COURSE DESCRIPTIONS BY COURSE DISCIPLINE PREFIX

CEG CIVIL ENG. AND GEOMATIC

CEG-111 **Intro to Gis and Gnss** **4 (2-4)** **Spring**
Prerequisites: None
Corequisites: None
This course introduces the methods and techniques used in the Geographic Information Systems (GIS) and Global Navigation Satellite Systems (GNSS) professions. Emphasis is placed on data collection and mapping using GIS software. Upon completion, students should be able to use GNSS technologies to collect field data and create GIS maps.(2013 FA)

CEG-115 **Intro to Tech & Sustainability** **3 (2-3)** **Fall**
Prerequisites: None
Corequisites: CEG-115A^{L}
This course introduces basic skills, sustainability concepts and career fields for technicians. Topics include career options, technical vocabulary, dimensional analysis, measurement systems, engineering graphics, professional ethics, and related topics. Upon completion, students should be able to identify drawing elements and create sketches, perform basic engineering computations and identify measures of sustainable development.(2013 FA)

CEG-115A **Tech & Sustainability Lab** **1 (0-3)** **Fall**
Prerequisites: None
Corequisites: CEG-115^{S}
This course provides a lab experience that requires students to apply principles of sustainable development and engineering computations, measurement, and drawing to hands-on activities and in actual settings. Emphasis is placed on basic engineering technology and sustainable development topics. Upon completion, students should be able to recognize appropriate technologies for particular projects and scenarios.(2013 FA)

CEG-210 **Construction Mtls & Methods** **3 (2-3)** **Fall**
Prerequisites: None
Corequisites: EGR-115^{L} or CEG-115^{L}
This course covers the behavior and properties of Portland cement, asphaltic concretes, and other construction materials, including construction methods and equipment. Topics include cementing agents, aggregates, water and admixture materials with their proportions, production, placement, consolidation, curing and their inspection. Upon completion, students should be able to proportion Portland concrete mixes to attain predetermined strengths, perform standard control tests on Portland cement concrete, identify inspection criteria for concretes, identify construction equipment and applications.(2013 FA)

CEG-211 Hydrology & Erosion Control 3 (2-3) Fall
Prerequisites: MAT-121[S], MAT-171[S], MAT-003 w/P2S, or BSP-4003[S]
Corequisites: None
This course introduces basic engineering principles and characteristics of hydrology, erosion and sediment control. Topics include stormwater runoff, gravity pipe flow, open channel flow, low impact development (LID), erosion control devices and practices. Upon completion, students should be able to analyze and design gravitational drainage structures, identify LID and erosion control elements, and prepare a stormwater drainage plan.(2013 FA)

CEG-212 Intro to Environmental Tech 3 (2-3) Spring
Prerequisites: EGR-251[S]
Corequisites: None
This course introduces basic engineering principles of hydraulics, and water and wastewater technologies. Topics include fluid statics, fluid dynamics, flow measurement, the collection, treatment, and distribution of water and wastewater. Upon completion, students should be able to identify water and wastewater system elements, describe water and wastewater system processes and perform basic hydraulics and treatment computations.(2013 FA)

CEG-230 Subdivision Planning & Design 3 (1-6) Spring
Prerequisites: EGR-120[S], CEG-211[S], SRV-211[S]
Corequisites: None
This course covers the planning and design concepts related to subdivisions including analysis of development standards, engineering, and the creation of CAD drawings. Topics include applicable codes, lot creation, roadway system layout, stormwater drainage, low impact development (LID) concepts, and related topics. Upon completion, students should be able to prepare a set of subdivision plans. (2013 FA)

CEG-235 Project Management/Estimating 3 (2-3) Spring
Prerequisites: CEG-115[S], CIS-110[S], CIS-111[S], EGR-115[S], or EGR-125[S]
Corequisites: None
This course covers planning and estimating practices which are applicable to the civil engineering and related construction industries. Emphasis is placed on construction project planning and management, material take-offs labor and equipment requirements in accordance with industry formats, and other economic topics. Upon completion, students should be able to accurately complete material take-offs, prepare cost estimates, and prepare construction schedules.(2014 SU)