Engs 682: Remote Sensing to Ecological Modeling

SCHOOL OF ENGINEERING

Remote sensing offers the opportunity to track episodic and catastrophic events in landscapes through time crop maturation, variation in precipitation, floods and to monitor long-term changes resulting from vegetation succession, climatic variation, and human land use. Variables derived from remote sensing can be combined with empirical models to estimate biophysical parameters, which, in turn, can be used to assess ecosystem status and predict species distributions based on resource requirements. This course trains students in cutting-edge techniques and applications of remote sensing to a broad spectrum of issues related to ecological modeling. Students are introduced to the components of an ecosystem and interactions among those components, the suite of data sets available for mapping terrestrial and aquatic ecosystems, ecosystem metrics that can be derived from the latter data, and methods for modeling individual species, multiple species, communities, and ecosystems. The course addresses not only the many opportunities for applying remote sensing data but also the constraints, and considers how such applications can be used to guide ecological assessments, decision making, and adaptive management. Concepts are reinforced with case studies at multiple spatial and temporal levels.

3 Credits

Prerequisites

- Student must be admitted to Certificate in Geographic Info Systems program.

Instruction Type(s)

- Indiv Based: Individual Based for Engs 682
- Indiv Based: Online Program for Engs 682

Subject Areas

- Engineering, Other

The University of Mississippi is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award certificates and baccalaureate, master's, specialist, and doctoral degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097, call 404-679-4500, or visit online at www.sacscoc.org for questions about the accreditation.