EES 120: Principles of Sustainability Science

Introduction to the concepts of sustainability science and the complex problems associated with sustainability. In particular, students will examine the challenge of supporting nine billion people without destroying the planetary resource base, social cohesion, and integrity of the individual. Labs will cover introduction to methods in sustainability.

This course will focus among other topics on five very important areas:

1. **Sustainability, sustainable development and sustainability indicators**
2. **Resilience Theory, Complex adaptive systems and emergent properties**
3. **Human-Environment interactions (and vice versa)**
4. **Feedback loops, trade-offs and thresholds**
5. **Ecosystem Services**

Interesting and visually stimulating discussions on these topics will be augmented by some of the following field trips and laboratory exercises.

- **“Bottle to Bottle” plant:** We will visit the PET recycling plant in Spartanburg SC.
- **Make your own biodiesel:** With the help of Physical Facilities we will make our own biodiesel out of waste oil from the Furman dining hall fryers.
- **In class debate about current “hot topic”**.
- **What’s in your water bottle?**

Bio-diesel facility at Furman