EES 4401 Public Health Engineering [Sections 039B, 085F & 0903]
EES 5415 Environmental Health [Sections 0924, 7644 & 8477]

Syllabus for Fall Semester 2012 – Rev 3

1. Instructor –
   A. Professor J. J. Delfino                  B. Office location: Room 310 A.P. Black Hall
   C. Telephone: 352-392-9377                  D. E-mail address: delfino@ufl.edu
   E. Office hours: Open door policy or by appointment [phone; E-mail]

2. Meeting Locations and Times for Fall 2012 – Two distinct on-campus meeting times:
   A. Classroom: BLK 213, M-W-F, 3rd Period, 9:35 – 10:25 AM [Sections 0903, 085F]
   B. Classroom: EDGE Studio NEB 102, M-W-F 4th Period, 10:40 AM – 11:30 AM
      [Sections 039B, 0924]

3. Catalog Description –
   EES 4401 - Application of engineering principles to protect public health. Areas covered
   include water supply, waste treatment, air pollution, radiological health, occupational health,
   food, vector control and solid wastes (P). Credits: 3
   EES 5415 – Effects of environment pollution upon health. Methods of evaluation,
   treatment and prevention of pollutants of health significance. Credits: 3

4. Pre-requisites and Co-requisites – None formally. Previous basic science courses such as
   general chemistry and biology (H.S., A.P., I.B., college) will be helpful.

5. Course Objectives – To learn:
   A. The major public and environmental health issues that will be encountered in the
      students' professional and personal lives;
   B. The origin and prevention of public and environmental health hazards; and
   C. The role of engineering in solving public health problems.

   Course topics typically include some or all of the following plus additional timely topics
   that might be added during the semester: as public health related events occur:

   The Scope of Public/Environmental Health
   Current Issues in Public and Environmental Health
   Environmental Laws; Regulations; Compliance
   Human Populations
   Degradation and Pollution of the Environment
   Radiation, Solid and Hazardous Waste; Endocrine Disruptors; Nanomaterials;
   Accidents and Spills
   Food; Food Security; Foodborne Illnesses
   Diseases; Emerging Diseases
   Pests and Pesticides
   Environmental Compartments: Water, Wastewater, and Air
   Risk and its Assessment
6. Textbook and Reading Books –

A **There is no textbook required.** If you feel you need a text book for periodic reference, try to locate any one of the following on-line through Amazon or similar book provider. Try to find used copies to save money. None of these are required or specifically recommended.

1. *Living with the Earth* 3rd Ed., (Concepts in Environmental Health Science), 2007 by Gary S. Moore. CRC Press (Taylor and Francis Group), ISBN 978-0-8493-7998-7 (cloth); Note – several sections of this book are not up to date and that is the reason it is not used as a course text.


B. **Reading Books:** two books related to the course material are required and are to be selected, read, and used as a basis for written book reviews and in-class discussion (see Sections 20 & 21, below). The first book is a “free choice” to be taken from Book Review **List 1** while the second book must be taken from Book Review **List 2** and there is a restriction on the number of students who can select anyone of the books on **List 2**. This will be discussed further in class.

7. **Course Materials** –

Materials include lecture notes [PowerPoint slides, blackboard written notes, and in-class comments and discussion] and documents [e.g. PDF files] loaded by the instructor on the Sakai course web site. Students are highly encouraged to take notes based on comments and discussion in class in addition to reading the PowerPoint slides and documents on the Sakai site.

8. **Expectations** –

A. **Attendance:** Students are required to attend each class and participate in discussions. Attendance is monitored by using a sign-in sheet provided during each class session starting Wednesday, August 29, 2011. Unexcused absences will result in lost grading opportunities [see Section 12, below]. **NOTE- if you are ill with a communicable disease, such as the flu or a bad cold, do not come to class!** Seek medical attention, obtain documentation, and contact the instructor by e-mail or phone. If you can’t see a medical professional, someone else needs to document your absence due to illness. That person needs to contact the instructor by email to explain the situation to support your excused absence for that class. Students remain responsible for all assignments that are missed during a period of illness. Contact the Instructor for assistance.

B. **Overall academic initiative:**

Students can earn a good grade if good study habits are applied. At any time, if you have any questions about any course-related material or requirements, don’t hesitate to ask questions in class or contact the instructor in person or by e-mail or phone.

C. **Specific academic initiatives:** Students are expected to read all of the course materials, attend class, take notes, complete homework assignments, participate in classroom discussion, study for examinations, and be generally engaged with the course material. These are the usual expectations of any university student who wants to do well in a course.

D. **Copies of previous examinations.** Exams from 2011 are provided on the course website in Sakai (http://lss.at.ufl.edu) [click on this course number and then the Resources and Previous Exams tabs]. These should be reviewed to see how course material was tested in the past. Course material changes each year so use the previous examinations as a guide as to how questions are asked rather than emphasizing specific questions.
9. **Cell phone, laptop computer, and email policy** – cell phones are to be turned off during the class periods and are not to be stored on the desktop. This is a courtesy to everyone in the course so that extraneous interruptions can be limited. Laptop computers may be used only if the purpose is to take notes or display course lecture slides. If abused, students may lose this privilege. The instructor’s course-related email to students will use the student’s UF Gatorlink email address that appears on the Registrar’s course roster. Check Sakai and email regularly.

10. **Homework** –

   Homework with appropriate deadlines will be assigned during class and specified in course lecture slides. Homework will often be a basis for classroom discussions. Periodically, it may be collected and checked. Doing a good job on homework/class discussions can earn up to 10% of the total course grade. Prepare a one-page briefing paper for each homework assignment. [Note: EDGE homework assignments are discussed separately in **EDGE EMAIL 2**.]

11. **Course Grading**

<table>
<thead>
<tr>
<th></th>
<th>Percent of Course grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam No. 2 [Wed. Dec 5, 2012]</td>
<td>35%</td>
</tr>
<tr>
<td>Homework and Active Class Discussions</td>
<td>10%</td>
</tr>
<tr>
<td>Book Reading Assignments (2) &amp; Reviews</td>
<td>20%</td>
</tr>
<tr>
<td>Class Attendance [see Section 12 # below]</td>
<td>5 %</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

# Note: EDGE sections will receive a **Syllabus Addendum** for EDGE policies

12. **Grading Scale** –

   Final letter grades will be based on the student’s total course performance. Letter grade assignments below are representative of past grading results. A high degree of **scholarly initiative** and **student involvement** is expected and such performance will be reflected in the final course grades. Final letter grades for EES 4401 and 5415 will be assigned separately.

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Success Range (%)</th>
<th>Scholarship Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>A; A-</td>
<td>100 – 88.0</td>
<td>Superb; Excellent</td>
</tr>
<tr>
<td>B+; B</td>
<td>87.9 – 80.0</td>
<td>Very Good; Good</td>
</tr>
<tr>
<td>B-; C+</td>
<td>79.9 – 70.0</td>
<td>Average+; Average</td>
</tr>
<tr>
<td>C; C-; D</td>
<td>69.9 – 60.0</td>
<td>Below Average; Poor</td>
</tr>
<tr>
<td>E</td>
<td>≤ 59.0</td>
<td>Unacceptable</td>
</tr>
</tbody>
</table>

# Note: Class participation and absences: **active** participation in class discussion (10%), preparing homework, and **routine** attendance (5%) at all class sessions allow on-campus students the opportunity to earn up to 15% of the course grade [see Section 11, above]. However, **unexcused** absences will diminish this opportunity and result in less opportunity to earn full credit. Also, **obvious** lack of participation in class discussion during the semester or lack of homework preparation will reduce the credit that a student can earn for this activity, even if the student has no unexcused absences. The following policy will be followed:
### Class Attendance

<table>
<thead>
<tr>
<th>Cumulative Unexcused Absences</th>
<th>Maximum Earnable Grade %</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤2</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>≥7</td>
<td>0 and an E for Final Course Grade</td>
</tr>
</tbody>
</table>

**Note:** If a student is absent and someone signs the roster indicating that such student was present and the instructor discovers this on the signed roster, this will be treated as an honor code violation, resulting in an E grade for the course for both students plus referral to the Dean’s Office.

13. **Exam Make-Up Policy** –

Make-up examinations are allowed only for documented [in writing] and approved [in advance] medical or legitimate academic/athletic reasons. A student may request a make-up exam if he/she cannot attend the scheduled exam for an approved & documented reason. The student (or his/her medical surrogate or advisor) must contact the instructor before the examination, if at all possible, to indicate that he/she will be unable to take the exam and to make arrangements for taking a make-up examination at a later date. An unexcused absence from an examination without an approved make-up schedule results in a zero (0) grade for that examination.

14. **Students with disabilities** –

Students requesting classroom accommodation must first register with the Dean of Students office. The Dean of Students office will provide the documentation to the student who will then provide the information to the Instructor when requesting accommodation.

15. **Academic Honesty** –

All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with that commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a UF student and to be honest in all work submitted and exams taken in this course and all other courses. Cheating on examinations or obvious plagiarism in assignments (e.g. Book Review) will result in an E for the course and referral to the Dean’s Office.

16. **Software Use** –

All faculty, staff, and students of the University of Florida are expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, UF disciplinary action from the Dean’s Office could also occur.
17. **UF Counseling Services** – 

Resources are available on-campus for students having personal problems or lacking clear career and academic goals. These resources include:

A. University Counseling Center, 301 Peabody Hall [392-1575] for personal, professional and career counseling

B. SHCC Health and Mental Health Care Center [392-1161 or -1171] for medical care and personal counseling

C. Center for Sexual Assault/Abuse Recovery and Education (CARE), Student Health Care Center [392-1161] for sexual assault counseling

D. Career Resource Center, Reitz Union [392-1601] for career development assistance and counseling

E. The instructor will be happy to provide informal guidance regarding summer jobs, internships, potential permanent jobs and Graduate School. Students desiring possible letters of recommendation for any of these opportunities should discuss this in advance with the instructor.

18. **Course Evaluation** - At the end of the course, students are asked to anonymously participate in the electronic course evaluation process administered by the UF administration. Please assist the instructor and the University by honestly completing the evaluations.
<table>
<thead>
<tr>
<th>Day</th>
<th>2012 Date</th>
<th>Lecture No.</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td>Aug 22</td>
<td>1</td>
<td>Introduction</td>
</tr>
<tr>
<td>F</td>
<td>Aug 24</td>
<td>2</td>
<td>Public and Environmental Health – Current Issues</td>
</tr>
<tr>
<td>M</td>
<td>Aug 27</td>
<td>3</td>
<td>Environmental Laws and Compliance</td>
</tr>
<tr>
<td>W</td>
<td>Aug 29</td>
<td>4</td>
<td>Guest Lecturer – Paul Myers, Dir., Alachua County Health Dept.</td>
</tr>
<tr>
<td>F</td>
<td>Aug 31</td>
<td>5</td>
<td>Environmental Laws and Compliance [<strong>Book Titles Due</strong>]</td>
</tr>
<tr>
<td>M</td>
<td>Sept 3</td>
<td>No Class - Labor Day Holiday</td>
<td></td>
</tr>
<tr>
<td>W</td>
<td>Sept 5</td>
<td>6</td>
<td>Environmental Laws - concluded; Population</td>
</tr>
<tr>
<td>F</td>
<td>Sept 7</td>
<td>7</td>
<td>Population</td>
</tr>
<tr>
<td>M</td>
<td>Sept 10</td>
<td>8</td>
<td>Toxics and Health [EDCs, BPA, PCBs, Phthalates, etc.]</td>
</tr>
<tr>
<td>W</td>
<td>Sept 12</td>
<td>9</td>
<td>Toxics; CBs, dioxin, BPA</td>
</tr>
<tr>
<td>F</td>
<td>Sept 14</td>
<td>10</td>
<td>Guest Lecturer - Rick Hutton, GRU - Koppers-Beazer Superfund Site</td>
</tr>
<tr>
<td>M</td>
<td>Sept 17</td>
<td>11</td>
<td>Toxics and Risk</td>
</tr>
<tr>
<td>W</td>
<td>Sept 19</td>
<td>12</td>
<td>Guest Lecturer - Dr. P. Cline, Risk &amp; Koppers-Beazer Superfund Site</td>
</tr>
<tr>
<td>F</td>
<td>Sept 21</td>
<td>13</td>
<td>The Atmosphere and Emissions</td>
</tr>
<tr>
<td>M</td>
<td>Sept 24</td>
<td>14</td>
<td>Air Pollutants and Episodes</td>
</tr>
<tr>
<td>W</td>
<td>Sept 26</td>
<td>15</td>
<td>Climate Change</td>
</tr>
<tr>
<td>F</td>
<td>Sept 28</td>
<td>16</td>
<td>Climate Change &amp; Health</td>
</tr>
<tr>
<td>M</td>
<td>Oct 1</td>
<td>17</td>
<td>Climate Change</td>
</tr>
<tr>
<td>W</td>
<td>Oct 3</td>
<td>18</td>
<td>Guest Lecturer: Dr. Kelly Moynihan, ExxonMobil Corp.</td>
</tr>
<tr>
<td>F</td>
<td>Oct 5</td>
<td>19</td>
<td>Climate Change &amp; Energy</td>
</tr>
<tr>
<td>M</td>
<td>Oct 8</td>
<td>20</td>
<td>Part 1 Summary; Examination No. 1 Overview</td>
</tr>
<tr>
<td>W</td>
<td>Oct 10</td>
<td></td>
<td>Examination No. 1</td>
</tr>
<tr>
<td>F</td>
<td>Oct 12</td>
<td>21</td>
<td>Alternate Energy &amp; Fracking</td>
</tr>
<tr>
<td>M</td>
<td>Oct 15</td>
<td>22</td>
<td>Guest Lect. – Dr. W. Properzio UF EH&amp;S – Laboratory Safety [<strong>Book Review No. 1 Due</strong>]</td>
</tr>
<tr>
<td>W</td>
<td>Oct 17</td>
<td>23</td>
<td>Guest Lecturer - Dr. J. C. Bonzongo – Nanomaterials &amp; Health</td>
</tr>
<tr>
<td>F</td>
<td>Oct 19</td>
<td>24</td>
<td>Food</td>
</tr>
<tr>
<td>M</td>
<td>Oct 22</td>
<td>25</td>
<td>Guest Lecturer – Leeann Applewhite – DNA Diagnostics - Food Safety</td>
</tr>
<tr>
<td>W</td>
<td>Oct 24</td>
<td>26</td>
<td>Food</td>
</tr>
<tr>
<td>F</td>
<td>Oct 26</td>
<td>27</td>
<td>Food</td>
</tr>
<tr>
<td>M</td>
<td>Oct 29</td>
<td>28</td>
<td>Food; Epidemiology - Recent Global Communicable Disease Issues</td>
</tr>
<tr>
<td>W</td>
<td>Oct 31</td>
<td>29</td>
<td>Epidemiology; Water</td>
</tr>
<tr>
<td>F</td>
<td>Nov 2</td>
<td>30</td>
<td>Water</td>
</tr>
<tr>
<td>M</td>
<td>Nov 5</td>
<td>31</td>
<td>Water</td>
</tr>
<tr>
<td>W</td>
<td>Nov 7</td>
<td>32</td>
<td>Water</td>
</tr>
<tr>
<td>F</td>
<td>Nov 9</td>
<td></td>
<td>No Class – Homecoming</td>
</tr>
<tr>
<td>M</td>
<td>Nov 12</td>
<td></td>
<td>No Class – Veteran’s Day Holiday Observance</td>
</tr>
<tr>
<td>W</td>
<td>Nov 14</td>
<td>33</td>
<td>Water, Water Treatment &amp; Wastewater</td>
</tr>
<tr>
<td>F</td>
<td>Nov 16</td>
<td>34</td>
<td>Wastewater &amp; Wastewater Treatment</td>
</tr>
<tr>
<td>M</td>
<td>Nov 19</td>
<td></td>
<td>Wastewater Treatment – UF WRF Trip [<strong>Book Review No. 2 Due</strong>]</td>
</tr>
<tr>
<td>W</td>
<td>Nov 21</td>
<td></td>
<td>No Class - Thanksgiving Holiday</td>
</tr>
<tr>
<td>F</td>
<td>Nov 23</td>
<td></td>
<td>No Class - Thanksgiving Holiday</td>
</tr>
<tr>
<td>M</td>
<td>Nov 26</td>
<td>35</td>
<td>Guest Lecturer - Dr. Afsar Ali - Cholera in Haiti</td>
</tr>
<tr>
<td>W</td>
<td>Nov 28</td>
<td>36</td>
<td>Book Review Discussions [Blue Revolution; Defense of Food]</td>
</tr>
<tr>
<td>F</td>
<td>Nov 30</td>
<td>37</td>
<td>Book Review Discussions [Stolen Future; Ghost Map]</td>
</tr>
<tr>
<td>M</td>
<td>Dec 3</td>
<td>38</td>
<td>Book Review Discussion [Global Warming] and Part 2 Summary</td>
</tr>
<tr>
<td>W</td>
<td>Dec 5</td>
<td></td>
<td>Examination No. 2</td>
</tr>
</tbody>
</table>
20. Guidelines for Preparation of Book Review Papers

**Deadlines**

**Book selections** - Due **Friday, Aug. 31, 2012**
On campus and EDGE: Provide the instructor with your choice of the books you will read (see Section 21, below) and for which you will write reviews:
- On-Campus students – Provide the book names as instructed in class [Lecture 5].
- Off Campus EDGE students – Follow instructor’s guidance [EDGE EMAIL No. 1]

**Submission of Completed Book No. 1 Review** – Due **Monday, October 15, 2012**.
- On-Campus students – Turn in printed copy at the beginning of class:
  - EDGE – Send as PDF file attached to email

**Submission of Completed Book No. 2 Review** - Due **Monday, November 19, 2012**
- Conditions are the same as for the Book No. 1 Review.

**Details for preparation of Book Review Papers**

1. Format and Dimensions
   A. 11 or 12 pt font
   B. One inch margins all around
   C. Use 1 1/2 or double line spacing [don’t use single spacing].
   D. Staple the pages; **do not** put in a binder, report cover, etc. **No cover page** needed – type your name on the top of the first page on line 1 and also include the book title on line 1.

2. Length
   A. On-Campus students in EES 4401 – 3 pages
   B. On-Campus and EDGE students in EES 5415 – 5 pages

3. Content
   The reviews will focus on the content of the book, its objectives, design and coverage, your evaluation of the book, its arguments, etc. Cite other book reviews that you can locate online, in journals, and other sources. Compare your reaction to the book with other review writers where appropriate.

4. Intellectual Honesty
   Some of the reading books have previously published reviews available [you are encouraged to read them and compare your perspectives of the books with them]. It is fully expected that in concurrence with the UF Student Honor Code, that students will not copy, in whole or in part and then submit a previously published review as their own work.
   Where appropriate you can use phrases from those published book review(s) in your own review, using “quotation marks” to indicate verbatim material from those reviews. Also, indicate the source of the “quote” using any standard bibliographic format [e.g. author’s last name and publication year placed after the “quote” and then include the full bibliographic citation at the end of the text of each of your book reviews; at the end of the text on the bottom of p.3 for EES 4401 and p. 5 for EES 5415]. Also, at the end of your report, add this statement: I certify that I have complied with the UF Honor Code and this Review represents my own work. Sign the last page.

Selected reading books (5) for **Book Review No. 2** have been selected for classroom discussion, which will be led by their student reviewers. These discussions will occur during Lectures 37 – 39 with student discussion leaders being identified in advance. Students should indicate their **Book Review No. 2 preferences** as discussed in class but the final assignment of **Book Review No. 2** will be made by the Instructor to achieve a numerical balance among the registered students.
21. **Suggested Books for the Preparation of Book No. 1 Reviews**

You may select a book not on the **Book Review No.1 list** with the Instructor’s permission. [Note: Some of the books are “older.” Many are paperbacks and could be hard to locate. Try local public or UF libraries, used-book stores [only a few are left in Gainesville], or on-line sites like Amazon, etc. Save money and purchase used copies which are often available. If you can’t find your first choice, select another book that is available].

**Book Review No. 1 List** [Select any one book from this list and inform the instructor]

Aqua Shock. S. Marks (2009)
Bird Flu. J. Revill (2005)
Blue Covenant. M. Barlow (2007)
Chasing Molecules. E. Grossman (2009)
Chernobyl. [Any non-fiction book on the topic].
Chew on This (Fast Food). C. Wilson and E. Schlosser (2007)
Climate Cover-Up. J. Hoggan (2009)
CO2 Rising. T. Volk (2008)
Diagnosis: Mercury. J. Hightower (2011)
Eaarth. B. McKibben (2010)
Earth in the Balance. A. Gore (1993)
Fast Food Nation. E. Schlosser [various editions; 2001 - 2012]
Food Politics: How the Food Industry … M. Nestle (2007)
Global Time Bomb H1Ni (2009); H2N2 (2012). J. Dorrance
Hot, Flat, and Crowded. T. Friedman (2008)
Laboratory Earth. S. Schneider (1998)
Living Downstream: An Ecologist’s Personal Investigation …. (1997 - 2010)
Mirage. C. Barnett (2007)
Outgrowing the Earth. L. Brown (2005)
Pandemonium: Bird Flu, Mad Cow … A. Nikiforuk (2008)
Poisoned Profits The Toxic Assault on Our Children. P. Shabecoff & A. Shabecoff (2008)
Rising Tides. R. Spowers (2003)
Should We Risk It? Exploring Environmental, Health, … D. Kammen and D. Hassenzahl (2001)
Silent Spring. R. Carson (1962)
Since Silent Spring. F. Graham, Jr. (1970)
Slow Death By Rubber Duck. R. Smith & Bruce Lourie (2011)
The Big Necessity - The Unmentionable World of Human Waste. R. George (2009)
The Hot Zone. R. Preston (1999)
The Pendulum and The Toxic Cloud. T. Whiteside (1978)
The Poison that Fell From The Sky. J. Fuller (1970)
Unquenchable. R. Glennon (2009)
When Smoke Ran Like Water. D. Davis (2002)
When The Rivers Run Dry. F. Pearce (2006)

Book Review No. 2 List [On campus students must provide prioritized choices from the following five books. You will only need to read one book from this list and the instructor will confirm your final reading assignment. Selections will be “evenly” distributed among the class registrants to facilitate classroom discussion of these books during Lectures 36 - 38.]

Blue Revolution - Unmaking America’s Water Crisis. Cynthia Barnett (2011)
Our Stolen Future. Theo Colborn, Dianne Dumanoski and John Peterson Myers (1996)

November 13, 2012