## COURSE DESCRIPTIONS BY COURSE DISCIPLINE PREFIX

## CEG CIVIL ENG. AND GEOMATIC

CEG-111Intro to Gis and GnssPrerequisites:NoneCorequisites: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<sup>L</sup>

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 <sup>S</sup>      |         |      |

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 Second Second

**Corequisites:** EGR-115<sup>L</sup> or CEG-115<sup>L</sup>

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)

4 (2-4)

Spring

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|---|---|--|--|--|--|--|
|   | College Catalog   |  |  |  |  |  |
| CEG-211<br>Prereguisites:   | Hydrology & Erosion Control   | <b>3 (2-3)</b>   | Fall   |  |  |  |
| Corequisites:<br>This course intr<br>hydrology, eros<br>pipe flow, open<br>devices and pra<br>design gravitati<br>and prepare a s | None<br>itroduces basic engineering principles and characteristics of<br>osion and sediment control. Topics include stormwater runoff, gravity<br>en channel flow, low impact development (LID), erosion control<br>practices. Upon completion, students should be able to analyze and<br>ational drainage structures, identify LID and erosion control elements,<br>a stormwater drainage plan.(2013 FA) |  |  |  |  |  |
| CEG-212<br>Prerequisites:   | Intro to Environmental Tech   | 3 (2-3)  | Spring   |  |  |  |
| Corequisites:   | None  |  |  |  |  |  |
| This course intra<br>and wastewater<br>measurement, t<br>Upon completic<br>system element<br>basic hydraulics                     | oduces basic engineering principles of hydra<br>r technologies. Topics include fluid statics, flu<br>he collection, treatment, and distribution of<br>on, students should be able to identify water<br>is, describe water and wastewater system pr<br>is and treatment computations.(2013 FA)   | ulics, and w<br>uid dynamics<br>water and w<br>and wastew<br>ocesses and | ater<br>s, flow<br>astewater.<br>ater<br>perform |  |  |  |

| CEG-230        | Subdivision Planning & Design                                      | 3 (1-6) | Spring |
|----------------|--|---------|--------|
| Prerequisites: | EGR-120 <sup>S</sup> , CEG-211 <sup>S</sup> , SRV-211 <sup>S</sup> |         |        |

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 <sup>S</sup> , CIS-110 <sup>S</sup> , CIS-111 <sup>S</sup> , EGR-115 <sup>S</sup> , or EGR-1 | 25 <sup>S</sup> |        |  |
| Corequisites:  | None   |                 |        |  |
| This course covers planning and estimating practices which are applicable to |  |                 |        |  |

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)