NUTRITION 611: Nutrition Across the Life Cycle
Fall 2014: Tu / Th, 2:00-3:15 pm
Rosenau 228
3 Credits

Instructors

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Teaching Assistant

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Email: melissa@unc.edu

Course Description

This course is concerned with nutrition during major phases of the life cycle. It will include units on (1) women during the preconception period, pregnancy and lactation, (2) infancy, (3) childhood, (4) adolescence and (5) older adults (65+). For each life cycle phase we will study the biological basis of nutrient and energy needs, identify energy and nutrient needs, discuss how nutritional status is assessed, examine cultural and socioeconomic barriers to meeting nutrient needs, and consequences of failing to meet needs.

Class sessions are meant to be engaging and include lectures, class debates, discussion questions, and presentations by students.

Course Objectives
The student will:

1. Understand the biological basis of energy and nutrient requirements during pregnancy and lactation, infancy, childhood, adolescence and the older adults (65+).

2. Understand the consequences of energy and nutrient inadequacies and excesses, and identify risk factors associated with poor nutrition in individuals.

3. Be able to identify socioeconomic and cultural barriers to meeting nutrient needs, and understand how an appreciation of such barriers is essential in informing the development of nutrition programs and policies targeted to different phases of the life cycle.
4. Analyze and evaluate current research reports related to nutrition and the different phases of the life cycle.

5. Integrate information from a variety of sources to develop a comprehensive understanding of nutrition as it relates to the different phases of the life cycle.

Student Learning Outcomes covered in this course:

KRD 5.2 The physical and biological science foundation of the dietetics profession must be evident in the curriculum. Course content may include organic chemistry, biochemistry, physiology, genetics, microbiology, pharmacology, statistics, nutrition metabolism and nutrition across the lifecycle.

Readings

Class readings will be from review articles, original research articles, government reports and chapters in textbooks. All of the readings except those from the Brown textbook will be available on Sakai. Class podcasts, videos and interactive content links will also be posted on Sakai and on the course syllabus.

Recommended Textbook

This book is available at the campus bookstore and on reserve at the HSL. You can purchase the ebook or rent the text for a reduced price at <http://www.cengagebrain.com/shop/search/9781133600497> or on Amazon.

Course Requirements and Grades

Final grades will be based upon the completion of the following assignments and exams:

<table>
<thead>
<tr>
<th>Task</th>
<th>Value</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Paper</td>
<td>300</td>
<td>Last Class Day for Unit Assigned</td>
</tr>
<tr>
<td>Group Project Presentation &amp; Paper</td>
<td>150</td>
<td>Last Class Day for Unit Assigned</td>
</tr>
<tr>
<td>Two Take Home Exams (one for pregnancy/infancy and one for childhood/adolescence)</td>
<td>200</td>
<td>One Week after the Last Class Day for Unit Assigned</td>
</tr>
<tr>
<td>Classroom participation</td>
<td>50</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Final exam</td>
<td>300</td>
<td>12/6/14 at noon</td>
</tr>
<tr>
<td>Total</td>
<td>1000</td>
<td></td>
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Letter grades are assigned according to the following scale:

H (1000-940); P (939-700); L (699-650); F (<650)
A (1000-930); A- (929-900); B+ (899-870); B (869-830); B (829-800); C+ (799-770); C (769-730); C (729-700);
D+ (699-670%); D (669-630%); D- (629-590%); F (<590%)

Note: Students who have a documented disability from the UNC Office of Accessibility will be provided alternative testing arrangements. Late projects and papers will not be accepted. Students are required to take final examinations as scheduled. The only exceptions are for illness as documented by being on infirmary list at Campus Health Services or for other medically-documented or family or personal emergency situations. A student must meet with an academic dean to request permission for an examination excuse and documentation will be required.

Honor System

As part of the UNC Honor Code, Carolina students pledge to maintain ideals of academic honesty, personal integrity, and responsible citizenship. These ideals are embodied in the Honor Code set forth in the Instrument, with the support of students, faculty, and staff. When a student applies to Carolina, he undertakes a commitment
to the principles embodied in the Honor Code. The University endeavors to instill in each student a love of learning, a commitment to fair and honorable conduct, and respect for the safety and welfare of others. It also strives to protect the community from those who, for whatever reason, do not embody these values in their conduct, and to protect the integrity of the University and its property for the benefit of all.

Online Course Evaluation

UNC uses an online evaluation system to assess the quality of instruction and learning of the courses offered. During the last few weeks of the course, an e-mail will notify you that the system is open with a link to access the form. This evaluation system is anonymous. The instructors will only see the aggregate data with any comments at the end of the course after grades are turned in. It is your responsibility as a student to complete the evaluations. You will be sent multiple e-mails until it is completed.

Laptop Policy

We are pleased to have students take notes via laptops. However, we expect that students who bring their laptops to class will use them for academic purposes and not for surfing the internet or other extracurricular activities not related to the class discussion. Please remember that engaging in such activities during class time is disruptive to fellow students who can see your screen. It is also unacceptable for any of our esteemed visiting guest lecturers to see such non-academic activities during class time. Full engagement in class activities is part of the class participation component of the grade.

Course Components

1. Course Paper

A paper on a controversial issue of special interest within one of the 5 units is required. See Sakai for a list of possible topics for each unit. You may choose a topic from the list or propose your own topic. If you choose your own topic, please confer with instructors for approval. The paper is worth 300 points and will count for 30% of the final course grade.

Papers should be a minimum of 5 and maximum of 8 typed, double-spaced pages (12 font with 1 inch margins). Papers should include the following components listed as subheadings in the following order:

1. A statement of the issue or controversy.
2. An evaluation of the literature you reviewed to inform your decision-making regarding the issue or controversy. Discuss the research findings from at least 5 original research papers published in reputable scientific journals. While you are allowed to use a review paper in the introduction section, review papers do NOT count towards the FIVE required journal articles for the course paper. Assess the quality of the research studies. Does the study have an adequate sample size? Is the sample appropriate for answering the research question? Are the methods appropriate? Were there adequate controls for factors such as confounding?
3. A statement of YOUR point of view concerning the issue or controversy informed by the literature you have reviewed. Indicate which elements of the literature you felt were most convincing in informing your point of view.
4. A summary and discussion of practical and policy implications of your position for applied nutrition programs. Consider recommendations you would make to individuals who you might counsel and/or to nutrition policy makers or educators.
5. Bibliography. Please use ONLY published papers in your paper. Please be sure that it is clear to instructors which FIVE papers are your 5 research papers that you will cite. Use the following format:
   In text:
   a. (Gordon-Larsen et al., 2012)
   In References Cited section:

Advice for the course paper:

1. Start early!
2. Read the examples of papers that received high grades posted on Sakai.
3. Remember the point of the paper is to demonstrate critical thought. There is no "right answer" - you need to pick an issue or controversy, carefully review the scientific evidence you have assembled, based on this evidence put forward your point of view that is informed by the studies you selected.
4. Select a range of studies on this topic. Please do not pick 5 papers written using the same dataset – if you find papers on the same dataset with slight variations – those would technically duplicate each other and thus those papers would not "count" as 5 separate papers.
5. Critique studies from a general epidemiologic perspective. Address major issues and limitations (e.g., generalizability - not enough research has been done on the topic in males).
6. Simple and straightforward is always best - define your research question (e.g., dietary fat causes obesity) and keep coming back to it when you critique each paper (e.g., this paper provides clear evidence of a positive association between dietary fat and obesity because......; this paper does not show evidence of a relationship between dietary fat and obesity, however there were limitations in its design.....).
7. Send the following information to the TA at the beginning of the corresponding unit and CC the appropriate professor for that paper topic (see Sakai for e-mail example):
   - Topic
   - Focus
   - Controversy
   - Any questions you may have

Course papers are due at 2:00pm on the last class day for the corresponding unit. You must bring a printed copy to class AND place them electronically on the Sakai Assignment tab.

<table>
<thead>
<tr>
<th>Unit Assigned</th>
<th>Course Paper Due Date</th>
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<tbody>
<tr>
<td>Pregnancy Paper</td>
<td>September 11</td>
</tr>
<tr>
<td>Infancy Paper</td>
<td>September 30</td>
</tr>
<tr>
<td>Childhood Paper</td>
<td>October 21</td>
</tr>
<tr>
<td>Adolescence Paper</td>
<td>November 11</td>
</tr>
<tr>
<td>Older Adult Paper</td>
<td>December 2</td>
</tr>
</tbody>
</table>

Grading rubric:

<table>
<thead>
<tr>
<th>ORGANIZATION and WRITING</th>
<th>75 PTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Were directions followed</td>
<td>- 10</td>
</tr>
<tr>
<td>• Was there a clear statement of the issue and the student’s position?</td>
<td>- 20</td>
</tr>
<tr>
<td>• Were ideas presented in a well-organized manner?</td>
<td>- 30</td>
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<tr>
<td>• Was the paper well written?</td>
<td>- 15</td>
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<table>
<thead>
<tr>
<th>SCIENTIFIC MERIT (emphasis)</th>
<th>225 PTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Was the student’s position well substantiated by the literature?</td>
<td>- 112.5</td>
</tr>
<tr>
<td>• Was the literature selected by the student evaluated fully?</td>
<td>- 112.5</td>
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TOTAL                                                                                   TOTAL 300 PTS
2. Group Project

For each unit, there will be short and (we hope) fun group assignments designed to increase awareness of how nutrition is viewed by or marketed to individuals in the age groups we are studying. Lists of possible topics can be found on Sakai under the Assignments tab. You may organize your group to divide up the tasks however you see fit. Groups will present their findings in class during a 20 minute presentation designed to share ideas and stimulate discussion. Each student must participate in one group project during the course. Unless we are given evidence that participation of group members was clearly unequal, all group members will receive the same grade for the assignment (0-150 points; 15% of your final grade).

A brief written summary (e.g. 5 pages) telling what each group member did (1 page max), along with an overview of what was learned by the exercise (4 pages), should be submitted. The emphasis on the written summary should be a reflective overview of how this project contributed to what you have learned in class. Please do not reiterate the facts that you learned in class - the key task here is for you to reflect on what happens in the real world.

Power Point presentations should include approximately 20 slides total (approximately 1 minute per slide) and stimulate class discussion during a 10-15 minute question and answer session. Emphasize what you did, findings, and the new knowledge gained by having done the activity. Do not reiterate facts that were given in class or the readings. See Sakai for additional advice on preparing your Power Point presentation.

Send your Power Point file to the TA for posting to Sakai by midnight prior to the day of your presentation and bring a copy of the presentation for the instructors.

Note: If you wish to conduct any research (e.g., interviews with non-family members or friends), you will need to see either Drs. Siega-Riz and Gordon-Larsen, or Mrs. Holliday. Any surveys or photographs of people (e.g., students in schools, or elsewhere) must have permission from subject. See the UNC IRB policy for more information:


Group presentations are given during the last class day for the corresponding unit:

<table>
<thead>
<tr>
<th>Unit Assigned</th>
<th>Group Project Due Date</th>
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</thead>
<tbody>
<tr>
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</table>

Grading rubric:

<table>
<thead>
<tr>
<th>ORGANIZATION</th>
<th>20 PTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Were similar concepts grouped together and presented in logical order?</td>
<td></td>
</tr>
<tr>
<td>• Was the presentation 20 minutes or less - with time for Q&amp;A?</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>75 PTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Was the information scientifically accurate and pertinent to the assigned project?</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>PRESENTATION STYLE</th>
<th>10 PTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Was the presentation clear, easy to understand, and accurate?</td>
<td></td>
</tr>
<tr>
<td>• Was the presentation interesting and lively?</td>
<td></td>
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5
In order to effectively organize student involvement it is important to have approximately equal numbers in each of the groups for the paper topics and projects. Thus, you will be asked to indicate your choice of life cycle phase for each assignment, by order of preference. We will try to honor first choices to the extent that it is possible. **It is recommended that students choose different segments of the life cycle for their papers and projects so assignments will not be due at the same time.** For the projects, groups should have a mix of undergraduates and master’s students.

3. **Classroom Participation**

We expect students to regularly contribute to class discussions in a positive and valuable manner and to be respectful of peers and guest lecturers. Attendance is expected and assignments listed under “Class Participation” in the syllabus should be prepared prior to class if applicable. Missing more than 2 classes for any reason will begin to impact your grade. Please notify the instructors and TA if you must miss a class. Classroom participation will be allocated 5% of the grade or 50 points. Classroom participation will be assessed at the end of each section (5 times total during the semester). You will be asked to rate your own level of participation and attendance for the participation grade. In addition, we will ask you to provide anonymous feedback regarding topics covered and any other issues or concerns you have with class.

Full participation credit will be given to students who come to class prepared for lectures, class discussions and activities; contribute readily to discussion but do not dominate; make thoughtful contributions that advance the discussion; show interest in and respect for others’ views; participate actively in small groups, and do not engage in disruptive behavior.

4. **Take-Home Exams**

Two take-home exams will be given: 1) after the pregnancy and infancy section and 2) after the childhood and adolescent section. They will be due one week after the last day of class for that section. These will be two brief exams, each worth 10% of your grade or 100 points. The questions may be in the form of case studies or the analysis of a current topic and the answer can be no longer than 700 words. These are meant to help you to apply the knowledge gained in each section to real-world situations you might encounter in the practice of public health nutrition. Case studies and current issues will be presented in class so that you get a feel for what we are interested in assessing on the exam.

<table>
<thead>
<tr>
<th>Unit Assigned</th>
<th>Take Home Exam Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy/Infancy Unit Exam</td>
<td>October 7</td>
</tr>
<tr>
<td>Childhood/Adolescence Unit Exam</td>
<td>November 18</td>
</tr>
</tbody>
</table>

5. **Final Exam**

A final examination will count for 30% of the grade or 300 points. This exam will require the synthesis of knowledge learned throughout the semester. The questions will be short answer and essays. Longer essays will be related to case studies. Again, case studies will help you to apply the knowledge gained in each section to real-world situations you might encounter in the practice of public health nutrition. Case studies will be presented in class so that you get a feel for what we are interested in assessing on the exam.
Schedule of Class Sessions

Note: An extra class session led by the TA which provides an overview of epidemiologic terminology will be held in the first two weeks of class. The session is not considered mandatory, but will be of major help to you for interpretation of readings and for your paper.

Aug 19  
**Introduction (Siega-Riz, Gordon-Larsen, Holliday) and Women’s health (Siega-Riz)**

**Recommended readings:**

Clinical Updates in Women’s Health Care: Nutrition. Siega-Riz and Mehta. The American College of Obstetrics and Gynecologists. Vol XII, #3, July 2014. (this will serve as a reference for the several dates and it contains a nice succinct summary of the science)

Brown Text: Ch 2: & Ch 3:


Aug 21  
**Physiology of pregnancy and fetal development as they relate to nutrient needs (Siega-Riz)**

**Required readings:**


**Recommended readings:**

Brown Text: Ch 4: pp. 88-102, 109-120

**Watch:**

How a baby develops during pregnancy by Bupa Health (link on Sakai)

**Khan academy:** (we will be viewing these in-class)

Meet the placenta  

Glucose, insulin and diabetes  

Aug 26  
**Pregravid weight status, weight gain recommendations and postpartum weight retention (Siega-Riz)**

**Required readings:**


**Class Participation:**

Prepare an outline for an intervention program designed to address one of two challenges relating to pregnancy weight gain: 1) promotion of targeted weight gain or 2) promotion of postpartum weight loss.

**Aug 28** Nutrition guidance in pregnancy: normal and high-risk mothers (Siega-Riz)

**Required readings:**


[Screening for Iron Deficiency Anemia in Childhood and Pregnancy: Update of the 1996 U.S. Preventive Task Force Review.](http://www.ncbi.nlm.nih.gov/books/NBK33399/) (this document will be used in several classes-for right now just read the pregnancy section)

**Recommended reading:**


**Sept 2** Nutritional determinants of poor birth outcomes (Siega-Riz)

**Required reading:**


**Recommended readings:**


**Class Participation:**
Discuss strategies for resolving preterm birth in: 1) the United States and 2) Malawi. See Sakai for the strategies and come prepared to discuss.

September 4

An explanation of the WIC program (Siega-Riz)

Required readings:


Recommended reading:

Brown Text: Ch 4: pp. 133-134

Class Participation:

Choose one of the following tasks and be prepared to discuss your experience/findings: 1) visit a WIC program, 2) speak to someone who has been enrolled in WIC, or 3) research the WIC program online for your home county.

September 9

Fetal programming hypothesis (Guest: Dr. Linda Adair) (AMSR out of town)

Required readings:


Recommended Reading:


September 11

Group Project Presentations: Pregnancy Section

Group Project Papers Due for Pregnancy Section

Course Papers Due for Pregnancy Section

Class participation self-assessment

September 16

Breast feeding: Promotion of breast-feeding (Guest: Dr. Heather Wasser) (AMSR out of town)

Required readings:


Recommended readings:

Brown Text: Ch 6: 185-193, 222-223


**Sept 18**

Properties of Human Milk, maternal needs during lactation, and the biological basis of energy and nutrient needs during infancy (Siega-Riz)

**Required readings:**

Brown Text: Ch 7: pp. 198-210 Ch 8: pp. 228-244

Basic steps to milk supply (1-page Word document)


**Recommended readings:**


**Watch:**


**Sept 23**

The current state of affairs: What are infants and toddlers eating in the US (Siega-Riz)

**Required readings:**


**Class Participation:**

Case study-to be completed in-class

**Sept 25**

Nutrition for infants with special health care needs

**Required reading:**

TBD

**Sept 30**
- Group Project Presentations: Infancy Section
- Group Project Papers Due for Infancy Section
- Course Papers Due for Infancy Section
- Class participation self-assessment

**Oct 2**
- Child growth and development: General principles, including methods of assessment and use of growth charts (Gordon-Larsen)

**Required readings:**


**Additional resources:** [http://www.cdc.gov/nccdphp/dnpao/growthcharts/resources/index.htm](http://www.cdc.gov/nccdphp/dnpao/growthcharts/resources/index.htm)

**Recommended reading:**


**Oct 7**
- Psychosocial factors in child feeding (Gordon-Larsen)

**Required readings:**


**Take Home Exam Due for Pregnancy/Infancy Section**
Oct 9  Dietary patterns and nutrient needs of children (Melissa)

Required reading:


Recommended reading:

Brown Text: Ch 10, pp 283-300 and Ch 12, pp 319-334

Oct 14  Policy case study and class discussion: Healthy Foods in the School Setting (Gordon-Larsen; Guest Panel: Linden Thayer, Leah Moutz, and Lynne Privette)

Required readings:


http://www.cnn.com/2012/01/25/health/usda-school-lunches/

Food Explorer’s Menu

Group 1:

http://www.robeson.k12.nc.us/Domain/40

Group 2:

http://www.edibleschoolyard.org/

Group 3:

http://www.fns.usda.gov/pressrelease/002312

Group 4:
Class Participation:

Read the assigned reading(s) for your group and be prepared to discuss the prompts posted on Sakai.

Oct 16  **FALL BREAK**

Oct 21  **Nutritional needs of athletes (Gordon-Larsen)**

**Required readings:**


**Recommended reading:**


Brown Text: Ch 14, pp 381-384; Ch 15, pp 392-394

**Group Project Presentations:**  Childhood
**Group Project Papers Due for Childhood Section**
**Course Papers Due for Childhood Section**
Class participation self-assessment

Oct 23  **Biological aspects of nutrition in adolescence (Gordon-Larsen)**

**Required readings:**


Oct 28  Sociocultural context of adolescent obesity: Case Study – Urban Philadelphia School-based Community Partnership (Gordon-Larsen)

Required readings:


Oct 30  Case study: Halloween Candy Solution and Added Sugars (Gordon-Larsen).

Required readings:

How much candy can you get in a pillowcase?

Halloween Ideas CSPI

Group 1:

From the Garden of Eden to the Land of Plenty: Restriction of fruit and sweets intake leads to increased fruit and sweets consumption in children.

Group 2:
Bad food? Tax it, and subsidize vegetables.

Disney Letter

**Group 3:**


**Group 4:**

Candy at the Register

Convenience Stores and Marketing of Foods

**Class Participation:**

Read the assigned reading(s) for your group and be prepared to discuss the prompts posted on Sakai.

**Nov 4**

**Food related allergies during childhood (Holliiday; Guest Lecture: Brian Vickery, MD)**

**Required readings:**


**Nov 6**

**Eating disorders and disordered eating (Siega-Riz; Guest Lecture: Dr. Stephanie Zerwas)**


**Recommended reading:**

Brown text: Ch 15, pp 399-406

**Nov 11**

**Community-level Policies & Childhood-Adolescent Section Review**
Group Project Activities: Adolescence Section
Group Project Papers Due for Adolescence Section
Course Papers Due for Adolescence Sections
Class participation self-assessment

Nov 13 Understanding Global Aging and Physiological Changes During Aging (Holliday)
Brown Text: Ch 18, pp 454-461

Required readings:
1. Normal Changes of Aging
2. PBS video: Aging (12:36)
3. PBS: The Impact of Aging Populations
4. Administration on Again: A profile of Older Americans: 2012A
5. Administration on Again: A profile of Older Americans: 2011
6. Countries with the Highest Aging Population (1:59)
8. The 90+ Study

Nov 18 Older Adult Nutrition Screening, Assessment and Nutrient Recommendations (Holliday)

Required readings:
1. Frontline Living Old (watch the full program/6 Chapters, 60 mins)
2. NY Times Article and Video: Experiencing Life, Briefly, Inside A Nursing Home- A Personal Lesson in Geriatric Care (5:22)
3. Area Agency on Aging. What is normal aging?
6. Administering the MNA on an older patient (12:32)
7. Nutritional Care for Older People (22:14)

Recommended reading:
Brown Text: Ch 18, pp 462-485

Take Home Exam Due for Adolescence/Childhood section

Nov 20 Older Adult Nutrition Programs and Condition Management (Holliday)

Required readings:
1. Swallow: A Documentary – Dysphagia (15:00)
3. Swallowing disorders - interpretation of radiographic studies
4. Hormel Health Labs Take some time to learn about all the products available to individuals with dysphagia.

Recommended reading:
Brown Text: Ch 19, pp 487-507

Nov 25 Older Adult Condition Management Continued and End of Life (Holliday)

Required readings:
1. ABC News: Virtual Dementia Tour (8:04)
2. Inside the Brain: An Interactive Tour
3. Diabetes in Older Adults: A Consensus Report (ADA and AGS, 2012)
4. Video: Mini Mental State Examination (9:17), Actual Exam
6. "Letting Go" by Atul Gawande. The New Yorker, August 2, 2010

Recommended reading:

Brown Text: Ch 19, pp 508-516

**Nov 27** Thanksgiving

**Dec 2** Group Project Presentations: Older Adults Section
Group Project Papers Due for Older Adults Section
Course Papers Due for Older Adults Section
Class participation self-assessment

**Dec 6** Final Exam 12-3pm location TBD
PROJECT TOPICS:

I. Pregnancy

Group 1: Collect samples of nutrition education materials for pregnant women from private OB/GYN clinics, WIC offices, public health clinics in the area. Look on the WWW to see what kinds of nutrition information is available for pregnant women. Evaluate the messages in these materials. Is the information accurate? Who is the information targeted for? Is it appealing, understandable? What would you do differently? Take one of the materials that you collected and redesign it based on your knowledge and readings from the class. Hand the old and new material with your write up to Dr. Siega-Riz. (note: depending on the quality of this product we will send it back to its original source for them to use) Please do not repeat what information is given in class but rather use the information from the course to evaluate the content of the materials.

Group 2: Interview at least 15 pregnant women from various incomes or racial/ethnic groups. You may use an "opportunity sample" for this assignment: that is you may interview friends, family members, etc. Develop a survey tool that asks them how they are learning about optimal nutrition, weight gain during pregnancy, physical activity, etc. and determine, from their perspective, what some of the barriers are to achieving optimal nutrition and weight gain during their pregnancy. Please hand in your survey tool with the write up and reflect on the ease or feasibility of collecting this information. Compare the information that they are receiving to what you have learned in class. Is the information accurate and appropriate given the woman’s weight status or circumstances?

II. Infancy:

Group 1: Analyze advertisements for baby foods, breast feeding devices, vitamins, etc. found in popular magazines for mothers (e.g. American Baby, Parents, Pregnancy Fit, etc.; you can usually find these in the waiting room of pediatric clinics and on the web (pop ups, baby websites, Facebook, etc.)) What are the main messages? How are products being sold? How does the information compare to AAP recommendations? Please do not tell us what the AAP recommendations are but rather critically evaluate what you see in these media outlets. What regulations exist that control these types of advertisements? To what extent do you think the ads affect mothers’ decisions about what to feed their infants?

Group 2: Go into a grocery store and document all the types of infant formulas and their costs. Then visit local pediatric clinics, WIC offices, to see what information is given to moms that help them make a choice about which formula to buy. Please include in your presentation to the class a cost comparison of products, a comparison of the formula composition, how special formulas are advertised and if the health claims are validated. In the end, please tell us how you would guide a new mom in making the decision of which formula to purchase throughout the first year of life?

III. Childhood

Group 1: Watch a selected sample of children’s TV programming. You may wish to have different group members watching at different times (weekday morning shows typically target pre-schoolers, while the late afternoon hours are for older children). Take note of the advertisements: What percentage are for foods, candies, or beverages? What is the major marketing strategy? How do you think the messages affect children’s eating behavior and food choices?

Group 2: Contact local elementary schools, the main office of a local school district, or review NC State elementary school curricula. What is the nutrition content of the curriculum? What are kids actually learning about nutrition in the schools? What suggestions would you make?

IV. Adolescents:

Group 1: Visit two local pediatric clinics that have special clinics and programs to help teens and parents develop and maintain healthy lifestyles. Here are three local options: UNC general pediatrics clinic; ENERGIZE!, which is more of a healthy lifestyles clinic http://www.wakemed.org/body.cfm?id=609 ; Or
Duke’s Healthy Lifestyle Clinic http://www.dukechildrens.org/services/nutritional_disorders_and_obesity
Review the materials provided online and then go visit the clinics to see first-hand how such programs are working. Take note of the web materials and the materials posted in the clinics as well as any handout materials. Think about the materials and programming. Do you think they are appealing to teens? Do you think their strategies will be successful? What elements of the programming do you particularly find successful?

Group 2: Investigate school PE at a local middle or high school. Visit a couple to see how the programs and facilities compare. Determine what the school guidelines are for PE. How many times per week do teens participate in PE? What are the choices that they can make for PE? Are there any fitness requirements at the school? What types of PE classes are offered? Can students opt out of PE? If so, how? Get permission to visit a middle school or high school gymnasium or fields during PE classes. Observe the classes and describe. What are the facilities like? What are the students doing during class? Do all students participate at the same level of exertion? What percentage of the class period is devoted to physical movement? What is the teaching strategy of the PE teacher? Do students seem to enjoy the classes? Do students change clothes for PE? Do they sweat? Are there facilities to allow students to shower after class?

V. Older Adults

Group 1: Visit a private pay nursing home AND a Medicaid funded nursing home. Observe mealtime, the kitchen preparation, and the interactions between medical staff and residents at both facilities. Collect menus and compare. Are their differences in medical and nutrition care? Are their differences in the food being served? Consumption amounts? Can you be “nutritionally intact” in both facilities?

Group 2: What resources are available, for free, both in print and online for older adults who have questions about what to eat? Take a convenient sample of 10 older adults over the age of 70 (that you may already know. When they have a question about how nutrition can aide them in managing or treating a condition or disease was is their resource of choice (web, book, practitioner, etc.). Evaluate two of these resources. Are they accurate? Tailored to older adults? Can caregivers; medical staff and patients/older adults use them? Are they accessible for those with site and hearing difficulties?
IDEAS for nutrition issues papers

NOTE: These are suggestions only. You may propose any topic that interests you, but if you want to pursue a topic not on the list, please discuss it first with Drs. Siega-Riz or Gordon-Larsen or Mrs. Holliday.

I. Nutrition and reproduction/ Nutrition during Pregnancy
- Does caffeine intake affect fertility?
- Does diet affect menstrual function?
- Is there a critical level of body fatness necessary for ovulation?
- Does calcium supplementation reduce the risk of pregnancy-induced hypertension?
- Is maternal bone mass and thus later risk of osteoporosis affected by pregnancy?
- What are appropriate diet recommendations for a woman with gestational diabetes?
- Does the WIC program improve birth outcomes? Pick one birth outcome
- Do specific nutrient deficiencies (e.g. vitamin C, iron, vitamin D) increase the risk of preterm delivery?
- Has folate fortification of foods improved the folate levels of women of childbearing ages in America to resolve the problem of neural tube defects?
- Does maternal nutrition during pregnancy affect later risk of chronic disease in the child? Pick one chronic disease
- Should obese women not gain any weight during pregnancy?

II. Nutrition in infancy (breast-feeding/lactation issues here as well)
- Do obese women have delayed or insufficient breast milk production?
- Does early introduction of solid food increase risk of infant obesity?
- Is infancy a critical period for development of obesity (i.e. do fat babies become fat adults??)
- Are vitamin supplements necessary during infancy?
- Should HIV positive mothers in developing countries breastfeed their infants?
- Does lactation adversely affect the nutritional status of women with poor diets?
- Is there a relationship between maternal diet and neonatal lipid profiles?
- Does prolonged lactation increase the risk that women will suffer osteoporosis in later life?
- Does breast-feeding influence child IQ?
- Should infant formula be supplement with DHA to enhance brain development?
- Does early undernutrition (e.g. manifested by LBW or growth in year 1) affect the risk of obesity or CVD risk in childhood?
- Does soy formula have long term effects on infant growth and or development?
- Does macrosomia affect cognitive development of infants?

III. Childhood
- Snacking: Should small meals replace square meals?
- Should dietary fat and cholesterol intakes of children be restricted? At what age?
- Do food additives affect behavior?
- Does iron deficiency affect cognitive development in children?
- Does zinc deficiency affect cognitive development in children?
- Does zinc supplementation improve child growth?
- Does maternal behavior influence child intake?
- Does using food as a punishment or reward affect childhood eating habits?
- Do fat children become fat adults?
- Can nutrient needs of children be met by vegan diets?
- Does TV viewing increase the risk child obesity?
- Do TV commercials affect child eating habits?
- Do school-based nutrition interventions change children’s dietary behavior?
- The most recent edition of Dr. Spock’s child care book recommends a vegetarian, milk free diet for children over the age of 2. Is this a nutritionally sound recommendation?

IV. Adolescents
- Should overweight or obese adolescents be placed on weight loss or weight maintenance diets?
• Which is more effective in terms of obesity prevention/treatment: dietary or physical activity interventions?
• Are dietary practices prescribed by athletic coaches detrimental to normal growth of adolescents? (choose a particular sport or athletic activity)
• Is there evidence for Vitamin D and increasing incidence of type 1 diabetes?
• Is adolescence a critical period for the development of obesity in adulthood?
• Does risk of cardiovascular disease develop during adolescence?
• What behavior change strategies work best to improve adolescent diets?
• What are the health consequences of common dieting/weight loss practices among adolescents?
• Early maturation and obesity: Cause or consequence?
• Describe the connection between obesity and eating disorders and how they co-occur.
• What are the long term health effects of anorexia nervosa and bulimia?
• What are the factors needed to develop nutrition and eating as a therapeutic tool for treating eating disorders? How does the RD interface with other members of a treatment team?
• Do obesity prevention programs increase the risk of eating disorders?

V. Older Adults
• Does nutrition impact risk of falls?
• Should older adults take calcium supplements or focus on calcium rich foods when thinking about prevention and treatment of osteoporosis?
• Does protein consumption impact Sarcopenia?
• What is the relationship between dental status, nutrition status and older adult health status?
• What strategies are useful when encouraging food consumption in assisted living and skilled nursing facilities?
• Should older adults (over the age of 70 yrs.) try to lose weight? If so, what strategies are safe and successful?
• Older adults qualifying for SNAP underutilize this program. Why does this happen and what recommendations would you make to increase utilization?
• What nutrition and hydration strategies should be used at the end of life/during the death process?
• Polypharmacy: what is it and how does it effect nutrition status?
• Does glucosamine and chondroitin work for treating symptoms of osteoarthritis?
• Can older adults meet their fluid needs through drinking liquids? How does this effect their rates of Urinary Tract Infections?
• Can you meet your needs following a pureed diet while treating your dysphagia?
• Does eating together positively or negatively impact nutrition status?
• What foods to older adults generally eat more of than younger adults? Do these choices negatively or positively impact their nutrition status?
• Many other countries have longer life expectancies than the United States. How have food choices and food culture influenced their longer life expectancies?