
Research Methods in Biosystems Engineering
Fall. 1(1-0) R: Open only to graduate students in the College of Agriculture and Natural Resources or College of Engineering. SA: AE 820
Procedures and methods for designing and executing research projects.

Biosystems Analysis
Fall. 3(2-2) RB: (MTH 132) Not open to students with credit in AE 431.
Systems concepts. Properties of biological systems. Effect of environmental, technological, and economic factors on biological systems.

Network Design and Optimization of Biological Systems
Spring. 3(2-2) RB: (BE 431 or BE 831)
Techniques of process network theory and multi-criteria optimization for designing environmentally sound and economically beneficial biosystems.

Dimensional Analysis and Theory of Models
Fall. odd years. 3(2-2) R: Open only to graduate students in the College of Agriculture and Natural Resources or College of Engineering. SA: AE 850
Dimensional concepts, systems of measurements and transformation of units, and formation of dimensionless groups. Development of prediction equations, concepts of similarity, and scaling laws. Distortion.

Systems Modeling and Simulation
Fall of even years. 3(3-0) Interdepartmental with Fisheries and Wildlife; Forestry; Resource Development. Administered by Department of Fisheries and Wildlife. PB: (STT 422 or STT 442 or STT 464 or GEO 463)
General systems theory and concepts. Modeling and simulation methods. Applications of systems approaches and techniques to natural resource management, and to ecological and agricultural research.

Applied Systems Modeling and Simulation for Natural Resource Management
Spring of odd years. 3(2-2) Interdepartmental with Fisheries and Wildlife; Forestry; Resource Development; Zoology. Administered by Department of Fisheries and Wildlife. PB: (FW 820 or BE 486 or ZOL 851) or approval of department. R: Open only to seniors and graduate students

818 Comprehensive Nutrient Management Planning
Fall. 3(2-2) Interdepartmental with Animal Science. Administered by Department of Animal Science.
Development of comprehensive nutrient management plans (CNMP) for animal feeding operations. Trends in animal production, environmental issues, and diet formulation and their impact on manure production. Development of CNMP for a specific animal feeding operation.

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