

The University of Texas at Austin School of Nursing  
N281C: Health Informatics  
Web-based

Fall 2020

Course number: Unique # 57080  
Instructor: Bo Xie, Ph.D., Professor  
School of Nursing; Email: [boxie@utexas.edu](mailto:boxie@utexas.edu)  
Office Hours: Thursdays, 4:00 PM—5:00 PM via Zoom & by appointment  
Course Website: <https://canvas.utexas.edu/>

**I. Rationale:**

This course covers major issues in health informatics. Representative topics may include: the management of health information; application of information and communication technologies to support health services; health informatics in the national, professional, and personal contexts; provider-patient relationship; consumer health information; personal electronic health records; privacy and confidentiality; professionals and patients education and training; e-health/mHealth; and the relationships among health literacy, health disparities, and technology.

**II. Course Objectives:**

***Aims***

Information and communication technologies are increasingly being applied to the healthcare context, with many new jobs opening up in areas such as health information management, electronic health records, patient portals, and consumer and public health informatics. This course aims to prepare students for the challenges and career opportunities provided by these recent developments.

***Specific Learning Objectives:***

By the end of this course, students will:

- Discuss major issues – social, cultural, political, economic, technological, historical, and ethical – associated with the management of health information.
- Describe the benefits, challenges, and potential solutions associated with the application of information and communication technologies to support health services.
- Evaluate the relative strengths and weaknesses of health informatics in different levels of professional contexts, including hospitals and other large and medium healthcare systems, and small primary care settings.
- Analyze recent major changes in the provider-patient relationship and the implications for healthcare professionals, patients, and society.
- Discuss rationales, developments, and challenges of the consumer health information movement and potential solutions to overcome those challenges.

- Explore the major ethical and technical factors associated with electronic health records, health information exchange, and the management of patient-generated electronic health records.
- Compare and contrast knowledge of related fields such as nursing informatics, medical informatics, and allied health informatics.
- Investigate informatics education and training for healthcare professionals and patients.
- Evaluate evidence as related to health informatics and implications of the findings for use by healthcare professionals.
- Develop a holistic view of the use of the Web, electronic health records, patient portals, and other information and communication technology in healthcare services.
- Investigate opportunities and challenges associated with using technology to promote the health literacy of underserved social groups and individuals and narrow health disparities.

**III. Format and Procedures:**

This class will be fully Web-based and asynchronous. All class activities will take place in the course website on UT Canvas (<https://canvas.utexas.edu/>). Class activities are organized by weeks in Canvas. Learning takes place when students (1) read/watch the assigned readings and videos; (2) engage in group discussions in Canvas about the readings and videos; and (3) complete the assignments.

**IV. Tentative Course Schedule:** *\*\*This syllabus represents my current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.*

Wk	Dates	Main Topic(s)	Readings/videos/practice to complete at home	Evaluation
1	8/26-9/1	Introduction to health informatics	1. Videos 2. AACN, 2011 3. Friedman, 2013 4. AMIA 5. Moore et al., 2020	1. Group Discussion 2. (For extra credits) Meet with the instructor; Icebreaking video
2	9/2-9/8	National policies, strategies, and efforts	1. Videos 2. Sittig & Singh, 2020 3. CDC, 2019 4. Matthews, 2018 5. EHR Intelligence, 2017	1. Group Discussion 2. <u>Activity 1:</u> Interview a healthcare

				informatics professional
3	9/9-9/15	Health information exchange (HIE)	<ol style="list-style-type: none"> <li>1. Videos</li> <li>2. HealthIT.gov Interoperability training course</li> <li>3. Dixon et al., 2020</li> </ol>	<ol style="list-style-type: none"> <li>1. Group Discussion</li> <li>2. <b>Activity 1 due by 9/15 @ 11:59pm</b></li> </ol>
4	9/16-9/22	Electronic health records (EHR)	<ol style="list-style-type: none"> <li>1. Videos</li> <li>2. Kent, 2020</li> <li>3. Bell, 2019</li> <li>4. Reeves et al., 2020</li> </ol>	<ol style="list-style-type: none"> <li>1. Group Discussion</li> <li>2. <b>Activity 2: Health Informatics Experience in a Clinical Setting</b></li> </ol>
5	9/23-9/29	Public health informatics	<ol style="list-style-type: none"> <li>1. Videos</li> <li>2. Khurshid et al., 2020</li> <li>3. AMIA NIWG, 2020</li> <li>4. PHII</li> </ol>	<ol style="list-style-type: none"> <li>1. Group Discussion</li> <li>2. <b>Activity 2 due 9/29 @ 11:59pm</b></li> </ol>
6	9/30-10/6	Ethical and legal issues in health informatics	<ol style="list-style-type: none"> <li>1. Videos</li> <li>2. AHIMA Code of Ethics</li> <li>3. AMIA Ethics</li> <li>4. IMIA Ethics</li> <li>5. Miliard, 2020</li> </ol>	<ol style="list-style-type: none"> <li>1. Group Discussion</li> <li>2. <b>Activity 3: Health Informatics Experience in Everyday Life</b></li> </ol>
7	10/7-10/13	HCI – analysis/design/evaluation tools and techniques	<ol style="list-style-type: none"> <li>1. Videos</li> <li>2. Boldt, 2018</li> <li>3. Carayon &amp; Hoonakker, 2019</li> <li>4. Fleming, 2017</li> <li>5. SUS</li> </ol>	<ol style="list-style-type: none"> <li>1. Group Discussion</li> <li>2. <b>Activity 3 due 10/13 @ 11:59pm</b></li> </ol>
8	10/14-10/20	Consumer health informatics	<ol style="list-style-type: none"> <li>1. Videos</li> <li>2. Lai et al., 2017</li> <li>3. Xie et al., 2020</li> <li>4. ONC, 2020</li> </ol>	<ol style="list-style-type: none"> <li>1. Group Discussion</li> <li>2. <b>Activity 4: Usability assessment</b></li> </ol>
9	10/21-10/27	Evidence-based practice and AI	<ol style="list-style-type: none"> <li>1. Videos</li> <li>2. Fernandez, 2015</li> <li>3. Bakken, 2001</li> <li>4. Hollis et al., 2019</li> </ol>	<ol style="list-style-type: none"> <li>1. Group Discussion</li> <li>2. <b>Activity 4 due 10/27 @ 11:59pm</b></li> </ol>
10	10/28-11/3	eHealth/mHealth	<ol style="list-style-type: none"> <li>1. Videos</li> <li>2. Oh et al., 2005</li> <li>3. Care Innovations</li> <li>4. Davis et al., 2016</li> </ol>	<ol style="list-style-type: none"> <li>1. Group Discussion</li> <li>2. <b>Activity 5: Assess usability of a health device/app</b></li> </ol>

11	11/4-11/10	Telehealth	<ol style="list-style-type: none"> <li>1. Videos</li> <li>2. NCTRC, 2020</li> <li>3. DHHS, 2020</li> <li>4. CMS, 2020</li> <li>5. Jercich, 2020</li> </ol>	<ul style="list-style-type: none"> <li>• Group Discussion</li> <li>• Activity 5 due 11/10 @ 11:59pm</li> </ul>
12	11/11-11/17	Changes in the patient-provider relationship	<ol style="list-style-type: none"> <li>1. Videos</li> <li>2. Warraich et al. 2018</li> <li>3. Weiner &amp; Biondich, 2006</li> <li>4. Archibald &amp; Barnard, 2018</li> </ol>	<ul style="list-style-type: none"> <li>• Group Discussion</li> </ul>
13	11/18-11/24	HIT: opportunities, challenges, future directions	<ol style="list-style-type: none"> <li>1. Videos</li> <li>2. Kent, 2020</li> <li>3. White House OSTP, 2020</li> <li>4. Craft, 2020</li> <li>5. CDC, 2020</li> <li>6. Chaney, et al., 2020</li> </ol>	<ul style="list-style-type: none"> <li>• Group Discussion</li> </ul>
	11/25-11/28	NO CLASS – UT THANKSGIVING BREAK		
14	11/30-12/7	Health informatics careers	<ol style="list-style-type: none"> <li>1. Videos</li> <li>2. ExploreHealthCareers</li> <li>3. HIMSS, 2017</li> <li>4. Monster.com</li> <li>5. Best Colleges.com</li> <li>6. Healthcare Management Degree Guide, 2020</li> </ol>	<ul style="list-style-type: none"> <li>• Group Discussion;</li> <li>• Self-reflection written report &amp; video presentation due by 11:59PM, 12/7</li> </ul>

**Feedback Statement**

During this course I will be asking you to give me feedback on your learning in informal as well as formal ways, including through an anonymous survey about how my teaching strategies are helping or hindering your learning. It’s very important for me to know your reaction to what we’re doing in class, so I encourage you to respond to these surveys, ensuring that together we can create an environment effective for teaching and learning.

**V. Course Requirements:**

Class participation is extremely important. Students are expected to read all required readings each week and discuss them online. Active participation in the online discussions and high quality contributions to each class discussion are essential to successful completion of this course. Students are responsible for completing all required assignments by the posted deadline. Completion of all assignments is required to pass the course. It is the student’s responsibility to inform the instructor of any intended absences for religious observances in advance (at least 5 prior business days). If you must miss an assignment in order to observe a religious holy day, I will give you an opportunity to complete the missed work within a reasonable time after the

absence. In the event of an unexpected incident such as a medical emergency, please submit a written explanation to the instructor immediately upon returning to class.

1. Course grading:  
This course will be graded as follows:

<ul style="list-style-type: none"> <li>• <b>Canvas Discussion postings for 14 Weeks</b> <ul style="list-style-type: none"> <li>• 2.5 points for each week</li> </ul> </li> </ul>	<b>35</b>
<ul style="list-style-type: none"> <li>• <b>Activities</b> (5 activities in total; 10 points for each activity)             <ol style="list-style-type: none"> <li>1. Interview a health informatics professional</li> <li>2. Health Informatics Experience in a Clinical Setting</li> <li>3. Health Informatics Experience in Everyday Life</li> <li>4. Usability assessment of commercial health device/app</li> <li>5. Health Informatics during a Pandemic</li> </ol> </li> </ul>	<b>50</b>
<ul style="list-style-type: none"> <li>• <b>Self-reflection</b> <ol style="list-style-type: none"> <li>1. Written report (10 points)</li> <li>2. Video presentation (5 points)</li> </ol> </li> </ul>	<b>15</b>

**Students can earn up to 3 extra credit points in the following ways:**

<ul style="list-style-type: none"> <li>• Meet the instructor Dr. Bo Xie—via zoom—<b>once during the first week</b> of the semester. Sign-up sheet is in Canvas. This video meeting may be in groups of 3-5 students per meeting.</li> </ul>	<b>1</b>
<ul style="list-style-type: none"> <li>• Upload a brief “Icebreaking” video to Canvas to share with the class <b>during the first week</b> of the semester; this self-introduction video should be no more than 2 minutes.</li> </ul>	<b>1</b>
<ul style="list-style-type: none"> <li>• Complete the anonymous mid-term course survey <b>during Week 5</b>; this is an opportunity for students to provide feedback to help improve the teaching and course experience</li> </ul>	<b>1</b>

These points will be converted to letter grades using the following metrics:

Letter Grade	Numerical Grade
A	90-100
B	80-89
C	70-79
D	60-69
F	0-59

3. Course Readings/Materials:

All course readings are free Web-based materials or available via the university library’s ejournal database. For the week-by-week **readings list**, see the course Canvas site. All course readings—including text and multimedia—must be completed for the specified week. You must complete all assigned readings for the week in order to make

substantial contributions to the week's online discussion. Additionally, each week the instructor will provide a mini-lecture video recording and accompanying slides. These should also be reviewed by the students as a part of the readings for the week.

#### 4. Use of *Canvas* in class

This online course is administered through the UT-Direct to Canvas <https://canvas.utexas.edu/>, a Web-based course management system where a password-protected site is created for each course. The UT-Direct Canvas will be used to distribute course materials, to communicate and collaborate online, to post grades, and to submit assignments. You will be responsible for checking the Canvas course site regularly for class work and announcements. As with all computer systems, there are occasional scheduled downtimes as well as unanticipated disruptions. Notification of these disruptions will be posted on the Canvas login page. Scheduled downtimes are not an excuse for late work. If there is an unscheduled downtime for a significant period of time close to a due date, adjustments may be made by the instructor. Canvas support is provided by the ITS Help Desk at 475-9400, Monday through Friday, 8 am to 6 pm, so plan accordingly. This course can be accessed via UT-Direct Canvas on any computer with Internet access using any of the established search engines.

**VI. Media Requirements:** Written assignments must be submitted in Microsoft Word or compatible version. Video assignments should be recorded via Panopto or Zoom, available in Canvas. All video assignments must include captions (using the built-in automatic captioning feature in Panopto or Zoom or your own scripts/transcriptions). If you do not have the equipment to record videos (e.g., headphones, microphones, video cameras), discussion with the instructor right away so that we can work on finding an alternative for you.

#### VII. Academic Integrity

**University of Texas Honor Code:** “The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the university is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.” Students in this course must follow the University of Texas Honor Code, which prohibits cheating, plagiarizing, submitting the same written assignment for two courses without authorization, and unauthorized collaboration/collusion. Suspected academic dishonesty will be reported and handled according to University policy and procedures. For a detailed description of the University definition of academic dishonesty, visit: [http://deanofstudents.utexas.edu/sjs/acadint\\_what\\_is.php](http://deanofstudents.utexas.edu/sjs/acadint_what_is.php).

Students are responsible for applying the academic integrity standards to this course. It is essential students know the consequences of cheating, plagiarism, or any other form of academic dishonesty. For specific information on these consequences, visit: <http://catalog.utexas.edu/general-information/appendices/appendix-c/student-discipline-and-conduct/>

#### VIII. Other University Notices and Policies

**Sharing of Course Materials is Prohibited:** No materials used in this class, including, but not limited to, lecture hand-outs, videos, assessments (quizzes, exams, papers, projects, homework assignments), in-class materials, review sheets, and additional problem sets, may be shared online or with anyone outside of the class unless you have my explicit, written permission. Unauthorized sharing of materials promotes cheating. It is a violation of the University's Student Honor Code and an act of academic dishonesty. I am well aware of the sites used for sharing materials, and any materials found online that are associated with you, or any suspected unauthorized sharing of materials, will be reported to Student Conduct and Academic Integrity in the Office of the Dean of Students. These reports can result in sanctions, including failure in the course.

**Class Recordings:** Class recordings are reserved only for students in this class for educational purposes and are protected under FERPA. The recordings should not be shared outside the class in any form. Violation of this restriction by a student could lead to Student Misconduct proceedings.

### **Use of E-mail for Official Correspondence to Students**

All students should become familiar with the University's official email student notification policy. It is the student's responsibility to keep the University informed as to changes in their email address. Students are expected to check email on a frequent and regular basis in order to stay current with University-related communications, recognizing that certain communications may be time-critical. It is recommended that email be checked daily, but at a minimum, twice per week. The complete text of this policy and instructions for updating your email address are available at <http://catalog.utexas.edu/general-information/appendices/appendix-m/>

### **Documented Disability Statement**

Any student with a documented disability who requires academic accommodations should contact Services for Students with Disabilities (SSD) at (512)-(471)-6259 (voice) or (512)-410-6644 (videophone). Faculty is not required to provide accommodations without an official accommodation letter from SSD.

- Please notify me as quickly as possible if the material being presented in class is not accessible (e.g., instructional videos need captioning, course packets are not readable for proper alternative text conversion, etc.).
- Contact Services for Students with Disabilities at (512)-471-6259 (voice) or (512)-410-6644 (videophone). or reference SSD's website for more disability-related information: <http://ddce.utexas.edu/disability/>

### **Behavior Concerns Advice Line (BCAL)**

If you are worried about someone who is acting differently, you may use the Behavior Concerns Advice Line to discuss by phone your concerns about another individual's behavior. This service is provided through a partnership among the Office of the Dean of Students, the Counseling and Mental Health Center (CMHC), the Employee

Assistance Program (EAP), and The University of Texas Police Department (UTPD). Call 512-232-5050 or visit <http://www.utexas.edu/safety/bcal>.

The School of Nursing, in partnership with the Counseling and Mental Health Center, has a CARE counselor embedded within the Nursing program. It is common to need support when dealing with feelings and problems that seem beyond your control. CARE counselors support students in a number of different ways. Sometimes we help through a one-time meeting to talk about a specific concern. Other times we might offer short-term counseling. For students who want ongoing support, we can help you navigate connecting to other on-campus and off-campus resources. Gretchen is currently offering telehealth counseling (via ZOOM or telephone). For more information, please give her a call at 512.232.4701 (be sure to leave a voicemail with your EID).

### **Title IX Reporting**

Title IX is a federal law that protects against sex and gender-based discrimination, sexual harassment, sexual assault, sexual misconduct, dating/domestic violence and stalking at federally funded educational institutions. UT Austin is committed to fostering a learning and working environment free from discrimination in all its forms. When sexual misconduct occurs in our community, the university can:

1. Intervene to prevent harmful behavior from continuing or escalating.
2. Provide support and remedies to students and employees who have experienced harm or have become involved in a Title IX investigation.
3. Investigate and discipline violations of the university's relevant policies.

Faculty members and certain staff members are considered "Responsible Employees" or "Mandatory Reporters," which means that they are required to report violations of Title IX to the Title IX Coordinator. **I am a Responsible Employee and must report any Title IX related incidents that are disclosed in writing, discussion, or one-on-one, via face-to-face or online interactions.** Before talking with me, or with any faculty or staff member about a Title IX related incident, be sure to ask whether they are a responsible employee.

If you want to speak with someone for support or remedies without making an official report to the university, email [advocate@austin.utexas.edu](mailto:advocate@austin.utexas.edu) .

For more information about reporting options and resources, visit [titleix.utexas.edu](http://titleix.utexas.edu) or contact the Title IX Office at [titleix@austin.utexas.edu](mailto:titleix@austin.utexas.edu) .

If you want to speak with the Title IX Liaison at the School of Nursing for information on Title IX protections, reporting policies and procedures, and resources at UT Austin, contact Vinh Nguyen, Assistant Dean for Student Services, at [vnghuyen@nursing.utexas.edu](mailto:vnghuyen@nursing.utexas.edu) or (512) 232-6577.