

BMI 538/638: Medical Decision Making

3.0 credit hours

Winter 2015 Online Course via Sakai (<https://sakai.ohsu.edu/xsl-portal>)

PREREQUISITES:

None officially. Algebra and basic knowledge of probability are required for completing 2x2 tables.

COURSE DESCRIPTION:

This course introduces the student to decision analysis (modeling of decisions), which is used to form health care policy and to make medical decisions. Given uncertain information and limited resources, students will use software to learn to build models that include all possible health outcomes of various medical decisions. The course will cover quantitative, qualitative and shared approaches to decision making, quality-of-life decision aids (for patients), decision support (for providers) and costs related to health outcomes. Students will apply decision analysis techniques in addressing real world problems.

INSTRUCTOR:

Course Instructor: Karen Eden, Ph.D.

Office: BICC 535; Phone: 503-494-2456; edenk@ohsu.edu

Jemal Ebrahim, jmlebrahim@gmail.com, will serve as the course TA.

REQUIRED TEXTBOOK AND SOFTWARE:

Decision Making in Health and Medicine: Integrating Evidence and Values (Paperback) by Myriam Hunink, et al. Cambridge University Press; Book & CD-ROM edition (December 15, 2001) ISBN: 0521770297. Note the new edition is about to be released but too late for our term. You will likely need to buy a used copy of the first edition. I strongly recommend that you purchase this during Fall term (for our Winter term course).

Software: Student version of TreeAge Pro Suite (www.treeage.com) which will cost \$45 to download. Note: This product is well supported for PC users. The MAC version was released a couple of years and can be tricky to use.

RELEVANT LITERATURE AND RESOURCES:

Additional references distributed during class. There will be 3-4 supplemental papers distributed for online discussion. Each small group will discuss 3 of these papers during 3 different weeks. See syllabus for dates of discussion.

COURSE COORDINATION:

This will be a distance course taught via Sakai. Lectures, reading materials and assignments will be uploaded by 12 PM PST Wednesday afternoons, and homework assignments will be due before noon (PST) on Wednesday of the following week. The two quizzes, the expected value lab, and the TreeAge tutorial will also be due before Wednesday noon on the date designated. With the exception of the final exam, everything is due by noon (not midnight) on Wednesdays.

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 – 10 pm Pacific and weekends and holidays 12 pm – 5 pm Pacific.

Contact Information:

(Toll-free) 877-972-5249

(Web) <http://atech.ohsu.edu/help>

(Email) sakai@ohsu.edu

All course work and communication will be via Sakai and email. Karen has dedicated “office hours” on Mondays, Wednesdays and Thursdays – meaning she will check the Sakai discussion boards on these days. Jemal will check on Wednesdays, Fridays and weekends. If you pose questions on the discussion boards specifically for the instructors, responses will likely be made on these days.

EVALUATION:

Grades are based on: 2 quizzes, a final exam, 1 lab report, 1 software tutorial, a critique paper, and online discussion.

Distance Learning Activities:

All materials will be available via Sakai, this includes:

- Weekly audio/visual or text seminars.
- Small group discussion (via Sakai discussion board) of current decision analysis literature.
- Small group discussion (via Sakai discussion board) of decision analysis projects.
- Email support of student homework.

GRADING SCALE:

Grades are assigned based on the following criteria:

| | |
|----|----------|
| A | 92-100 |
| A- | 90-91.99 |
| B+ | 88-89.99 |
| B | 82-87.99 |

| | |
|----|----------|
| B- | 80-81.99 |
| C+ | 78-79.99 |
| C | 72-77.99 |
| C- | 70-71.99 |
| F | <70 |

35% Quiz 1 (10%); Quiz 2 (10%) TreeAge Tutorial (5%) and Expected Value Lab (10%)
 35% Final
 20% Journal Article Critique
 10% Online Discussion

The details of each of these tasks are explained:

Quizzes and Final Exam

There will be 2 quizzes and one final exam given online. (Hint: Questions on the quizzes and final exam will be very similar to homework problems and online discussion of published decision analyses.) The quizzes and final exam are open book. Students will have a few days to complete and submit the quiz which will involve 2x2 tables, creating basic decision models, computing answers and providing interpretation, understanding various decision making approaches. The final is designed to take students who have successfully completed all homework assignments and quizzes, around 2 hours.

It is OHSU policy that any exam offered online and worth more than 10% of the final course grade must be virtually proctored. In this course, we will be using ProctorU, a remote proctoring service. You will be required to schedule your final exam time three weeks ahead of time and it will cost \$25. More information will be provided to you regarding the setup, scheduling and requirements in your course materials.

The final exam will be posted by 8 AM (US, PST) on March 13th and is multiple-choice. Once students have signed onto the exam, they will have 2 hours to complete it. A different version of this exam was used previously and almost all students completed the exam in <2 hours. The Sakai helpdesk will be available should questions arise related to Sakai. Karen and Jemal will also be available by email if clarification is needed on questions. The final exam must be completed by 5 PM (US, PST) on Saturday, March 14th when the Sakai help desk closes.

Lab report, Software tutorial and Weekly Assignments

There will be one lab report submitted this term. This is a decision analysis project (Expected value lab). There will also be one submission with figures that are created once the software tutorial (for TreeAge) is completed.

Weekly homework is not graded but **STRONGLY** recommended to be successful. The quizzes and final exam are very similar to assigned homework. We have set up a homework forum that Karen and Jemal will moderate. It is likely that a peer will respond with a suggestion before we can. We encourage this dialog around homework. Jemal

is also available to review submitted homework and give specific feedback when asked, via email. Submit your homework named as follows:

LastName.WeekXAssignment.doc. *For students who submit the homework on time, the answer key will be emailed after the due date.*

Journal Article Critique

Each student will select one journal article (from a list available online via Sakai) with a decision analysis focus. More than one student will likely have the same article. Each discussant will submit to his/her small group a one-page, single-spaced summary/critique (including potential biases) of the article and post two questions (on Sakai discussion board) for classmates to respond to. The discussants of a paper should take the lead on responding to classmates' comments and additional questions. At the end of the week's discussion, the discussant should post a 1-2 paragraph summary of the group discussion that all small groups can view. Grading will be based on the critique, participation in small group discussions (of all 3 articles) and posted summary for own critique.

Online Discussion

Each student will have multiple opportunities to participate in online discussion. Grading will be based on participation (thoughtful questions and comments, frequency of postings) throughout the term. Participation online is extremely important to the value everyone derives from this class.

DMICE Grading Policy:

A grade of B (3.0) or better is mandatory in all **Required** courses in each domain. A grade of C (2.0) or better is mandatory in all **Individual Competency** courses in each domain. Students receiving grades lower than a B (3.0) in a **Required** course will be required to retake the course for a higher grade. If a student receives a deficient grade in an **Individual Competency** course, they have the option to retake the course for a higher grade, or complete an additional class from the **Individual Competency** courses offered in that particular domain.

A grade point average of 3.0 must be maintained. A student whose cumulative grade point average falls below 3.0 will immediately be placed on academic probation. Academic probation is intended to provide a student whose performance is less than satisfactory, a period of time to correct the deficiency. A student placed on academic probation because of grades must obtain a cumulative grade point average of at least 3.0 within one term. If a student on academic probation does not achieve a cumulative grade point average of 3.0 within the next term, the department may petition the Graduate Council for one term extension. Up to three consecutive extensions may be requested for a student on academic probation. Probationary students who fail to achieve a cumulative grade point average of 3.0 within the next term, and who do not receive an extension, will be dismissed from the graduate program for inadequate scholarship. A student will be removed from probation as soon as his/her cumulative grade point average is raised to 3.0 or above.

The grade “I” (incomplete) may be entered on the student’s record if a minor portion of the required work in a course is not completed in the allotted time. The grade of “I” should be used only when a student’s work during a term cannot be completed because of illness, accident or other circumstances beyond the student’s control. Conversion of the “I” to a letter grade may be made if the student completes the work within a period specified by the instructor of the course, but not to exceed one term. Students who receive a mark of “I” must complete the required work within the next term and the instructor must file and amended term grade report for the course, otherwise the Registrar shall convert the grade to an F.

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 Department¹/Program Coordinator² 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 Department¹ /Program Coordinator² 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 Department¹ /Program Coordinator² 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.

COURSE OBJECTIVES:

- To gain an understanding of decision analyses in the biomedical literature and be able to critique it and understand the applicability of the findings to other situations.
- To become proficient in building basic decision analysis models through an understanding of the concepts which underlie these models.
- To develop some proficiency will decision analysis software.
- To understand various decision making approaches.

COURSE OUTLINE:

| Week | Date | Topics | Chapter in Hunink |
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| 1 | January 7th | Introduction to Decision Analysis and Probability Pick Discussant Paper | 1,2 |
| 2 | January 14th | 2x2 Tables, Interpreting Diagnostic Information, | 5 |
| 3 | January 21st | Introduction to TreeAge software (TreeAge Tutorial due February 6) Choosing the best treatment, Quiz 1 (due Jan 29th) | 3 |
| 4 | January 22nd | Outcome Analysis/Utility Assessment/Attitude Towards Risk | 4 |
| 5 | February 4th | Expected Value Decision Making Deciding to test, Expected Value lab (due Feb 26th) | 6 |
| 6 | February 11th | Markov Models Dual Processes Mankuta Article Discussion Quiz 2 (due February 19th) | 10 |
| 7 | February 18th | Comparative and Cost Effectiveness Ross Article Discussion | 9 |
| 8 | February 25th | Comparison of decision methods Shared decision making, Decision aids. Grover Article Discussion. (Extra Credit due March 5 th) | |
| 9 | March 4th | Decision support Review lecture and review problems | |
| 10 | March 11th | Final distributed at 8 AM Thursday, March 13th. Exams must be completed by Saturday, March 15th, 5 PM (US, PST). | |
| 11 | March 18th | Guest lecture applying decision analysis to Psychiatry, by Laura Fochtman, Course evaluation due. | |

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.

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

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.

NOTE: This syllabus and class schedule is subject to changes by the instructor. Changes will be made with as much advance notice as possible.

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 10-pm and weekends from Noon to 5pm. Do not contact the instructor.