Tufts University, Friedman School of Nutrition Science and Policy

NUTR 308 -- NUTRITION IN EMERGENCIES
POLICIES, PRACTICE AND DECISION-MAKING

Spring 2019

Class Meetings: Tuesdays 1:30-4:30pm
Jaharis 155
150 Harrison Ave. Boston

Instructor(s): Erin Boyd
Erin.Boyd@tufts.edu
Skype: boyderin
1-508-404-3408

Office hours: By appointment (phone or skype)

Graduate Credits: 1 credit
Prerequisites: None

Course Description:
The course will introduce students to the emergency nutrition response in complex emergencies. The implications of an emergency nutrition approach for assessment and analysis, policy development, program design and implementation will be examined. This will provide an understanding of the causes and nutritional outcomes of humanitarian crises and complex emergencies (malnutrition, morbidity and mortality). The course has a field-oriented focus based on a wide range of recent and past food and nutrition crises ranging from Darfur to the Syrian crisis. The course reviews international response strategies, nutrition programmes and relevant policies; and incorporates relevant applied research. The course provides the opportunity for active class participation drawing upon the actual work experience of the students and applying a range of up-to-date case-study materials based on current humanitarian crises.

Texts and Materials:
Readings from various journals and books will be posted on Trunk and updated weekly. Essential readings are listed for each lecture. All students are expected to do at least the essential reading, these are key for our discussions in class – please take note of page numbers or chapters in bold, as these indicate the specific sections you should read. The further reading list provides opportunity to explore specific issues in more depth; it is up to you what you take from this list. All readings are available electronically on the Trunk course website or can be downloaded via the links given.

General readings and tools applicable to most classes:

Academic Conduct: Each student is responsible for upholding the highest standards of academic integrity, as specified in the Friedman School’s Policies and Procedures manual (http://nutrition.tufts.edu/student/documents) and Tufts University policies (http://uss.tufts.edu/studentaffairs/judicialaffairs/Academic_Integrity.pdf). It is the responsibility of each student to understand and comply with these standards, as violations will be sanctioned by penalties ranging from failure on an assignment and the course to dismissal from the school.

Classroom Conduct: Participation in class is expected and contributes to the course grade. No electronic devices are to be used during the lectures, and students are expected to actively engage in small group work during the lectures. Each week, students are asked to complete reading review questions on Trunk to facilitate class discussion.

Assessment and Grading:
Grading will be based on a combination of:

- a) Class participation: 10%
- b) Written mid-term assignment: 25%
- c) Pair assignment with in class presentation (in pairs): 25%
- d) Final take-home assignment: 40%

A passing grade in the course is B- or better. Course grades will be based on the below (subject to revision during the course):

- A > 94%
- A- 90<-94%
- B+ 87<-90%
- B 84<-87%
- B- 80<-84%

The Final will be a project to be completed in groups of 2-4 people (no more than 4), with project tasks split between you. A choice of project questions will be made available for your consideration. Your final grade for this assignment will be split 60% for the written report, 10% for a 15-minute presentation to be delivered during the last class (April 24th) and 30% for your individual contribution to the project (see grading plan in final assessment question document). Your final report must be submitted to me by COB on May 6th 2018.

All assignments must be submitted by the due date. Every day late will be penalized by one grade step (e.g., A to A-, A- to B+) unless prior permission has been given by the instructor.

Accommodation of Disabilities:
Students with documented disabilities are entitled to academic accommodation appropriate to their needs. If you require accommodations for this course, please contact me confidentially prior to the end of the second week of classes.

**Course Schedule:**
* This schedule is subject to modification at the instructor’s discretion.

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<thead>
<tr>
<th>Week #</th>
<th>Topic &amp; Lecturer</th>
<th>Date</th>
<th>Assignments Due</th>
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<tr>
<td>1</td>
<td>Introduction to Malnutrition in Emergencies</td>
<td>January 22</td>
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<td>2</td>
<td>Politics and Terminology: Food crises, health crises, political crises?</td>
<td>January 29</td>
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<td>3</td>
<td>Meaning and measurement of malnutrition: Individual</td>
<td>February 5</td>
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<td>4</td>
<td>Meaning and measurement of malnutrition: population level; Early warning, nutrition surveillance systems</td>
<td>February 12</td>
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<td>5</td>
<td>Community Management of Acute Malnutrition</td>
<td>February 19</td>
<td>Pair presentations in class</td>
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<td>6</td>
<td>Addressing Micronutrient Deficiencies in Emergencies</td>
<td>February 26</td>
<td>Pair presentations in class</td>
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<td>7</td>
<td>Infant and Young Child Feeding in Emergencies</td>
<td>March 5</td>
<td>Pair presentations in class</td>
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<td>8</td>
<td>Water, Sanitation and Hygiene in Emergencies: <em>Guest Lecturer: Daniele Lantagne (Tufts University)</em></td>
<td>March 12</td>
<td>Midterm choice WASH</td>
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<td>9</td>
<td>Ration planning, targeting assistance</td>
<td>March 26</td>
<td>Midterm choice rations</td>
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<td>10</td>
<td>Nutrition, Public Health in emergencies <em>Guest Lecturer: Justin Pendarvis and/or Sonia Walia</em></td>
<td>April 2</td>
<td>Midterm Choice Public Health in Emergencies</td>
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<td>11</td>
<td>Visit to Edesia plant TBD</td>
<td>April 9</td>
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<td>12</td>
<td>Agriculture, food security, livelihoods, cash Four Famines Review</td>
<td>April 16</td>
<td>Midterm Choice Food Security</td>
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<td>13</td>
<td>Presentations and Group Projects</td>
<td>April 23</td>
<td>All groups present</td>
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<td></td>
<td>FINAL PAPER DUE</td>
<td>May 6th by midnight</td>
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**Course Topics, Learning Objectives and Assignments**

**Class 1: An Introduction to malnutrition in emergencies**
An overview of the different types of malnutrition and their public health significance in emergencies. Physiological vulnerability in relation to the inter-generational cycle of malnutrition will be covered. An overview of classification of nutrients in the diet, including the concept of Type I and Type II nutrients. The roles and responsibilities of different international agencies for addressing malnutrition will be introduced.

**Objectives:**

1. Analyse the main types of malnutrition and understand their public health significance in general and in emergency contexts.
2. Describe how malnutrition affects individuals throughout the life cycle, and how malnutrition can impact future generations. Discuss the implications of this for who is most vulnerable in emergencies.
3. Determine the causes of malnutrition based on a conceptual framework, which differentiates between the immediate, underlying, and basic causes of malnutrition.

**Essential Reading:**


**Class 2: Politics and Terminology: food crises, health crises or political crises?**

The role of food and nutrition in the process, dynamics and outcomes of emergencies will be addressed. A brief overview of Sen’s entitlement theory of famine and some subsequent modifications will be discussed. An introduction to the concept of Public Nutrition, focusing on the project cycle and application of the conceptual framework of the causes of malnutrition and its relevance in emergencies will also be reviewed.

**Objectives:**

1. Analyze the issues in defining and declaring famine
2. Understand the basis of Sen’s entitlement theory and subsequent modifications, including the role and importance of coping strategies, war and civil unrest
3. Recognize the main causes of excess mortality in emergencies.
4. Assess how famine theories have influenced response strategies; food first approaches versus public health responses, versus more combined strategies.

**Essential Reading:**


In class discussion:
- Somalia Famine Declaration (July 2011). FEWSNET
- Famine spreads into three new areas (Sept 2011). FEWSNET

### Class 3: Meaning and measurement of malnutrition (Part I); Individual anthropometric status and associated risks.

An overview of measurement of individual nutritional status will be briefly discussed. The calculation of nutritional indices and reference values and the classification of malnutrition will be addressed. The operational implications of the new WHO growth standards will be reviewed, as well as the recent work on MUAC. The relationship between severity of malnutrition and risk of mortality in emergencies will be briefly reviewed.

**Objectives:**

1. Identify the different uses of individual nutritional status (growth monitoring, screening, program admission and discharge criteria and for population-based nutrition surveys)
2. Calculate an individual’s nutritional status using the weight-for-height index, by comparing their body measurements to international reference values.
4. Comprehend the relationship between individual nutritional status and mortality risk.

**Essential Reading:**


**Manuals:**

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**Class 4: Meaning and measurement of malnutrition (Part II); Anthropometric surveys including analysis, interpretation and use for decision-making; Early warning and nutrition surveillance systems.**

The session will provide an introduction to sampling and survey design, statistical analysis and interpretation, with an emphasis on reviewing survey validity and reliability rather than operational planning to undertake surveys. The meaning and interpretation of survey findings for complex emergencies will be discussed. Nutritional risk and vulnerability will be addressed in relation to findings and broader factors.

**Objectives:**

1. Describe with the stages of planning, designing, analyzing, interpreting and reporting on a standardized nutrition survey.
2. Apply nutritional benchmarks used to interpret anthropometric data in relation to the selective feeding decision-making frameworks.
3. Apply survey results and draw conclusions about the nutritional situation that will serve as an adequate basis for decision-making and planning a strategic response.

**Essential reading:**


**Websites:**

SMART (Standardized Monitoring and Assessment of Relief and Transitions) is an inter-agency initiative, which was launched in 2002 by a network of organizations and humanitarian practitioners. It is an improved survey method based on the two most vital, basic public health indicators to assess the severity of a humanitarian crisis: nutritional status of children under-five and the mortality rate of a population. Many agencies in the field will now use these methods for nutrition assessments in emergencies – there is full guidance and a manual downloadable from this site:  [http://www.smartmethodology.org/](http://www.smartmethodology.org/)

UNICEF Nutrition survey toolkit- Nutrition surveys with SMART Methods are simple, rapid, and transparent to provide nutrition data for immediate action. The collection of best practices and innovations from experts in the field has been assembled and available freely on the internet ([www.smartindicators.org](http://www.smartindicators.org), [www.smartmethodology.org](http://www.smartmethodology.org)). These methods were developed by Nutrition Experts and field-based nutrition program staff and were first launched on the national level in Niger.
2005 / 2006. These surveys are not costly, do not employ great numbers of staff, and produce high quality results that can be compared to DHS or MICS survey. [http://www.nutritionsurveytoolkit.org/](http://www.nutritionsurveytoolkit.org/)

The Food Security and Nutrition Analysis Unit- Somalia (FSNAU) seeks to provide evidence-based analysis of Somali food, nutrition and livelihood security to enable both short-term emergency responses and long-term strategic planning to promote food and livelihood security for Somali people.

The overall objective of the project is to ensure that Somali food, nutrition and livelihood security, at the household level, is strengthened thereby ensuring greater resilience to future “shocks” such as conflict, drought, flood, disease and inflation: [http://www.fsnau.org/](http://www.fsnau.org/)

### Class 5: Community Management of Acute Malnutrition

An overview of the management of severe acute malnutrition, phases of treatment, management of associated medical complications and nutritional and medical protocols will be discussed. Policies and guidelines will be reviewed. The design and organisation of programmes including centralized versus community-based treatment approaches will be described. Monitoring at individual and programme will be discussed.

**Objectives:**

1. Compare CMAM to other models for treating acute malnutrition
2. Comprehend the differences between supplementary and therapeutic feeding and their complementarities.
3. Examine the protocols of treatment and management of severe malnutrition specifically in relation to admission criteria, systematic medical treatment of underlying complication, monitoring

**Essential Reading:**

i. Collins S. Changing the way we address severe malnutrition during famine. Lancet 2001; 358(9280): 498-501

### Class 6: Addressing micronutrient deficiencies

The risks for micronutrient deficiencies in emergencies and the challenges for their assessment will be addressed. Strategies for prevention and control of micronutrient deficiency diseases will be discussed. These will include: Vitamin A supplementation, fortification of foods locally, regionally and internationally (salt, cereals, blended food, oil) and improving the quality of the general ration programme and promoting access to sources of micronutrient rich food.
Objectives:

1. Understand the increased risks for micronutrient deficiency diseases (MDDs) associated with crisis-affected populations
2. Become familiar with the different types of MDDs that are common in emergencies, specifically scurvy, pellagra and beri-beri
3. Be familiar with the broad range of responses and strategies for addressing MDDs including supplementation, fortification, food-based approaches and public health responses.

Essential Reading:


Class 7: Infant and Young Child Feeding in Emergencies

The importance of breastfeeding and appropriate complementary feeding in refugee and other emergency situations will be given. Appropriate strategies for protecting, supporting and promoting breast-feeding among emergency affected populations, including policy development and co-ordination will be discussed. An overview of the key factors for consideration in providing nutritional support for people living with HIV/AIDS will also be discussed.

Objectives:

1. Analyze the relationship between infant feeding, disease, mortality and the emergency context
2. Analyze challenges for promoting and supporting breastfeeding and the increased risks of artificial feeding associated with emergencies
3. Describe practical strategies for supporting women to breastfeeding and understand how safe artificial feeding can be promoted and supported.
4. Explain current policies on infant feeding in the context of HIV/AIDS affected populations.

Essential Reading:


**Policies**


**Websites**

http://www.ennonline.net/ife

The Infant & Young Child Feeding in Emergencies Core Group (IFE Core Group) is an inter-agency collaboration of UN agencies and non-governmental organizations concerned with policy guidance development and implementation and capacity building on IFE since 1999. Since 2004, ENN has been the coordinating agency for the IFE Core Group and provides an institutional ‘home’ to locate the initiative. ENN is a member of the UNICEF-led Interagency Standing Committee (IASC) Nutrition Cluster, to represent IFE on behalf of the IFE Core Group. Over the years, the IFE Core Group has worked with many agencies, individual experts and directly with field teams and welcomes collaboration.

**Key (recent) resources:**


**Class 8: Water, Sanitation and Hygiene linkages with undernutrition in emergencies**

Readings TBD

**Class 9: Planning rations and targeting assistance**

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The focus will be on planning adequate rations to meet different dietary needs. We will review policies and procedures for planning general rations, including an overview of key food groups in the diet and related food commodities in the food basket. We will also review the general approaches to food distribution and targeting, including practical constraints and challenges and how they are addressed.

Objectives:

1. Compare different types of modalities for food distribution related to nutritional objectives.
2. Assess and their relative roles and responsibilities of UN agencies, donors, and NGOs in relation to food aid.
3. Analyze the nutritional requirements of an adequate ration, the different options for commodities, and be able to review the nutritional adequacy of a general ration for a given population.
4. Synthesize alternatives to general food distribution.
5. Debate the continuation of food aid as a means of humanitarian support.
6. Analyze the purpose of targeting (efficiency, effectiveness).
7. Explain how targeting and distribution influence protection.
8. Compare modalities for targeting and management of food distribution.

Essential Reading:


ii. Chaparro C.M. & Dewey K.G. (2010) Use of lipid-based nutrient supplements (LNS) to improve the nutrient adequacy of general food distribution rations for vulnerable sub-groups in emergency settings. Matern. Child Nutr. 6 Suppl 1, This is a long article – read pages 57-60 ‘Discussion’ only if you are short of time.


Objectives:

- Argue the role of food security and agriculture interventions in promoting nutrition
- Assess the effects of combined agriculture and nutrition education on child growth
- Compare current activities involving food security, nutrition and agriculture interventions

Essential Readings:

- AVDRC (November 2012), The World Vegetable Center, Promoting Best Post Harvest Practices: Skim success stories
- Dunn, E (2013), FIELD Report No. 18: Smallholders and Inclusive Growth in Agricultural Value Chains
- IFPRI (2014), Guiding Principles for Improving Nutrition Through Agriculture

Class 11: Nutrition and Public Health in Emergencies

Guest lecturers: Sonia Walia and Justin Pendarvis from USAID/OFDA

Public health emergencies including outbreaks and sanitation crises require nutrition components. Prevention, treatment and control of communicable diseases including measles, water and sanitation, diarrhea, reproductive health will be discussed, particularly in relation to their impact on preventing and controlling deterioration in nutritional status.

Objectives:

1. Analyze the role of nutrition as part of a public health response in emergencies.
2. Examine nutrition response in the context of the Ebola response
3. Examine nutrition response in recent cholera outbreaks

Essential Reading:


Class 12: Four Famines Response Review

Class 13: Presentation of final group projects