Objectives

The goal of this course is to teach the basic skills of applying evidence-based medicine (EBM). By the end of this course, students should be able to:

- Phrase a clinical question in a way that allows seeking and application of evidence
- Find the best evidence for a given clinical question
- Critically appraise the evidence for the major types of clinical questions
- Describe the limitations of EBM

Time and Location

The course is taught in two parts. The first part consists of a pre-campus portion that consists of online lectures and assignments consisting of critical appraisals of different question types. The content will be posted approximately four weeks before the on-campus session, starting around August 1, 2017. This content consists of 9 units, listed in the syllabus below, that will all be posted when the course opens or shortly thereafter. The activities for each unit of the course consist of:

- Reading assignment from textbook
- Short on-line lecture
- Critical appraisal of a study (one each for units 2-8, for a total of 7) using a template, submitted via Sakai

The second part of the course is the on-campus session from August 28-30, 2017. In mid-August, students will sign up for presentations at the on-campus session, all of which they are expected to attend. Based on the current projected enrollment in the class, each of you will be asked to present one of your critical appraisals each day. You should plan to present for 15-20 minutes and discuss your study and its critical appraisal. I will let you propose the topics you want to present but may need to negotiate with you to make sure that all of the course topic areas are covered.

Students should have their articles for appraisal selected by the due date for signing up for presentations. You should aim to complete first versions of all of your appraisal templates before August 28, 2017. Students must complete all 7 critical appraisals correctly to meet the requirements for the course. The final appraisals will be due by September 8, 2017, after which grades will be reported back to students.

Readings

Registration

This course is open to all OHSU biomedical informatics students and others by permission of the course director.

Syllabus

<table>
<thead>
<tr>
<th>Unit</th>
<th>Topic</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction – questions and evidence</td>
<td>1-4</td>
</tr>
<tr>
<td>2</td>
<td>Intervention – single studies</td>
<td>6, 8</td>
</tr>
<tr>
<td>3</td>
<td>Intervention – systematic reviews and meta-analysis</td>
<td>14-15</td>
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<td>4</td>
<td>Intervention – clinical decision analyses, economic analyses, and clinical practice guidelines</td>
<td>17</td>
</tr>
<tr>
<td>5</td>
<td>Diagnosis – diagnostic tests</td>
<td>11-12</td>
</tr>
<tr>
<td>6</td>
<td>Diagnosis – clinical prediction guides, screening</td>
<td>None</td>
</tr>
<tr>
<td>7</td>
<td>Prognosis</td>
<td>13</td>
</tr>
<tr>
<td>8</td>
<td>Harm</td>
<td>10</td>
</tr>
<tr>
<td>9</td>
<td>Evaluation and limitations</td>
<td>5</td>
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</tbody>
</table>

Assignments

The course assignments consist of critical appraisal of seven different study types (one each for units 2-8, for a total of 7) using a template provided with the course materials. You must choose an article published in the literature of the appropriate study type that was not mentioned in the lecture or textbook. You must choose studies on clinical topics and not informatics topics (e.g., studies of tests and treatments and not studies of CPOE or clinical decision support).

When you turn in an assignment, please also attach the PDF of the article to your submission. That way, those of us grading the appraisal can look at the actual paper without having to go retrieve it on line. Your file and the PDF of the article should be uploaded to the Sakai Submissions area. Please name the file with your last name, a dash, the unit number, another dash, and then whatever else you want. So for example, if I was turning in an assignment for Unit 4, I would name my appraisal Hersh-4-Economic.docx and the article I was appraising as Hersh-4-ArticleAuthor.pdf.

You should turn in all 7 of your assignments before coming to class on August 28. The instructor or TA will provide feedback on all submitted assignments as they are submitted, and assignments that are incorrect (e.g., wrong study type selected, wrong information entered on to template, etc.) will need to go through one or more cycles of "revise and resubmit." Ultimately, all appraisals must be done correctly. All appraisals must be finalized by September 8 to pass the course. (There is neither a final examination nor any other course projects.)

The 7 appraisals should be done using the templates from the JAMA Evidence Web site, which I will also post to Sakai. The 7 you must use include:

1. Single-Study Worksheet.docx
2. Systematic Review Worksheet.docx
3. Interventions – Other Worksheet.docx
4. Diagnosis Worksheet.docx or Prediction Worksheet.docx (one or the other)
5. Screening Worksheet.docx
6. Prognosis Worksheet.docx
7. Harm Worksheet.docx
For intervention and harm studies, please choose a study that has a “positive” outcome so that you can calculate the classical EBM statistics.

**Support**

This course will have an online component, which can be accessed through Sakai, OHSU’s online course management system. For any technical questions or if you need help logging in, please contact the Sakai Help Desk.

Hours: Sakai Help Desk is available Mon – Fri, 8 am – 9 pm and weekends 12 pm – 5 pm, Pacific Time.
Contact Information:
(Toll-free) 877-972-5249
(Web) [http://atech.ohsu.edu/help](http://atech.ohsu.edu/help)
(Email) sakai@ohsu.edu

Students also have access to all of the on-line resources of the OHSU Library.

**Grading**

Student grades will consist of critical appraisals (80%) and on-campus class presentation and participation (20%). Appraisals must be done until they are considered satisfactory. Completing all of them satisfactorily, along with participating in class, will result in an A grade. Lesser completion of assignments or class participation will result in a lower grade.

Graduate Studies in the OHSU School of Medicine is committed to providing grades to students in a timely manner. Course instructors will provide students with information in writing at the beginning of each course that describes the grading policies and procedures including but not limited to evaluation criteria, expected time needed to grade individual student examinations and type of feedback they will provide.

Class grades are due to the Registrar by the Friday following the week of finals. However, on those occasions when a grade has not been submitted by the deadline, the following procedure shall be followed:

1) The Department\(^1\) /Program Coordinator\(^2\) will immediately contact the Instructor requesting the missing grade, with a copy to the Program Director and Registrar.

2) If the grade is still overdue by the end of next week, the Department\(^1\) /Program Coordinator\(^2\) will email the Department Chair directly, with a copy to the Instructor and Program Director requesting resolution of the missing grade.

3) If, after an additional week the grade is still outstanding, the student or Department\(^1\) /Program Coordinator\(^2\) may petition the Office of Graduate students for final resolution.

\(^1\) For courses that are run by a specific department.

\(^2\) For the conjoined courses (course number is preceded by CON, that are run by Graduate Studies.

**Copyright Information**

Every reasonable effort has been made to protect the copyright requirements of materials used in this course. Class participants are warned not to copy, audio, or videotape in violation of copyright laws. Journal articles will be kept on reserve at the library or online for student access. Copyright law does allow for making one personal copy of each article from the original article. This limit also applies to electronic sources.

To comply with the fair use doctrine of the US copyright law, Sakai course sites close three weeks after grades are posted with the Registrar. Please be sure to download all course material you wish to keep before this time as you will have no further access to your courses.
DMICE Communication Policy

1. If the syllabus directs the student to contact the TA before contacting the instructor, the student should do so. Otherwise, the student should contact the instructor and allow 2 business days (not including weekends) for a response.

2. If the student does not receive a response from the instructor within 2 business days, s/he should contact the TA (if there is one). When contacting the TA s/he should cc the instructor and Diane Doctor at doctord@ohsu.edu.

3. If a student does not receive a response from the TA within 1 business day (not including weekends), s/he should contact Diane Doctor at doctord@ohsu.edu and cc the instructor and the TA.

4. If Diane does not reply within 1 business day (not including weekends), the student should contact Andrea Ilg at ilgan@ohsu.edu.

5. Students having difficulties with Sakai should contact the Sakai Help Desk at sakai@ohsu.edu or at (877) 972-5249. Sakai help is available M-F from 8am to 10pm and weekends from Noon to 5pm. Do not contact the instructor.

Student Access

OHSU is committed to providing equal access to qualified students with disabilities. Student Access determines and facilitates reasonable accommodations, including academic adjustments and auxiliary aids, for students with documented disabilities. A qualified student with a disability is a person who meets the academic and technical standards requisite to admission or participation in a particular program of study. As defined by the Americans with Disability Act (ADA), a person with a disability has a physical or mental impairment that substantially limits one or more major life activities of the individual. This may include, but is not limited to, physical conditions, chronic health issues, sensory impairments, mental health conditions, learning disabilities and ADHD. Student Access works with students with disabilities from all of OHSU's educational programs and at each campus.

Each school has an assigned Program Accommodation Liaison (PAL), who acts as an “in-house” resource for students and faculty concerning access issues for students with disabilities. The PAL works in collaboration with Student Access to implement recommended accommodations for students with disabilities.

It is recommended that you contact Student Access to consult about possible accommodations if you a) received disability accommodations in the past, b) begin experiencing academic difficulties, and/or c) are given a new diagnosis from your healthcare provider.

Learn more about Student Access:
Phone: 503 494-0082
Email: studentaccess@ohsu.edu
Website: www.ohsu.edu/student-access

Commitment to Equity and Inclusion

Oregon Health & Science University is committed to creating and fostering a learning and working environment based on open communication and mutual respect. If you encounter sexual harassment, sexual misconduct, sexual assault, or discrimination based on race, color, religion, age, national origin or ancestry, veteran or military status, sex, marital status, pregnancy or parenting status, sexual orientation, gender identity, disability or any other protected status please contact the Affirmative Action and Equal Opportunity Department at 503-494-5148 or aaeo@ohsu.edu. Inquiries about Title IX compliance or sex/gender discrimination and harassment may be directed to the OHSU Title IX Coordinator at 503-494-0258 or titleix@ohsu.edu
Academic Honesty

Course participants are expected to maintain academic honesty in their course work. Participants should refrain from seeking past published solutions to any assignments. Literature and resources (including Internet resources) employed in fulfilling assignments must be cited. See http://www.ohsu.edu/xd/education/library/research-assistance/plagiarism.cfm?WT_rank=1# for information on code of conduct for OHSU and http://www.ohsu.edu/xd/education/teaching-and-learning-center/for-students/index.cfm for more information on citing sources and recognizing plagiarism.

In an effort to uphold the principles and practice of academic honesty, faculty members at OHSU may use originality checking systems such as Turnitin to compare a student's submitted work against multiple sources.

To protect student privacy in this process, it will be necessary to remove all personal information, i.e. student name, email address, student u-number, or any other personal information, from documents BEFORE submission.

Course Instructor

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