World Crop Adaptation and Distribution  
Agronomy 285 – 2015

Dr. Mitch Tuinstra, Office 2-377 Lilly Hall, drmitch@purdue.edu  
Megan Fenton, Crops Resource Center (Lilly 2-417), Hours TBA, fentonm@purdue.edu

I. General Course Outcomes

A. Students will know how humans fit into the global eco-system.
B. Students will be able to identify the crops used as food in the world, where they are grown, and how they are used in local culture.
C. Students will exhibit comprehension of the global food/agricultural system.
D. Students will demonstrate knowledge of how climate influences adaptation, growth and distribution of crop plants.
E. Students will demonstrate awareness of the locations of the countries in the world, world dietary classes, and variation between cultures.
F. Students will demonstrate effective use of the written and spoken word.
G. Students will exhibit the ability to acquire and use knowledge.

II. Learning Outcomes

A. Lecture and discussion to build knowledge

Weeks 1-4 History of the World, Life, and Plants
- Demonstrate awareness of the geological history of the world
- Examine evidence for the origins of life and its impact on the world
- Display an in-depth knowledge of how the global distribution of sunlight, soil and climate influence the growth and distribution of specific crops
- Exhibit comprehension of the classification of climates in the world

Weeks 5-6 Neolithic Revolution: Emergence of Agriculture
- Demonstrate understanding of the domestication syndrome
- Exhibit a comprehension of the origins of agriculture

Weeks 7-16 Crops and Constraints to Agricultural Productivity
- Develop knowledge of world crop plants and how they are used in different parts of the world
- Demonstrate comprehension of dietary classes and their impact on hunger
- Examine the environment and future of agriculture
- Demonstrate awareness of world population growth, composition and distribution

B. Written and oral assignments to promote communication skills

- Demonstrate effective use of the written word
- Exhibit the ability to read articles and write summary reports
- Display the ability to acquire knowledge
- Show awareness of critical issues associated with world population growth
C. Homework to develop global knowledge of the world, world crops, and constraints to agriculture

- Exhibit the ability to acquire knowledge
- Demonstrate knowledge of the seeds and fruits produced in different parts of the world
- Display awareness of agricultural production environments around the world
- Understand the characteristics associated with developed and developing countries

D. Sample foods produced from diverse cereals, legumes, roots, and tubers

- Display knowledge of the crops used for food around the world, where they are grown, and what they taste like

E. Group Activities

- Demonstrate ability to recognize food crops from around the world
- Understand basic food processing methods used in food preparation
- Acquire knowledge about specific countries and constraints on agricultural production

III. Assessing Progress Towards Accomplishing Outcomes

Individuals may discuss homework assignments and communication assignments, but each person is responsible for completing his or her own work and handing it in before the end of the class period on the day it is due. Papers are late if not handed in by the end of class on the date due. Late papers will be assessed a 10% reduction in grade for each working day for 10 days beyond the due date. Assignments later than 10 days will receive 0 points.

You must do your own work. Assignments that are copied from another student (past or present) shall receive 0 points. As necessary, assignments will be tested for plagiarism using internet software programs. Quizzes cannot be made up to obtain credit; you must be in class on the day of the quiz.

Written Communication Assignments: Every paper you write says something about you or your attitude. The person who reads your article could be your next employer, boy or girl friend, or a potential reference for your next professional position. Write each paper as though your promotion within the company were based on the quality of your effort. All papers must be typed and checked for spelling and grammar mistakes. Each paper is limited to one page. Specific instructions will be given for each of the written assignments. Each assignment is worth 25 points for a Total of 75 points.

1. Newsletter Article                       Friday, February 6       25 points
2. Review Article                          Friday, March 6           25 points
3. Position statement                      Friday, April 10          25 points
**Homework Assignments:** There are four homework assignments. The scores for Assignments 1 - 3 will be determined based on a research project and the results of a quiz completed under the supervision of a TA in the Crops Resource Center (Lilly 2-417). Each quiz can be taken more than once, but only one quiz score can be submitted for a grade. The quiz should have your name and that of the supervising TA.

Countries requiring external assistance for food are expected to lack the resources to deal with critical problems of food insecurity. For Assignment 4, students will prepare a 2-page paper that proposes a technical solution to food security in one of these countries and analyze how global trends shape this nation.

Each assignment is worth 30 points for a **Total of 120 points.**

1. The Americas  
   Friday, January 24  
   30 points
2. Africa and the Near East  
   Friday, February 21  
   30 points
3. Asia  
   Friday, March 28  
   30 points
4. Food Security Project  
   Friday, April 24  
   30 points

**Quizzes:** There will be three food quizzes during the semester. Each quiz score is based on participation and will involve evaluation and voluntary tasting of foods made from a variety of crop plants. Points can only be awarded for attendance on the day of the quiz. Each quiz is worth 10 points for a **Total of 30 points.**

1. Foods from the Americas  
   Monday, March 2  
   10 points
2. Foods from Africa & the Middle East  
   Monday, April 6  
   10 points
3. Foods from Asia  
   Monday, April 27  
   10 points

**In Class Activities:** There will be numerous in-class projects and ‘clicker quizzes’ that will be worth 5 points each for a **Total of 30-45 points**

**Tests:** There will be three tests and a comprehensive final exam (optional). The tests will be worth 80 points each and the final exam is worth 120 points for a **Total of 360 points.**

<table>
<thead>
<tr>
<th>Test</th>
<th>Date</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test 1</td>
<td>Wednesday, February 11</td>
<td>80</td>
</tr>
<tr>
<td>Test 2</td>
<td>Wednesday, March 11</td>
<td>80</td>
</tr>
<tr>
<td>Test 3</td>
<td>Wednesday, April 22</td>
<td>80</td>
</tr>
<tr>
<td>Comprehensive Final Exam</td>
<td>May 4 - 9</td>
<td>120</td>
</tr>
</tbody>
</table>

**Classroom:** iClicker 2 devices will be used to manage in-class discussions and participation. Each student is required to bring their iClicker 2 device to class each day. These devices can be obtained on the internet or at local bookstores. The use of other electronic devices including cell phones, portable media players, and digital audio player during class is strictly prohibited.
IV. **Assignment Summary and Potential Points:** Your final grade will be determined from the total possible points based on: A = 95-100, A- = 90-95, B+ = 87-89, B = 83-86, B- = 80-82, C+ = 77-79, C = 73-76, C- = 70-72, D+ = 67-69, D = 63-66, D- = 60-62, F = <60

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Due Date</th>
<th>Points</th>
<th>Accumulated Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework 1</td>
<td>Friday January 23</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Writing Assignment 1</td>
<td>Friday February 6</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td><strong>Test 1</strong></td>
<td><strong>Wednesday February 11</strong></td>
<td><strong>80</strong></td>
<td></td>
</tr>
<tr>
<td>Homework 2</td>
<td>Friday February 20</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Food Quiz 1</td>
<td>Monday March 3</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Writing Assignment 2</td>
<td>Friday March 6</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td><strong>Test 2</strong></td>
<td><strong>Wednesday March 11</strong></td>
<td><strong>80</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Spring Break March 16-20</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homework 3</td>
<td>Friday March 27</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Food Quiz 2</td>
<td>Friday April 6</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Writing Assignment 3</td>
<td>Friday April 10</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td><strong>Test 3</strong></td>
<td><strong>Wednesday, April 22</strong></td>
<td><strong>80</strong></td>
<td></td>
</tr>
<tr>
<td>Homework 4</td>
<td>Friday, April 24</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Food Quiz 3</td>
<td>Monday April 27</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>In Class Participation</strong></td>
<td><strong>Variable</strong></td>
<td>30-45</td>
</tr>
<tr>
<td><strong>Final May 4-9</strong></td>
<td></td>
<td><strong>120</strong></td>
<td></td>
</tr>
</tbody>
</table>