This course provides a multi-disciplinary look at problems (and some of the possible solutions) affecting food production, distribution and requirements for the seven plus billion inhabitants of this planet. Historical context, the present situation and future scenarios are examined. Presentations and discussions cover sometimes-conflicting views on population growth, use of technology, as well as the ethical and cultural values of the people in various parts of the world. Emphasis is placed on the need for governments, international assistance agencies, international research and extension centers, as well as the private business sector to assist in solving the complex problems associated with malnutrition, undernutrition, obesity and sustainable food production. Students can enroll in either GCC3017 or GCC5017. Previous background in any of the disciplines is not required, but students should expect upper division and/or graduate level assignments.

This course meets the Liberal Education requirement for the Global Perspectives Theme as well as the CFANS Interdisciplinary course requirement. Through a better understanding of world food problems, this course enables students to reflect on the shared sense of responsibility required to build and maintain community and foster a stronger sense of our roles as historical agents. Throughout the semester, students are exposed to issues related to world food problems through the lens of two instructors, one with an agronomic background and the other with an applied economics background.

How the course is designed:
The course has four components that interact and are designed to complement one another. The first is a basic textbook, authored by the former director of the Rockefeller Foundation, Gordon Conway. Conway is an ecologist, and author of the book is One Billion Hungry: Can We Feed the World? It provides a basic body of knowledge underlying the topics of the course. The second component is a set of lectures by both Professor Porter and Professor Runge that amplify and supplement important aspects of the reading, branching into topics of current interest and reflecting their ongoing research. The third component is a set on guest lectures, roughly one per week, focused on related work and research by the guests. These lecturers were chosen to represent academic work, business activity and the non-profit sector as they relate to world food problems. The final component is a class project, undertaken by small sub-groups of students, reflecting their interests in topics related to the course.

Class time: A mixture of lecture-discussion and small group activity.

Workload: 3-hours/week lecture-discussion, 6-hours/week reading, writing, studying: an average of about 40 pages of reading per week with a maximum of about 55 pages, in-class discussions, a midterm essay, a second exam, and a final project presentation and paper.

Grade: 25% of the grade based on quizzes and attendance, 20% on a midterm essay, 25% on a second exam, and 30% on the group project presentation and paper.
Course Text:  
*One Billion Hungry: Can We Feed the World?* Gordon Conway, 2012.

Additional Readings:  As assigned and available on course website

Course Website:  https://canvas.umn.edu/courses/121519
Or, log in through MyU, then click on “Key Links” to get to your Canvas site.

Supplemental readings:
- *Famine Next Door, 2018*, by Benny Dembitzer

Teaching Faculty:
- Paul Porter, Professor, Agronomy & Plant Genetics  
  305 Hayes Hall; 612-625-6719; pporter@umn.edu
- C. Ford Runge, Professor, Applied Economics  
  332K Ruttan Hall; 612-625-9208; frunge@umn.edu
- Haseeb Ali, PhD Graduate Student, Applied Economics  
  Ruttan Hall; alixx616@umn.edu

Office hours:  Contact by email to set a time.

Student Learning Outcomes and How They Are Addressed and Evaluated:

- *Can locate and critically evaluate information*
  A 10 to 12 page group paper is required and will account for a significant portion of the grade. For this paper each student group will select a topic relevant to the course. They will then locate and critically evaluate information on that topic for their paper. Their grade on the term paper will be based on their ability to locate and critically evaluate information on their topic.

- *Understand the role of creativity, innovation, discovery, and expression across disciplines*
  The course is taught by a faculty member from Agronomy and Plant Genetics as well as from Applied Economics, who both attend every class. In addition, the course has faculty and outside speakers from several different disciplines give guest lectures, which cover some of the different ways their fields view and address world food problems. The students understanding of these interdisciplinary perspectives are evaluated based on the content of the midterm and end-of-semester essay/exam.

- *Can communicate more effectively*
  The group paper and a classroom presentation are the major ways (together 30% of the course grade) in which this outcome is addressed. The instructors make a presentation and provide material on “writing an academic paper” from the Dartmouth Writing Program. A portion of the grade on the paper and presentation will be based on how effectively the students communicate.
Grading System:

**Quizzes, Attendance and Participation (25%):** There will be quizzes based on the readings and lectures. They, along with class participation, will account for 25% of the grade.

**Midterm Essay and Second Exam (20% & 25%):** Students will complete a midterm essay and second exam based on the assigned readings and the information provided in class. **Due by class period on October 22 (post on the Canvas site and bring a hard copy to class) and taken in-class on December 3.**

**Final Project: Description and Summary (5%) , Oral Presentations (10%) and Paper (15%):** Each student group is expected to develop an original paper utilizing information obtained from lectures, readings and discussions. The paper topic must be related to this course and approved in advance by the course instructors. To obtain this approval, your tentative title and a descriptive paragraph are due on October 24.

Each student group will give an oral project presentation to the class on Nov. 12 and again on Nov. 19. A special ‘Classroom to Community Workshop’ will occur on Nov. 19 beginning at 5:00pm at the Ted Mann Concert Hall. Students are expected to participate. More details are on a separate handout.

Criteria to be used in assessing your oral presentation are listed below.

- (2 pts) **Presentation feedback:** In class review of other presentations
- (4 pts) **Content:** Coverage of topic, appropriate level of detail, stayed within time limits
- (3 pts) **Delivery:** Audio ok, visuals ok, eye contact, fields questions well
- (1 pts) **Preparedness:** PowerPoint file delivered on time or was otherwise ready

**The oral presentations will constitute 10% of the final grade.**

Your paper must be typewritten (word-processed) using standard margins, double spacing, and a font size of 12. Instructors will grade it on the quality of writing (*be sure you proof it several times before submission*), and the degree to which it shows critical thinking, originality, and integration of information and ideas encountered in the course. It must be 10 to 12 pages in length (not including figures, tables and references).

**Your final paper is due on Dec. 10 in class. Bring a hard copy to class and upload on the Canvas site.**

Criteria to be used in assessing your paper are listed below.

- (1 pts) **Organization:** outline and flow of the paper
- (3 pts) **Abstract:** concise summary of paper
- (1 pts) **Introduction:** Frame of reference clearly stated; what is the problem/opportunity?
- (4 pts) **Detailed Content:** Well developed and supported solutions and/or actions with references and detailed examples
- (2 pts) **Conclusion:** Implications, inferences and critical analysis
- (2 pts) **Bibliography:** Citations according to instructor's examples.
- (2 pts) **Precision:** Grammar, spelling, style, and clarity

**The final paper will constitute 15% of the final grade.**

**Students in GCC5017:**

Students enrolled in GCC5017 will have an additional assignment where they will give a presentation to the class on a topic related to their field of study and the subject matter covered in the class. More details will be provided in a separate handout.
Letter grades for the course will be assigned as indicated in the following table.

<table>
<thead>
<tr>
<th>Score Range (%)</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>95-100</td>
<td>A</td>
</tr>
<tr>
<td>90-94.99</td>
<td>A-</td>
</tr>
<tr>
<td>86-89.99</td>
<td>B+</td>
</tr>
<tr>
<td>83-85.99</td>
<td>B</td>
</tr>
<tr>
<td>80-82.99</td>
<td>B-</td>
</tr>
<tr>
<td>76-79.99</td>
<td>C+</td>
</tr>
<tr>
<td>73-75.99</td>
<td>C</td>
</tr>
<tr>
<td>70-72.99</td>
<td>C-</td>
</tr>
<tr>
<td>66-69.99</td>
<td>D+</td>
</tr>
</tbody>
</table>

Policy Statements for this Syllabus

Adapted from [https://policy.umn.edu/education/syllabusrequirements-appa](https://policy.umn.edu/education/syllabusrequirements-appa)

**Student Conduct Code**

The University seeks an environment that promotes academic achievement and integrity, that is protective of free inquiry, and that serves the educational mission of the University. Similarly, the University seeks a community that is free from violence, threats, and intimidation; that is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and that does not threaten the physical or mental health or safety of members of the University community.

As a student at the University you are expected adhere to Board of Regents Policy: *Student Conduct Code*. To review the Student Conduct Code, please see: [https://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf](https://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf)

Note that the conduct code specifically addresses disruptive classroom conduct, which means "engaging in behavior that substantially or repeatedly interrupts either the instructor's ability to teach or student learning. The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities."

**Use of Personal Electronic Devices in the Classroom**

Using personal electronic devices in the classroom setting can hinder instruction and learning, not only for the student using the device but also for other students in the class. To this end, the University establishes the right of each faculty member to determine if and how personal electronic devices are allowed to be used in the classroom. For complete information, please reference: [http://policy.umn.edu/education/studentresp](http://policy.umn.edu/education/studentresp).

**Scholastic Dishonesty**

You are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using
test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis. (Student Conduct Code: http://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf) If it is determined that a student has cheated, the student may be given an "F" or an "N" for the course, and may face additional sanctions from the University. For additional information, please see: http://policy.umn.edu/education/instructorresp.

The Office for Community Standards has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty: https://communitystandards.umn.edu/avoid-violations/avoiding-scholastic-.... If you have additional questions, please clarify with your instructor for the course. Your instructor can respond to your specific questions regarding what would constitute scholastic dishonesty in the context of a particular class-e.g., whether collaboration on assignments is permitted, requirements and methods for citing sources, if electronic aids are permitted or prohibited during an exam.

**Makeup Work for Legitimate Absences**

Students will not be penalized for absence during the semester due to unavoidable or legitimate circumstances. Such circumstances include verified illness, participation in intercollegiate athletic events, subpoenas, jury duty, military service, bereavement, and religious observances. Such circumstances do not include voting in local, state, or national elections. For complete information, please see: http://policy.umn.edu/education/makeupwork.

**Sexual Harassment**

"Sexual harassment" means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program. Such behavior is not acceptable in the University setting. For additional information, please consult Board of Regents Policy: https://regents.umn.edu/sites/regents.umn.edu/files/policies/Sexual_Harassment_Sexual_Assault_Stalking_Relationship_Violence.pdf

**Equity, Diversity, Equal Opportunity, and Affirmative Action**

The University provides equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult Board of Regents Policy: http://regents.umn.edu/sites/regents.umn.edu/files/policies/Equity_Diversity_EO_AA.pdf.
Disability Accommodations

The University of Minnesota views disability as an important aspect of diversity, and is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.

- If you have, or think you have, a disability in any area such as, mental health, attention, learning, chronic health, sensory, or physical, please contact the DRC office on your campus (UM Twin Cities - 612.626.1333) to arrange a confidential discussion regarding equitable access and reasonable accommodations.

- Students with short-term disabilities, such as a broken arm, can often work with instructors to minimize classroom barriers. In situations where additional assistance is needed, students should contact the DRC as noted above.

- If you are registered with the DRC and have a disability accommodation letter dated for this semester or this year, please contact your instructor early in the semester to review how the accommodations will be applied in the course.

- If you are registered with the DRC and have questions or concerns about your accommodations please contact your (access consultant/disability specialist).

Additional information is available on the DRC website: (https://diversity.umn.edu/disability/) or e-mail drc@umn.edu with questions.

Mental Health and Stress Management

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University of Minnesota services are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website: http://www.mentalhealth.umn.edu.

Academic Freedom and Responsibility:

Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.

**Language adapted from the American Association of University Professors "Joint Statement on Rights and Freedoms of Students".**