**AGRICULTURAL & ENVIRONMENTAL TECHNOLOGY (TAE)**

**College of Agricultural & Environmental Sciences**

**TAE 030 — Mobile Communication & Computing Technologies for Agriculture & the Environment (4 units)**

*Course Description:* Modern computer technologies and the applications of sensing technologies and the Internet of Things (IoT) in agriculture and the environment. IoT and embedded devices; history and evolution of IoT, communication, and computing technologies; sensors and actuators; microcontrollers; data communication technology; introduction to data analysis and data visualization; designing web applications; and hands-on IoT-based projects.

*Learning Activities:* Lecture 2 hour(s), Discussion 1 hour(s), Laboratory 3 hour(s).

*Enrollment Restriction(s):* Pass One restricted to students in the College of Agricultural & Environmental Sciences.

*Grade Mode:* Letter.

*General Education:* Quantitative Literacy (QL); Visual Literacy (VL).

**TAE 100 — Smart Control Systems for Agricultural & Environmental Technologies (4 units)**

*Course Description:* Smart devices that communicate, sense their environment, and control their environment. Application examples include smart plant & animal care, and irrigation & fertigation. Technologies include Supervisory Control & Data Acquisition (SCADA) and Programmable Logic Controllers (PLCs) for applications in agricultural, environmental, and food sciences.

*Prerequisite(s):* Upper division standing; TAE 030 recommended.

*Learning Activities:* Lecture 2 hour(s), Discussion/Laboratory 2 hour(s).

*Enrollment Restriction(s):* Pass One restricted to Agricultural & Environmental Technology majors.

*Credit Limitation(s):* Only 3 units of credit if the student has taken EME 172, EEC 157A, and EEC 157B.

*Grade Mode:* Letter.