies, including moments, couples, and moments of inertia. Two hours of lecture and two hours of laboratory per week. Prerequisites: MATH 134 and PHYS 235.

Prerequisite(s): (MATH 134 or MATH 138 and PHYS 237)

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

TCCN: ENGR 2301

CIVT 233 Dynamics (3 Credits)

Lecture: 2, **Lab:** 2

Dynamics (3) Principles of kinetics, kinematics, Newton's laws of motion, vectors, simple harmonic motion, and energy. Two hours of lecture and two hours of laboratory per week. Prerequisite: CIVT 232.

Prerequisite(s): (CIVT 232 and MATH 241)

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

TCCN: ENGR 2302

CIVT 234 Surveying II (3 Credits)

Lecture: 4, **Lab:** 1

Surveying II (3) Continuation of CIVT 231 with emphasis on field work, design, the transit, theodite, electronic instruments, stake out, contour, topography, and profile leveling. One hour of lecture and four hours of laboratory per week. Prerequisites: MATH 134 and CIVT 231.

Prerequisite(s): (CIVT 231 and MATH 134)

College/School: Col of Science, Engr & Tech

Department: (R)Dept of Engineering Tech

TCCN: ENGR 1407

CIVT 301 Environmental Engineering (3 Credits)

Lecture: 2, **Lab:** 2

Water and Wastewater Engineering (3) Water supply and treatment, wastewater characterization and treatment. Design of units process and operation, transmission and sewerage facilities. Two hours of lecture and two hours laboratory per week. Prerequisites: CHEM 111, CHEM 131. MATH 133, and ELET 130.

Prerequisite(s): (CHEM 111 and CHEM 131 and CIVT 223)

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

CIVT 302 Solid Waste Management (3 Credits)

Lecture: 2, **Lab:** 2

College/School: Col of Science, Engr & Tech

Department: (R)Dept of Engineering Tech

CIVT 332 Applied Fluid Mechanics (3 Credits)

Lecture: 2, **Lab:** 2

Applied Fluid Mechanics (3) Fluid mechanics with engineering applications, properties of fluids, pressure, kinematics, energy, and flow through pipes. Two hours of lecture and two hours of laboratory per week. Prerequisites: MATH 134 and CIVT 232.

Prerequisite(s): (CIVT 232 and MATH 241)

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

CIVT 333 Hydraulic Engineering (3 Credits)

Lecture: 2, **Lab:** 2

Hydraulics Engineering (3) Introduction to quantitative hydrology, open channel flow, flow in conduits, hydraulic structures, flow measurements, and pumps. Two hours of lecture and two hours of laboratory per week. Prerequisite: MATH and CIVT 332.

Prerequisite(s): (CIVT 332)

College/School: Col of Science, Engr & Tech

Department: Department of Engineering

CIVT 334 Transportation Engineering (3 Credits)**Lecture:** 3

Transportation Engineering (3) Study of transportation engineering concepts, planning, traffic flow, capacity analysis, environmental and utility accommodations, and transportation economics analysis. Three hours of lecture per week. Prerequisites: DRFT 132 and CIVT 333.

Prerequisite(s): (CIVT 231)**College/School:** Col of Science, Engr & Tech**Department:** Department of Engineering**CIVT 335 Geom Des Of Highways (3 Credits)****Lecture:** 2, **Lab:** 2

Geometric Design of Highway (3) Theory and application of the parameters impact the geometric design of highways and other roadways. Two hours of lecture and two hours of laboratory per week. Prerequisite: CIVT 334.

Prerequisite(s): (CIVT 334 and MATH 241)**College/School:** Col of Science, Engr & Tech**Department:** Department of Engineering**CIVT 336 Structural Analysis (3 Credits)****Lecture:** 3, **Lab:** 0

Structural Analysis (3) Study of determinate structures with emphasis on both the analytical and graphical approaches to trusses and building frames. Three hours of lecture per week. Prerequisites: MATH 241 and CIVT 335.

Prerequisite(s): (MATH 241 and CIVT 338)**College/School:** Col of Science, Engr & Tech**Department:** Department of Engineering**CIVT 337 Reinforced Concrete Design (3 Credits)****Lecture:** 2, **Lab:** 2

Reinforced Concrete Design (3) Concrete materials and properties, mixing and placement, concrete tests, design of concrete structures, elastic theory, stresses, beams, foundations, columns, and floor slabs. Two hours of lecture and two hours of laboratory per week. Prerequisite: CIVT 231.

Prerequisite(s): CIVT 336**College/School:** Col of Science, Engr & Tech**Department:** Department of Engineering**CIVT 338 Strength of Materials (3 Credits)****Lecture:** 2, **Lab:** 2

Strength of Materials (3) Physical properties of engineering materials concepts of stress and loading shear force and bending moments. Design of structural elements. Three hours lecture per week. Prerequisites: MATH 241, CIVT 232, Physics 235.

Prerequisite(s): (MATH 242 and CIVT 232 and PHYS 237)**College/School:** Col of Science, Engr & Tech**Department:** Department of Engineering**CIVT 339 Water Resources Engineering (3 Credits)****Lecture:** 2, **Lab:** 2**College/School:** Col of Science, Engr & Tech**Department:** (R)Dept of Engineering Tech**CIVT 340 Structural Steel Design (3 Credits)****Lecture:** 3

This is a design course tha aims at introducing practical structural steel design. The objective is to provide students with the knowledge to properly design steel strucctures and be able to provide proper construction details for their design. The course will be delivered in classical lectures twice a week. Students attending the class will learn design structural steel elements and connections.

Prerequisite(s): (CIVT 336)**College/School:** Col of Science, Engr & Tech**Department:** Department of Engineering**CIVT 400 Civil Engr Tech Project (3 Credits)****Lecture:** 4, **Lab:** 4

Problems in Civil Engineering Technology (3) Design of Civil Engineering related projects, apply the necessary criteria, city code approvals, and independent experimental study. One hour of lecture and three hours of laboratory per week. Prerequisite: Consent of the instructor required.

College/School: Col of Science, Engr & Tech**Department:** Department of Engineering**CIVT 434 Water & Waterwaste Engineering (3 Credits)****Lecture:** 2, **Lab:** 2

Sanitary Engineering (3) Introduction to sanitary microbiology and sanitary chemistry, communicable diseases, solid waste; environmental sanitation; environmental regulations; water and airborne diseases, transmission and control. Two hours of lecture and two hours of laboratory per week.

Prerequisite(s): CIVT 301**College/School:** Col of Science, Engr & Tech**Department:** Department of Engineering**CIVT 435 Building Construction (3 Credits)****Lecture:** 3, **Lab:** 3

Building Construction (3) Setting out of construction work, foundations, wallings, concrete slabs, formworks, roofing structures, plumbing and drainages, bridges, commercial and industrial buildings, and estimating. Two hours of lecture and two hours of laboratory per week.

Prerequisite(s): (CIVT 337 and CIVT 340)**College/School:** Col of Science, Engr & Tech**Department:** Department of Engineering**CIVT 436 Civ Engr Construction Methods (3 Credits)****Lecture:** 3

Civil Engineering Construction Methods (3) Job planning and management, fundamentals of earth work, setting-out, concrete structural piling, blasting, roads, culverts, drainage, bridges, commercial and industrial buildings, and estimating. Three hours of lecture per week. Prerequisite: CIVT 337.

Prerequisite(s): CIVT 337**College/School:** Col of Science, Engr & Tech**Department:** (R)Dept of Engineering Tech**CIVT 437 Traffic Engineering (1 Credits)****Lecture:** 3**College/School:** Col of Science, Engr & Tech**Department:** (R)Dept of Engineering Tech