

## Course Syllabus

### ENVH 581 Environmental Health Reading 1 Credit 2014

Tue 12:30-1:20 T359

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**Subject matter:** It is important for students to be able to critical read papers and the aim of this course is to have the students read and critic a selection of basic and applied research publications on environmental health problems and programs as well as discuss current events on related environmental health issues.

#### Goals of course:

1. Learn how to read and interpret Environmental Health Scientific literature [General Environmental Health, Toxicology, Exposure Science, and Occupational Health]
2. Explore the broad areas of interest within the field of Environmental Health
3. Critique and discuss the good points and shortcomings of published studies and learn to critically review published studies
4. Be aware and able to discuss current events that are important to the field of Environmental Health that are made available by local media, ProMED, etc.

#### Required reading which should be read by Oct 6, 2014

Jean-Baptist du Prel, Bernd Röhrig, Maria Blettner. 2009.

Critical Appraisal of Scientific Articles; Part 1 of a Series on Evaluation of Scientific Publications. Deutsches Ärzteblatt International; 106(7): 100–5.

[http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2696241/pdf/Dtsch\\_Arztebl\\_Int-106-0100.pdf](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2696241/pdf/Dtsch_Arztebl_Int-106-0100.pdf)

Montgomery et al, 2010. Assessment of athletic health care facility surfaces for MRSA in the secondary school setting. J Environ Health 72(6):8-11 and present a “Dear Editor letter” which points out the issues of the study J Environ Health 72(9):48-49. Both will be provided as pdf files along with the syllabus

#### Format of the course:

- Two-three students will each week critic one research paper on an Environmental Health topic from a list of papers provided below. Once each student has selected their paper they need to let Dr. Roberts know so a list can be generated for the quarter. This is especially important for the students presenting Oct 6, 2014. Students will critique their chosen paper discussing the good points and shortcomings of the paper in the area of 1) Design, 2) Study inception and implementation; 3) Analysis and evaluation and using the Table 2 “Checklist to Evaluate the Quality of Scientific Publications” from du Prel, Rohrig & Biettner, Deutsches Ärzteblatt International 2009: Part 1 106:100-105. In addition what future experiments would be of value should be discussed. Then the students will talk about a current event which has something written about it that is related to the paper. The current event can come from ProMed or other sources
- The current event information must be forwarded two weeks in advance so that all students can read the paper and be prepared for their written comments on both the paper and current event during class.

- Two-three other students will be assigned to ask questions and make comments on both the paper and current event in class.
- The remaining students will submit questions and points of discussion that they felt were not adequately addressed, other work that should or could be done and basic comments to Dr. Roberts e-mail [marilyn@uw.edu](mailto:marilyn@uw.edu) by noon Monday of the week. Selected students will be asked to present their comments as time permits each class period.

**Class participation is required and attendance is required. If a student will miss class they need to contact Dr. Roberts prior to class for the week.**

**Grading:**

The course is graded credit/no credit and will be based on class participation based on the oral presentation of the critic of the paper and the current event. The weekly questions/comments submitted to Dr. Roberts and the how the two students assigned to ask questions do in their evaluation of their chosen paper.

**Course Schedule:**

**Sept 30, 2014.**

Introduction: General information. Dr. Roberts will critique a paper and its shortcomings:

**Please read by Sept 30, 2014.**

Montgomery et al, 2010. Assessment of athletic health care facility surfaces for MRSA in the secondary school setting. J Environ Health 72(6):8-11, 2010  
<http://www.thefreelibrary.com/Assessment+of+athletic+health+care+facility+surfaces+for+MRSA+in+the...-a0215481007>

“ Dear Editor letter” which points out the issues of the study J Environ Health 72(9):48-49, 2010.  
<http://www.readperiodicals.com/201005/2014458441.html>

**Oct 7-Nov 25, 2014**

Dates	Student presenting paper & current event	Students providing questions
Oct. 7	Balta, Bennett	Ravi, Strecker, Vaccaro
Oct 14	Chmielinski, Delauter	Petroff, Quiller
Oct 21	Duncan, Falman	Norte, Oghoghomeh
Oct 28	Jacobson, Lohmiller	Duncan, Falman
Nov 4	Norte, Oghoghomeh	Jacobson, Lohmiller
Nov 11 Holiday		

Nov 18	Petroff, Quiller	Chmielinski, Delater
Nov 25	Ravi, Strecker, Vaccaro	Balta, Bennett
Dec. 2	No class	
	No final	

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**Access:** The University is committed to ensuring facility and program access to students with either permanent or temporary disabilities through a variety of services and equipment. The Disability Resources for Students Office (DRS) coordinates academic accommodations for enrolled students with documented disabilities. Accommodations are determined on a case-by-case basis and may include classroom relocation, sign language interpreters, recorded course materials, note taking, and priority registration. DRS also provides needs assessment, mediation, referrals, and advocacy as necessary and appropriate.

Requests for accommodations or services must be arranged in advance and require documentation of the disability, verifying the need for such accommodation or service. If you would like to request academic accommodations due to a disability, please contact Disabled Student Services, 448 Schmitz, Box 355839, (206) 543-8924, (TTY) 543-8925, [uwdss@u.washington.edu](mailto:uwdss@u.washington.edu). If you have a letter from Disabled Student Services indicating you have a disability that requires academic accommodations, please present the letter to me so we can discuss the accommodations you might need for class.

## **COMPONENTS OF A GOOD SCIENTIFIC ARTICLE ( Robert A. Day, 1994, 4th edition)**

**TITLE:** the fewest possible words that adequately describe the content of the paper

- ABSTRACT**
- (i) states the principal objectives and scope of the investigation
  - (ii) describes the methodology employed
  - (iii) summarizes the results
  - (iv) states the principal conclusions

- INTRODUCTION:**
- (i) states, with all possible clarity, the nature and scope of the problem investigated
    - (ii) reviews the pertinent literature; only the most salient references, not an exhaustive review
    - (iii) states the method of investigation
    - (iv) states the principal results of the investigation

**MATERIAL & METHODS:** provides enough information so that the experiments can be reproduced by a competent colleague

- RESULTS:**
- (i) presents an overall description of the experiments providing the "big picture", without however, repeating the experimental details previously provided in the methods
  - (ii) presents the data

- DISCUSSION:**
- (i) presents the principles, relationships, and generalizations shown by the results
  - (ii) points out any exceptions or any lack of correlation, and defines unsettled points
  - (iii) shows how present results and interpretations agree (or contrast) with previously published work
  - (iv) discusses theoretical implications or possible practical applications
  - (v) states the conclusion, as clearly as possible, and summarizes the evidence for each conclusion

**LITERATURE CITED:** cites significant, published references only

Papers for review. Pick one paper per group

- Adhikari A, Gupta J, Wilkins JR, III et al., 2011. Airborne microorganisms, endotoxin and (1-3)  $\beta$ -D-glucan exposure in green houses and assessment of respiratory symptoms among workers. *Ann. Occup. Hyg.* 55:272-285. <http://annhyg.oxfordjournals.org/content/55/3/272.full.pdf+html>
- Besser LM, Dannenberg AL. 2005. Walking to public transit: Steps to help meet physical activity recommendations. *Am J Prev Med* 29:273-280.  
[http://ac.els-cdn.com/S0749379705002552/1-s2.0-S0749379705002552-main.pdf?\\_tid=199b1214-1fe9-11e3-88dd-00000aab0f01&acdnat=1379457357\\_7a441c0778e0955b15d7ef9df1c6cb32](http://ac.els-cdn.com/S0749379705002552/1-s2.0-S0749379705002552-main.pdf?_tid=199b1214-1fe9-11e3-88dd-00000aab0f01&acdnat=1379457357_7a441c0778e0955b15d7ef9df1c6cb32) Oct 14
- Casey JA, Curriero FC, Cosgrove SE, et al. 2013. High-density livestock operations, crop field application of manure, and risk of community-associated methicillin-resistant *Staphylococcus aureus* infection in Pennsylvania. *JAMA Intern Med.* doi:10.1001/jamainternmed.2013.10408  
<http://archinte.jamanetwork.com/article.aspx?articleid=1738717>
- Cho S-C, Bhang S-Y, Hong Y-C et al. 2010. Relationship between Environmental Phthalate Exposure and the Intelligence of School-Age Children. *Environ Health Perspect* 118:1027-1032  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2920903/pdf/ehp-118-1027.pdf>
- Curl CL, Fenske RA, Elgeth K. 2003. Organophosphorus pesticides exposure of urban and suburban preschool children with organic and conventional diets. *Environ Health Perspect.* 111:377-3822.  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1241395/pdf/ehp0111-000377.pdf>
- Cuny C, Nathaus R, Lauer F. et al. 2009. Nasal Colonization of Humans with Methicillin-Resistant *Staphylococcus aureus* (MRSA) CC398 with and without Exposure to Pigs. *PLoS ONE* Volume 4 | Issue 8 | e6800  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2728842/pdf/pone.0006800.pdf>
- Henderson SB, Barauer M, MacNab YC, et al., 2011. Three Measures of Forest Fire Smoke Exposure and Their Associations with Respiratory and Cardiovascular Health Outcomes in a Population-Based Cohort. *Environ Health Perspect.* 119:1266-1271.  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3230386/pdf/ehp.1002288.pdf> Nov 18
- Hibben JR, Davis JM, Steer C, et al. 2007. Maternal seafood consumption in pregnancy and neurodevelopmental outcomes in childhood (ALSPAC study): an observational cohort study. *Lancet* 369:578-585.  
[http://ac.els-cdn.com/S0140673607602773/1-s2.0-S0140673607602773-main.pdf?\\_tid=17fa6c78-1fc8-11e3-9733-00000aab0f27&acdnat=1379443180\\_acf7ffe617eb7d03af538116a595adfc](http://ac.els-cdn.com/S0140673607602773/1-s2.0-S0140673607602773-main.pdf?_tid=17fa6c78-1fc8-11e3-9733-00000aab0f27&acdnat=1379443180_acf7ffe617eb7d03af538116a595adfc) Oct 7
- Jackson, RB, Vengosh A, Darrah TH et al. 2013. Increased stray gas abundance in a subset of drinking water wells near Marcellus shale gas extraction. *PNAS* 100:11250-11255.  
<http://www.pnas.org/content/early/2013/06/19/1221635110.full.pdf+html> Oct 21
- Kercsmar CM, Dearborn DG, Schluchter M et al. 2006. Reduction in Asthma Morbidity in Children as a Result of Home Remediation Aimed at Moisture Sources. *Environ Health Perspect* 114:1574–1580.  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1626393/pdf/ehp0114-001574.pdf> Nov 25

Navas-Acien A, Francesconi KA, Silbergeld EK, et al. 2011. Seafood intake and urine concentrations of total arsenic, dimethylarsinate and aresenobetaine in the US population. *Environ Research* 111:110-118. [http://ac.els-cdn.com/S0013935110001799/1-s2.0-S0013935110001799-main.pdf?\\_tid=8419f124-1fc5-11e3-8fa7-00000aab0f27&acdnat=1379442073\\_7ca23480a092ea66751cb3d6b588454e](http://ac.els-cdn.com/S0013935110001799/1-s2.0-S0013935110001799-main.pdf?_tid=8419f124-1fc5-11e3-8fa7-00000aab0f27&acdnat=1379442073_7ca23480a092ea66751cb3d6b588454e)

Reid CE, O'Neill MS, Gronlund CJ et al. 2009. Mapping community determinants of heat vulnerability. *Environ Health Perspect.* 117:1730-1736. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2801183/pdf/ehp-117-1730.pdf>

Sathyanarayan S, Alcedo G, Saelens BE et al., 2013. Unexpected results in a randomized dietary trial to reduce phthalate and bisphenol A exposures. *J Exp Sci & Environ Epid.* 23:378-384. <http://www.nature.com/jes/journal/v23/n4/pdf/jes20139a.pdf> **For Oct 8, 2013 presentation**

Thamsuwan O, Blood RP, Ching RP, et al. 2013. Whole body vibrations exposures in bus drivers: a comparison between a high-floor coach and a low-floor city bus. *Internat J Indust Ergon.* 43:9-17. [http://ac.els-cdn.com/S0169814112000947/1-s2.0-S0169814112000947-main.pdf?\\_tid=fed94aa0-1fc9-11e3-aeb2-00000aab0f27&acdnat=1379443997\\_05ea0dffe6193d4629137b67d534de67](http://ac.els-cdn.com/S0169814112000947/1-s2.0-S0169814112000947-main.pdf?_tid=fed94aa0-1fc9-11e3-aeb2-00000aab0f27&acdnat=1379443997_05ea0dffe6193d4629137b67d534de67) Oct 28