121 Fundamentals of Electricity
Fall. 4(3-2) R: Open to students in the Electrical Technology Major. SA: AE 071
Application of Ohm's law, Kirchhoff's laws, series and parallel circuits, inductive and capacitive reactance, power factor, practical single and three-phase electrical systems, electromagnetic induction, transformers, and environmental constraints in power use and production.

130 Energy Efficiency and Conservation in Agricultural Systems
Spring, Summer. 3(3-0)
Introduction and basic concepts of energy efficiency and conservation in agricultural and food production systems.

222 Fundamentals of Automation and Controls
Fall. 3(2-2) P: (TSM 121 or concurrently) or MTH 103 or approval of department SA: AE 083, TSM 223
On-off controllers for electric actuators, installation according to code, ladder-logic, programmable logic controllers, installation and programming, interfacing to a computer.

226 Renewable Energy Systems Management
Fall, Summer. 3(3-0) P: (TSM 121 or concurrently) or TSM 130 or MTH 103 or approval of department
Benefits and limitations (political, social, and environmental) of renewable energy power systems including biomass, solar photovoltaic, wind, geothermal, hydroelectric, and fuel cells.

251 Information Technology in Agricultural Systems
Fall. 3(2-2) RB: Basic computer science course
Applications and trends in information systems, evaluation and use of computer systems, peripherals, networks, management decision support software, presentation systems, and communication systems.

331 Water Management in Agriculture and Food Systems
Spring. 3(3-0) Interdepartmental with Crop and Soil Sciences. Administered by Technology Systems Management. P: MTH 103 or MTH 124 or MTH 132 or LB 118 SA: TSM 431
Principles of water management, efficiency and conservation in agricultural production, natural resources and food processing facilities. Best agricultural water management practices, water rights, irrigation scheduling, irrigation systems selection, evaluation and management and drainage principles. Large scale water use, management and conservation in food processing.