Course Description
This course introduces the medical informatics student to the clinical practice of healthcare, including

- The underlying biology and manifestations of selected disease states;
- The information-gathering and reasoning processes used to detect, understand, and treat diseases;
- The health professionals who provide and support care;
- The clinical settings in which care takes place.

The objective is to enable non-clinicians to understand the context, the vocabulary, and some of the challenges for supporting clinical work in real settings with informatics tools.

Credit Hours: 3 credits
Time: Thursdays 5:30-7:30 pm
Location: For distance students: sakai.ohsu.edu; For Portland students: BICC 513

Please note that this is not an asynchronous class; participation in synchronous discussions during the scheduled class hours is an important part of the class. Distance students should test their connection to the virtual Sakai classroom before the first class.

Prerequisites:
The course is required for master’s and doctoral students who are not health professionals (nurse, doctor, etc.). It may be taken in any year of the program but is a required class in Year 2 for BCB-track students.

This class can be quite difficult without undergraduate human biology or anatomy. We use an undergraduate nursing Pathophysiology textbook, but students without prior exposure to human biology may find the reading difficult.

Faculty
Course Director Dian Chase, PhD, FNP.

Contact me any time with questions or concerns. Please use the online course system (Sakai) for all questions. Contact me directly only about personal issues, using email (chased@ohsu.edu). Office hours are by appointment either in person or over the web using Adobe Connect.

Teaching Assistant Deb Woodcock (woodcoocl@ohsu.edu) - 503-418-3315

Activities, Expectations

Flipped Classroom
We use a “flipped classroom” approach in this class. Cases are presented to stimulate inquiry in support of understanding what is wrong with a particular patient and how we might help them. Readings in the textbook help make sense of the case, supported by online videos from this class and other sources. Then we use discussion and class time to answer questions, explain and discuss complex issues, and solve sample problems that help us see how to apply this knowledge. Projects allow us to explore more material in a learner-centered fashion.

**Cases and scenarios**
Cases allow you to experience some of the dilemmas clinicians face daily. You are not expected to “solve” the cases – that’s often not the point in clinical practice anyway. You are expected to use the readings, discussion, lecture, and the web to try to understand what’s going on. We encourage the use of library resources (many e-textbooks are available through the OHSU library). Cases include a variety of thinking challenges. Students will post their ideas on Sakai by Monday at 5 pm of the week following assignment.

There is no single correct answer for these clinical cases – often clinicians do not agree on diagnosis, management, or prognosis. Rather, grading is based on the student’s demonstration of their thought processes – how they select and organize information using approaches discussed in class to analyze and interpret information, and show their reasoning and rationale for conclusions or recommendations.

In addition to cases, students will choose two pathophysiology scenarios per week to answer online. These will be submitted no later than Wednesday at 5pm of the week following assignment.

Unlike the other activities in the course, cases and scenarios are graded on a pass/marginal/no pass basis. Responses should build on the previous comments of other students. Vigorous (but polite) discussion is encouraged. Performance that fails to meet the basic objectives of the assignment or a second marginally acceptable assignment will result in a failing grade for the assignment. Each successful submission (two per week possible) will gain 1.5 points towards the final grade (three points per week, 30 points total).

**Typical week flow:**
Thursday: new case assignment
Thursday through Monday: read case and pathophysiology readings, prepare first post on case assignment
Monday through Wednesday: watch online lectures, read others’ posts and comment on them, post answers to two pathophysiology questions
Thursday: bring any questions about pathophysiology to class, discuss case and pathophysiology lectures, may have some mini-lectures on focus topics

**Readings**
Reading assignments include chapters from a required textbook, occasional articles or handouts, and independent reading for projects and clinical questions. Once you have looked at the case, the readings will help you make sense of it. Students are responsible for all content in the assigned readings, whether discussed in the lectures or not.

**Required**


**Discussion**

Participation in group discussions is an essential activity that enriches the learning through the diverse experience and perspectives of the students. “Participation” grading is based on the degree to which your participation contributes to the learning of your classmates. You don’t have to make an entry to every topic, but you don’t get credit for “lurking” without contributing. Jump in and have your say!

**Projects**

Two projects are to be completed each term, including presentation to the entire class. See Course Materials for details of the projects.

**Examinations**

A final exam is given the last week of class.

**Academic Honesty**

There is no excuse for violating this policy. It is simple – give proper attribution to the source material – even in online posts. Please use Vancouver style. Verbatim text from another source must be in quotes with a citation. Paraphrasing content from an outside source must include a citation to the source. Work that is represented as being your own must be just that – your individual, original work. If you have questions, ask me before you submit material. There is no excuse for violating this policy. None.

**Grades**

- Sample problems and discussion 15%
- Case comments and discussion 15%
- Participation 10%
- Projects 30%
- Final exam part 1 15%
- Final exam part 2 15%

This class, like healthcare, requires collaboration and teamwork. You are not competing with one another. If everyone deserves an A, everyone gets an A. Win-win.

**Grades are assigned based on the following criteria:**

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<thead>
<tr>
<th>Percentage Range</th>
<th>Grade</th>
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<tbody>
<tr>
<td>93-100</td>
<td>A</td>
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<tr>
<td>90-92</td>
<td>A-</td>
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<tr>
<td>87-89</td>
<td>B+</td>
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<tr>
<td>83-86</td>
<td>B</td>
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<tr>
<td>80-82</td>
<td>B-</td>
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<tr>
<td>77-79</td>
<td>C+</td>
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<tr>
<td>73-76</td>
<td>C</td>
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<td>70-72</td>
<td>C-</td>
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<td>&lt;70</td>
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**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.

Changes:
This syllabus gives a good general idea of what we will cover, but we update the course every year based on feedback from students, changes in technology, and possibly current events. So expect changes from week to week as we update materials. We'll give as much advance notice as possible.

Course Overview
This course introduces the student to the clinical practice of healthcare including the underlying biology and manifestations of selected disease states, the information gathering and reasoning processes used to detect, understand, and treat diseases, the health professionals who provide and support care, and the clinical settings in which care occurs.

Cases
Clinical cases are the foundation of the course. Most units present a new case, meant to illustrate selected disease processes and clinical processes. Students are presented the case and given reading assignments to help them think it through. They are not expected to “solve” the case, but thinking through the case through in a structured fashion is meant to help them understand clinical work, clinical reasoning, and clinical judgment.

1 53 Y F with pallor
2 25 Y F cc: dogbite
3 39 Y M: “My ankles are swollen”
4 Middle-aged man with chest discomfort
5 & 6 Will be replaced by other homework activities
7 A middle-aged man with low back pain
8 76 Y F: fever and dyspnea (online only – Thanksgiving)
9 Here to get acquainted
10 77 Y F w/ SOB & Hx Ca
Conditions
To help address the clinical issues presented by the cases, pathophysiology of selected organ systems is covered through readings, online videos, online discussion, and an in-class review. As students complete these readings, the case usually starts to make sense. Pathophysiology lectures are mainly online lecturettes (Khan Academy, etc.).

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<thead>
<tr>
<th>Week</th>
<th>Due</th>
<th>Topic</th>
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<tbody>
<tr>
<td>2</td>
<td></td>
<td>Injury, immunity, inflammation</td>
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<td>3</td>
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<td>Fluid &amp; electrolytes, circulation, hypertension</td>
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<td>4</td>
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<td>Cardiovascular system</td>
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<td>7</td>
<td></td>
<td>Musculoskeletal system and diseases, spinal conditions</td>
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<td>8</td>
<td></td>
<td>Multiple morbidities and chronic care (online only – no class)</td>
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<tr>
<td>9</td>
<td></td>
<td>Endocrine system and diseases</td>
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<tr>
<td>10</td>
<td></td>
<td>Neoplasia, pleural and mediastinal diseases</td>
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Clinical Processes
To help understand clinicians and their work, each unit includes material on the clinical process: the roles and expectations of clinicians, how clinicians gather and analyze information, how they use this information and clinical judgment to formulate a management plan for their patients. These discussions focus especially on how clinicians select, organize, and interpret information, according to the requirements of different tasks. Another focus of these discussions is the ways that clinicians rearrange information in different representations, again according to the requirements of different tasks. This is illustrated with examples of actual clinical representations such as progress notes, flow sheets, handy pocket “cheat sheets,” whiteboards for collaboration, patient handouts, and the like. In later units we expand on this “one clinician, one patient, one condition, one visit” paradigm to consider issues such as multidisciplinary care and collaboration, acute vs. chronic patient management, system-based care, and end-of-life care.

In addition to our weekly work, you will have two immersive assignments. You will shadow a clinician to learn about what they do and you will participate in an experience as a nurse with an acutely ill simulated patient.

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 9pm and weekends from Noon to 5pm (Closed on official OHSU holidays). Do not contact the instructor.

STUDENT ACCESS

OHSU is committed to providing equal access to qualified students who experience a disability in compliance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990, and the ADA Amendments Act (ADA-AA) of 2008. If you have a disability or think you may have a disability (physical, sensory, chronic health, psychological, learning, or other) please contact the Office for Student Access at (503) 494-0082 or studentaccess@ohsu.edu to discuss eligibility for academic accommodations. Information is also available at www.ohsu.edu/student-access. Because accommodations may take time to implement and cannot be applied retroactively, it is important to have this discussion as soon as possible. All information regarding a student’s disability is kept in accordance with relevant state and federal laws.

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.

USE OF SAKAI

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 (Closed on official OHSU holidays).

Contact Information:
(Toll-free) 877-972-5249 (Web) http://atech.ohsu.edu/help (Email) sakai@ohsu.edu

INCLEMENT WEATHER POLICY

When the weather forecaster is calling for ice or snow, call the OHSU Alert Line, 503 494-9021, for information regarding weather conditions that may affect operations at OHSU. This hot line will offer specific recorded messages for road conditions on OHSU's Marquam Hill and West campuses (option 1), and for patients (option 2), students (option 3) and employees (option 4).

If extreme weather conditions present potentially unsafe situations, the provost of the university may choose to delay or cancel classes, or alter office and research activities. If classes are canceled or delayed, residents and students who have patient care responsibilities must meet those obligations.

For more information, please view the website http://www.ohsu.edu/xd/about-visiting/weather/index.cfm or call the above hotline.