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## Agriculture Engineering Tech (AET)

### **AET 010                      Surveying    (3)**

*Class Hours: 36 Lecture | 54 Laboratory*

*Transfers to: CSU*

AET 010 is an introduction to the selection, care and use of tapes and levels; field observations, note taking and office computations, use of surveying instruments and equipment for land measurement and mapping; practice in differential, profile, and contour leveling; building foundation layout; public lands surveying, legal descriptions, horizontal angles and cost evaluations.

### **AET 015                      CAD for Agriculture    (2)**

*Class Hours: 108 Laboratory*

*Transfers to: CSU*

AET 15 is an introduction to computer aided drafting for agriculture; including engineering, design and construction. Laboratories will utilize AutoCAD software to complete projects. Topics include: drawing setup, 2-D projections including automatic dimensioning and hatching, isometric construction, drawing layers, library symbols, and use of 3-D drawing software.

### **AET 021                      AG-Irrigation Management    (3)**

*Class Hours: 36 Lecture | 54 Laboratory*

*Transfers to: CSU*

AET 021 is designed to teach the principles of irrigation system management for dealers, regulators and farmers (or those interested in those areas). Topics such as surface irrigation methods (furrow and border strip) and pressurized systems (micro and sprinklers) are covered. Students will learn when and how much to irrigate; includes sections on evapotranspiration and crop coefficients, practical irrigation scheduling techniques, how irrigation efficiency and uniformity influence irrigation scheduling, and salinity effects. This course aligns with the Irrigation Association's Certified Irrigation Specialist Program. (CAIS).

### **AET 022                      Irrigation Evaluation/Design Principles    (4)**

*Class Hours: 36 Lecture | 108 Laboratory*

*Transfers to: CSU*

AET 022 covers on-farm irrigation system evaluation and management; including drip, micro-spray, furrow, border strip, and sprinkler systems. Irrigation efficiency and uniformity, land grading design and operation, management, and evaluation of irrigation methods will be discussed. Basic principles of on-farm irrigation system design; micro, surface, and sprinkler irrigation systems will be covered. This course aligns with the Irrigation Association's Certified Irrigation Designer certification

### **AET 023                      Advanced Irrigation Design    (3)**

*Class Hours: 36 Lecture | 54 Laboratory*

*Advisory(s): AET 021, and AET 022*

*Transfers to: CSU*

AET 023 covers irrigation design including the preparation of irrigation designs to meet the needs of a particular project and selecting the most effective irrigation equipment or materials for the application and utilizing the information in such a manner that efficient and cost-effective irrigation designs are produced which meet the watering requirements for the plant or crop material being irrigated.

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**AET 024                      Drip & Micro Irrigation Design & MGMT.                      (3)**

*Class Hours:* 36 Lecture | 54 Laboratory

*Advisory(s):* AET 021, AET 022, and AET 023

*Transfers to:* CSU

AET 024 covers drip/micro irrigation hardware and management; emphasizing agricultural drip/micro irrigation with some landscape application. Filtration, emitters, chemical injection, agronomic constraints, and scheduling will also be discussed. The entire design procedure determining crop water requirements, filtration, pumping requirements, high efficiency design procedures, number of irrigation blocks, pressure regulation and uniformity will be covered. This course aligns with the Agricultural Drip/Micro Step 4 specialty exam for the Irrigation Association's Certified Irrigation Designer.

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