BMED 607.01: Neuroepidemiology

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Instructors:

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Format:  Online
For purposes of assignments and class activities, the week starts on Monday,
12:01 a.m. and ends on Sunday at Midnight

Office Hours: Fridays 1-3pm
Drs. Noonan and Molgaard will be available on the phone, via e-mail, and in their
offices during office hours. Drs. Noonan and Molgaard will post exceptions as a
class announcement on Blackboard.

Prerequisites: Introduction to Epidemiology (PUBH 510) for public health graduate majors.
Others by permission of instructor.

COURSE DESCRIPTION

This online course supported by Blackboard will provide public health and biomedical science
graduate students an overview of methods for epidemiologic, clinical and behavioral research on
neurologic disorders. Simultaneously, fundamental considerations of the history, nature and
scope of neuroepidemiology as a field in the past, present and future will be illustrated by
semenal case and field studies, the use of natural experiments, and a focus on geographic isolates
in international neuroepidemiology.

COURSE OBJECTIVES
At the end of the course the student should be able to:
1) Describe what epidemiology is and how it relates to other public health disciplines
2) Describe fundamental concepts associated with the study of neurological diseases, including
   study design, measures of effect, sources of bias, and analysis.
3) Describe common approaches for the study of genetic factor associated with neurological
diseases.
4) Understand past and current approaches for the study of specific neurological
diseases/conditions, including
   A. Alzheimer’s disease
   B. Parkinson’s disease
   C. Amyotrophic lateral sclerosis
D. Multiple sclerosis  
E. Stroke  
F. Brain and spinal cord injury  
G. Epilepsy  
H. Neurodevelopmental disabilities

**PUBLIC HEALTH COMPETENCIES**  
This course provides students with knowledge, skills, and abilities in the following public health competency areas:

[This section will list the competencies when the UM Public Health Program adopts a specific competency set.]

**COURSE FORMAT**  
This course will be delivered online with support from UMOnline. Readings and assignments designed to develop applied skills will form the basis for review and discussion during the weekly class postings on the discussion board. A self-study format (e.g., reading assignments, PowerPoint presentations, and web links) will be used to present key points, however, the emphasis will be on discussion and application of the course material in assignments.

**Preparatory Tutorials**  
Since you are enrolled in an online public health class, you are also automatically enrolled in the UM online resource class called “UM Resources for Public Health Students.” The course contains two non-credit tutorials, one on taking an online class and one about online library resources. If this class does not appear in your list of “My Courses” in the UMOnline Blackboard system, contact the instructor immediately.

**Blackboard Tutor.** If you have not taken a course supported by Blackboard, completion of the Blackboard Tutor is or taking an equivalent course on-campus is **required** before the end of the first week of class (if you have not already taken the course).

**Library Tutor.** Completion of the library tutorial or taking an equivalent on-campus course is **required** before the end of the second week of class (if you have not already taken the course). To access the UM’s Mansfield Library resources from off-campus, students will be required to enter their SCAUID and password. This is the same ID and password that you use to login to Blackboard and use for your official UM e-mail address. This is the same account used for campus wireless accounts and students' Cue1 email. Creation of a separate library remote access account will no longer be necessary. For students this is the "first initial" + "last initial" + six digit unique number sign-on name, e.g. "jd123456". Students and employees can now look up their SCAUID on CyberBear” ([http://weblib.lib.umt.edu/remote.html](http://weblib.lib.umt.edu/remote.html)). If you need further assistance with library resources, please contact Samantha Hines, the library’s distance education coordinator and social sciences librarian at [Samantha.Hines@umontana.edu](mailto:Samantha.Hines@umontana.edu) or 406-243-4558.
**Additional Library Resources**
Some assignments in this class may require library resources. The library is now easily accessible from blackboard via the “Mansfield Library” tab at the top of the course screen.

Services that the library can provide for you and your students include:
* Online (digitized) reserve readings
* Interlibrary Loan and Document Delivery
* Remote access to online academic research resources
* Subject guides for online materials
* Library and information literacy instruction
* Research assistance via toll-free phone number, chat, and email
* An online research planner

If you have further library related needs the main library website is available at [http://www.lib.umt.edu](http://www.lib.umt.edu) & the distance education library services website is available at [http://www.lib.umt.edu/services/distance_education.htm](http://www.lib.umt.edu/services/distance_education.htm)

**Discussion Questions**
For this purpose each week (starting in week 5) one or more students will be asked to identify and assign an article on the week’s topic for the class to read in addition to the reading materials assigned by the instructors. These articles will need to be posted as an attachment on the discussion board by *Thursday at midnight the week prior to your assigned week*. This student will also be responsible for providing a discussion question about their selected reading by midnight *on Monday of their assigned week* as well as for leading the week’s discussion on the reading assignments. The instructors will assign students to specific weeks during the first week of class.

**Weekly postings to the discussion board**
All students are required to post a response to each discussion question posted *every* week by Friday, midnight Mountain Standard Time of the assigned week. This format necessitates completion of readings as well as participation in the discussion board every week during the week. Class participation constitutes 50% of the grade, and both discussion questions and responses will be graded on a 1-3 pt scale. A score of 1 represents an inadequate response. A score of 2 represents an adequate response, and a score of 3 represents an excellent response.

**Semester Paper**
A semester paper will constitute 30% of the grade. Students must have their paper topic submitted for approval by the instructors by Friday, March 16th. The paper will need to be a literature review of a current Epidemiology issue, and it must include a summary of the issue that includes suggestions for future research. The semester paper is due May 11th (the Friday before finals week).
Exams
One midterm will be administered through the Blackboard system. The exam will be “open book” and will cover the discussion and reading assignments in the course. The exam will be a 2 hour timed exam made up of both multiple choice and essay questions. The exam will be given during week 9. Further test details will be provided as the semester progresses.

COURSE ASSESSMENT
1. Class participation (discussion board), article selection, and discussion leadership for assigned week - 50%
2. Midterm exam - 20%
3. Semester paper - 30%

This course will use the traditional letter grade option without the use of pluses or minuses. Therefore, final grades will consist of the following: A, B, C, D, F. Grades will be calculated based on the standard formula (90-100% = A; 80-89% = B; 70-79% = C; 60-69% = D; 59% and below = F).

BLACKBOARD COURSE PROCEDURES AND EXPECTATIONS
Blackboard will be used in this class and online activities will be required throughout the semester.

Change your password
You must change the password you use to access Blackboard every 180 days. To avoid being locked out of blackboard, change your password the first and last week of class. It is much easier to change your password than re-activate it after it has expired. Change your password using this link: http://grizmail.umt.edu/password.htm

Password Management (from http://www.umt.edu/it/scauid/passwordmgmt.htm accessed 1-13-07)
Online SCAUID password management is available to all University faculty, staff, and students through the GrizMail web page or by logging into the UM portal. Features include:
- Changing the SCAUID Password (must change at least every 180 days)
- Establishing Online Password Credentials (security question/answer)
- Resetting the SCAUID Password (if a password is forgotten or expired)

Changing the SCAUID Password
Users may change their passwords online at grizmail.umt.edu or portal.umt.edu. This should be done every 180 days as passwords will expire for security purposes. As an additional security measure, users should create complex passwords including a combination of alpha, numeric and symbolic characters (minimum of six characters).

Establishing Online Password Credentials
Changing the SCAUID password online does not require verification of the user's identity. However, resetting (see next step) the SCAUID password does. This process is accomplished by the use of a security question. Users must select and answer a security question through
grizmail.umt.edu or portal.umt.edu. The on-line password reset feature is available after this action has been completed. Otherwise password resets are initiated at IT Central in Social Science 120. Users will be asked to provide a valid University ID card for identification purposes. The process may take up to four business hours. Please note that after three attempts to login, SCAUID accounts becomes disabled for 15 minutes.

**Resetting the SCAUID Password**

When users forget their passwords or their passwords have expired, they will no longer be able to login to SCAUID-accessible services until the passwords are reset. If they have established online password credentials, the online password reset feature is available to them. Users may reset their passwords at grizmail.umt.edu or portal.umt.edu.

**Announcements**

Class announcements will be posted by the instructor. Blackboard system administrators will sometimes post announcements about the Blackboard system.

**Communication**

Communication will take place using e-mail, discussion boards and the virtual classroom. E-mail should be used for “private” communication with the instructor or other students. Any questions regarding grades or communication about more personal issues should be handled via email.

**Important: Please put “PUBH EPI” in the subject line for e-mail communication with the instructor. This helps the instructor in organizing and responding to e-mail communications.**

Discussion boards are appropriate for questions or discussions that would normally occur in the classroom. Remember that the discussion board is public and your classmates can read what you post there!

**Course Materials**

Assignments, reading notes, and a variety of readings will be posted on Blackboard.

**Submitting Assignments Electronically**

All assignments and papers will be submitted electronically through the Assignments option within Blackboard.

**Important:**

- Assignments are due at midnight, Mountain Time.
- Save your completed assignments as a Word document with the file name YourLastName_AssignmentNumber (e.g. Smith_assignment1.doc). If turning in a section of your semester paper you should use the file name YourLastName_SectionNumber (e.g., Smith_Section1).
- Make sure that your name, the date, and the assignment number are also included at the top of your completed assignment.
- Submit your assignment through the Assignments area on Blackboard. Assignments submitted by email will not be graded.

If you need assistance with viewing or submitting your assignments, please call the Help Desk at 406-243-4357 or refer to the UMOnline student resources at http://umonline.umt.edu/studentsupport/default.htm.
Logging In
You are expected to log in every MWF to read current announcements that have been posted. You may do this at any time of day. The Instructors will generally answer e-mails, respond to discussions, etc. during traditional work hours (M-F 9:00 a.m. - 5 p.m.).

REQUIRED TEXTS


REQUIRED ADDITIONAL READINGS
Additional readings or web assignments will be posted as necessary.

ADDITIONAL NOTES
In accordance with University of Montana’s mission to provide equal educational opportunities for all students, necessary accommodations for students with disabilities will be made whenever possible. If you require accommodations, please provide written information regarding your disability from the Disability Services as soon as possible so that accommodations can be made. This syllabus is subject to change by the instructor. Any changes will be announced in the announcement section of Blackboard.

Plagiarism Warning
All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available for review online at http://www.umt.edu/SA/VPSA/index.cfm/page/1321.

Plagiarism is the representing of another's work as one's own. It is a particularly intolerable offense in the academic community and is strictly forbidden. Students who plagiarize may fail the course and may be remanded to Academic Court for possible suspension or expulsion. (See UM Student Conduct Code).

Students must always be very careful to acknowledge any kind of borrowing that is included in their work. This means not only borrowed wording but also ideas. Acknowledgment of whatever is not one's own original work is the proper and honest use of sources. Failure to acknowledge whatever is not one's own original work is plagiarism. (Source: http://www2.umt.edu/catalog/acpolpro.htm)
<table>
<thead>
<tr>
<th>Week</th>
<th>Topic(s)</th>
<th>Assigned Readings &amp; Discussions</th>
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<tbody>
<tr>
<td>1/22-1/28</td>
<td><strong>Special Topics:</strong> Kuru and Bovine Spongiform Encephalopathy</td>
<td>(2) Text: Chapter 1 of Nelson et. al</td>
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<tr>
<td>Week 2</td>
<td>Study Design, Measures of Effect, and Sources of Bias;</td>
<td>(1) Text: Chapter 2 of Nelson et. al</td>
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<td>(4) Discussion of an epidemiologic migration study in the Pacific. The California Chamorro Cohort Project (CCCP). Discussion will be lead by Dr. Molgaard.</td>
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<tr>
<td>Week 3</td>
<td>Measurement and Analysis;</td>
<td>(1) Text: Chapter 3 of Nelson et. al</td>
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and Amyotrophic lateral sclerosis (analytical study)  

| Week 4 2/12-2/18 | Genetic Epidemiology for Neurologic Disease; **Special Topics:** Multiple sclerosis in Shetland Islands and ALS-PDC in Guam |
| Week 5 2/19-2/25 | Alzheimer’s Disease and Vascular Dementia |
| Week 6 2/26-3/4 | Parkinson’s Disease and other Movement Disorders |
| Week 7 3/5-3/11 | Amyotrophic Lateral Sclerosis |


(1) Text: Chapter 4 of Nelson et. al


(1) Text: Chapter 5 of Nelson et. al


(3) To be selected by student.

(1) Text: Chapter 6 of Nelson et. al


(3) To be selected by student.

(1) Text: Chapter 7 of Nelson et. al

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<tr>
<th>Week</th>
<th>Assignment</th>
<th>Text</th>
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<tr>
<td>Week 8</td>
<td>Multiple Sclerosis</td>
<td>(1) Text: Chapter 8 of Nelson et. al</td>
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<td>(3) To be selected by student.</td>
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| Week 9   | Stroke                               | (1) Text: Chapter 9                                                  |
|          |                                      | (3) To be selected by student.                                        |

| Spring    | Vacation                             | No Assignments This Week                                             |
| Vacation  | 3/26-3/30                           |                                                                      |

| Week 10  | Brain and Spinal Cord Injury        | (1) Text: Chapter 10                                                  |
|          |                                      | (3) To be selected by student.                                        |

| Week 11  | Disability; Guest Lecturer          | (1) To be announced.                                                  |
| 4/9-4/15 |                                      |                                                                      |

| Week 12  | Peripheral Neuropathy               | (1) Text: Chapter 11                                                  |
|          |                                      | (3) Discussion of Guillain-Barre and the Swine flu vaccine litigation lead by Dr. Molgaard |
|          |                                      | (4) To be selected by student.                                        |
| Week 13 4/23-4/29 | Epilepsy; Guest Lecturers: Dr. Angelia Paschal and Dr. Suzanne Hawley of the University of Kansas School of Medicine will present the Kansas-Columbia Epilepsy Project | (1) Text: Chapter 12  
| Week 14 4/30-5/6 | Neurodevelopmental Disabilities | (1) Text: Chapter 15  
(3) To be selected by student. |
| Week 15 5/7-5/11 | Community Response to Environmental Disasters with Neurologic Endpoints | (1) Dr. Molgaard will lead a discussion of the Minimata Bay, Japan mercury poisoning disaster.  
(2) One or more papers will be provided by the instructors TBD.  
(3) To be selected by student. |