Introduction to Global Health

Instructors: Tanumihardjo, Nutritional Sciences
Pixley, Agronomy
Paskewitz, Entomology

Teaching assistants: Bresnahan, Kara: bresnahan.kara@gmail.com, bresnahan@wisc.edu
Mondloch, Stephanie: smondloch@wisc.edu
Larson, Scott: srlarson3@wisc.edu

Time: 2:30-3:45 PM, Tuesdays and Thursdays, 125 Agricultural Hall

Drop-in hour: 1:30-2:30 PM, Tuesday, 301 Agricultural Hall. The weekly Drop-in hour will be hosted by one of the TA's and Robin Mittenthal; please come if you have questions or require extra assistance with course material, assignments, or the Certificate in Global Health.


Skolnik’s book is available at the UW bookstore and some other area bookstores. A copy is also on reserve at both Steenbock Library and Ebling Library in the Health Sciences Learning Center.

Required readings on reserve in optional text:

Assessments: Two mid-term exams and one final exam
Exam 1 –130 points total
Exam 2 –130 points total
Final exam –135 points total (comprehensive; date and time to be announced when scheduled)
Three writing assignments – 105 points total/35 points each. Late policy is 3 points off each week beginning from the time you miss the drop-box open window.

One writing assignment will be assigned by each of the three lead instructors. Please use font size 12 of your choice, two page maximum, double spacing.

Attendance: We expect students to attend all classes. Some lectures will not be posted at Learn@UW.

Grading scheme:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
<th>Letter</th>
</tr>
</thead>
<tbody>
<tr>
<td>90.0 – 100%</td>
<td>≥450</td>
<td>A</td>
</tr>
<tr>
<td>85.0 – 89.99%</td>
<td>425-449</td>
<td>AB</td>
</tr>
<tr>
<td>77.0 – 84.99%</td>
<td>385-424</td>
<td>B</td>
</tr>
<tr>
<td>75.0 – 76.99%</td>
<td>375-384</td>
<td>BC</td>
</tr>
<tr>
<td>67.0 – 74.99%</td>
<td>335-374</td>
<td>C</td>
</tr>
<tr>
<td>55.0 – 66.99%</td>
<td>275-334</td>
<td>D</td>
</tr>
<tr>
<td>&lt;54.99%</td>
<td>≤274</td>
<td>F</td>
</tr>
</tbody>
</table>
Introduction to Global Health

Learning objectives of this course: The course will be divided into four loosely intertwined sections including agriculture and health, nutrition and health, the burden and origins of disease, and policy as it relates to education, natural disasters and systems. 1) Students will appreciate links between agriculture, food, nutrition and health, including how agricultural technologies contribute to feeding and nourishing the world’s population. 2) Students will understand how public health principles are applied to global health. 3) Students will understand the impacts of agricultural products on nutrition through availability, quality, and prevention. 4) Students will explain strategies to promote health and prevent disease: Focus on nutrition and strategies from multiple disciplines. 5) Students will be introduced to diseases of major global impact and metrics used to determine burdens of disease. 6) Students will appreciate the importance of ecology and the changing environment on issues related to epidemiology and management of disease. 7) Students will understand career opportunities that could contribute to improved global health.

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Instructor/Chapter/Outside Reading (OR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 3, 2013</td>
<td>Perspectives: Why Study Global Health --Critical concepts --Millennium Development Goals --Career roles in Global Health --Determinants of Health</td>
<td>Tanumihardjo/Chapters 1 and 2</td>
</tr>
<tr>
<td>September 10, 2013</td>
<td>Health and the rise and fall of civilizations Agriculture and Health/Health risks and agricultural systems --Livestock-related illnesses --Food-borne diseases --Bangladesh and Arsenic --The demographic transition</td>
<td>Pixley/OR</td>
</tr>
<tr>
<td>September 17, 2013</td>
<td>Agriculture, Food and Nutrition I --Agricultural research options --Plant breeding for food and nutrition --Biotechnologies</td>
<td>Pixley/Chapter 17 Carotenoids and Human Health</td>
</tr>
<tr>
<td>September 19, 2013</td>
<td>Agriculture, Food and Nutrition II / Agriculture and poverty alleviation --Food processing and bioavailability</td>
<td>Pixley/Chapter 19 Carotenoids and Human Health</td>
</tr>
<tr>
<td>Date</td>
<td>Title</td>
<td>Instructor/Source</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------------------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>7 Sep 24, 2013</td>
<td>When Food goes Bad &lt;br&gt; --Fungal contamination: mycotoxins &lt;br&gt; --Health impacts &lt;br&gt; --Impediments to control</td>
<td>Keller/OR</td>
</tr>
<tr>
<td>8 Sep 26, 2013</td>
<td>The Obesity and Poverty Paradox &lt;br&gt; --To understand the difference between food insecurity and hunger &lt;br&gt; --To review research in the area of poverty and obesity &lt;br&gt; --To understand the value of food in poverty that may affect body size</td>
<td>Tanumihardjo/OR</td>
</tr>
<tr>
<td>9 Oct 1, 2013</td>
<td>EXAM 1: In class</td>
<td></td>
</tr>
<tr>
<td>10 Oct 3, 2013</td>
<td>Culture and Health &lt;br&gt; --The culture concept &lt;br&gt; --Cultural views of health &lt;br&gt; --Culture, diet and nutrition &lt;br&gt; --Achieving success in health promotion &lt;br&gt; --Achieving universal food security</td>
<td>Loeffler/Chapter 6</td>
</tr>
<tr>
<td>11 Oct 8, 2013</td>
<td>Challenges with a System to Support the Growing Population &lt;br&gt; --Food security projections based on current estimations of agricultural productivity &lt;br&gt; --The need for improved models of how productive landscapes work &lt;br&gt; --The degree to which agriculture affects the condition of the planet &lt;br&gt; --The links between agriculture, food security and human health</td>
<td>Jahn/OR</td>
</tr>
<tr>
<td>12 Oct 10, 2013</td>
<td>Global Importance of Livestock and Animal Source Foods &lt;br&gt; --Global changes in demand for animal foods &lt;br&gt; --Trends in global production as related to development and demographics &lt;br&gt; --Role of livestock on resource poor farms in developing countries</td>
<td>Reed/OR</td>
</tr>
</tbody>
</table>
13 October 15, 2013 Nutrition: Macronutrients
--Carbohydrates, protein, fat, calcium
Tanumihardjo/Chapter 8

14 October 17, 2013 Nutrition: Micronutrients
--Vitamin A, iron, iodine, zinc
Tanumihardjo/Chapter 15
Carotenoids and Human Health

15 October 22, 2013 Children’s Health and Well Being
-- Trends in mortality and morbidity
-- Meeting the needs of highly vulnerable children
--Health, human rights and the convention of the rights of the child
DiPrete Brown/OR

16 October 24, 2013 Natural Disasters and Emergencies
--Vulnerability for disasters
--Consequences-health, housing, economic, environmental, psycho-social
--Response options and organizations: clusters, IGOs, NGOs, CBOs
--Prevention of outbreak of disease, epidemics
--Recovery for development and health promotion
Webster and Kidd-Webster/Chapter 14

17 October 29, 2013 Global Importance of Horticultural Crops
-- Role of horticultural crops in global diets
-- Economic contributions of horticultural crops
-- Scientific bases for improving the nutritional quality of vegetables and fruits
-- International agriculture commitment to horticultural crops
Simon/Chapter 18
Carotenoids and Human Health

18 October 31, 2013 Comparison of Health Care Systems across the Globe and Health Impacts
--Main functions of a health system
--How health systems are organized
--Health system influence on population health
--Examples of health systems in low, middle, high income countries
--Examples of health systems to displaced people (refugees and internally displaced)
Solheim and Riabroy/Chapter 5/Mahn Article

19 November 5, 2013 Women and Children's Health Issues
--Determinants of women’s health
--Causes of child death and illness
--Mortality
Tanumihardjo/Chapters 9 and 10 (required)/ Chapter 17 Carotenoids and Human Health (optional)
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Instructor/Chapter</th>
</tr>
</thead>
</table>
| November 7, 2013 | Communicable Diseases  
--Introduction, Malaria  
Post take home EXAM at Learn@UW | Paskewitz/Chapter 11 |
| November 12, 2013  | One Health: The interface of human and animal health  
On line exam due at 11:55 PM | Chris Olsen/OR |
| November 14, 2013   | Communicable Diseases  
HIV and Tuberculosis | Ajay Sethi/Chapter 11 |
| November 19, 2013    | Neglected tropical Diseases  
--13 NTDs  
--Soil transmitted helminths  
--Schistosomiasis  
--Onchocerciasis, filariasis, trypanosomiasis | Paskewitz/OR |
| November 21, 2013    | Emerging infectious disease  
--Biological invasion: West Nile virus, Dengue, SARS, avian influenza  
--Genetics: E coli O157 | Paskewitz/Chapter 7 |
| November 26, 2013    | Environment And Health  
--Millennium Ecosystem Assessment  
--Environmental health; pollution; toxins; sanitation | Paskewitz/OR |
| December 3, 2013     | Environment and Health  
--Ecological change and Health  
--Climate change | Jonathan Patz/OR |
| December 5, 2013     | Non- communicable Diseases  
--CVD, Diabetes, Cancer, Mental Health | Paskewitz/Chapter 12 |
| December 10, 2013    | Primary Health Care across the Globe  
--Alma Ata to Now, More than Ever  
--Primary health care developments over 30 years  
--Primary care vs primary health care  
--Examples of primary health care oriented systems | Haq/Declaration of Alma Ata; World Health Report 2008 summary |
| December 12, 2013    | World Health Systems  
--United Nations  
--Development Banks and Agencies  
--World Health Organization  
--Non-government Organizations  
--Coming together for vitamin A | Tanumihardjo/Chapter 15 (Skolnik) and Chapter 20 Carotenoids and Human Health |

Final exam – date and time to be determined, but will be between Dec. 15 and Dec. 21.