Chesapeake Project Course Revision for PLSC 303: Global Food Systems

I found the Chesapeake Project Faculty Fellows workshop to be a wonderful resource for both course materials and the formation of linkages between myself and other faculty trying to build sustainability into their curriculum. I am revising a new course, *Global Food Systems* (PLSC 303) to be taught in Fall 2015. This course will guide students through types of crops and cropping systems across the world and introduce them to what it takes (e.g. soils, water, inputs) to grow food crops. In the latter half of the course, we will look more specifically at the environmental and human health outcomes related to food systems (e.g. over- and under-nutrition, biofuels, organic agriculture). Clearly, the course is designed to present students with the complex problem of feeding the world's ever-growing human population while minimizing environmental costs. The solution of which is highly context-specific and requires a fundamental understanding of what makes a system sustainable in the long-term. After attending the Chesapeake Project Workshop, I have decided to link my course to a concurrent iCourse, *Feeding Nine Billion by 2050* (PLSC 125).
I will now teach several lectures on sustainability (see highlighted courses in accompanying syllabus) to the nearly 150 students enrolled in both courses. Lectures will also be recorded and available online.

Below I address specific **sustainability learning outcomes** for this new course, but also see the learning outcomes outlined in the syllabus for overall learning outcomes.

1. Students will learn **systems thinking** as it pertains to how human decisions shape the environment and farming systems. For example, farm nutrient balances (NUTMON model) will be used to illustrate how inputs and outputs from a farm affect potential environmental and economic outcomes for farmers. (Week 4 lectures)
2. Students will learn about different **sustainability strategies**. For example, the difference between climate change adaptation and mitigation. (Week 2 lectures)
3. Case studies of **"win-win" and tradeoff** situations will be presented to the students. For example, students will be asked to either (1) compare and contrast how one food crop is grown/consumed in two different countries or (2) compare and contrast the diets of two different countries. (Final essays)

I will evaluate the sustainability learning outcomes though:

- Five-minute quizzes
- Exams
- One-minute reflections focusing on basic content knowledge around sustainability
- Final essays, which will require students to synthesize sustainability knowledge by comparing and contrasting crops, diets, or management.