

BMI 6010 Foundations of Healthcare Informatics

Updated July 2025

COURSE NUMBER:	BMI 6010
TITLE:	Foundations of Healthcare Informatics
PREREQUISITE:	None
TOTAL CREDITS:	2
ACADEMIC TERM:	FALL 2025 SEMESTER
FACULTY:	Victoria Tiase, PhD, RN Assistant Professor Office: 421 Wakara Way, Suite 201, room 2004 Phone: 801.585.3945 Email: victoria.tiase@utah.edu Office hours: By email appointment Communication Preference: Canvas or Email
	Katherine Sward, PhD, RN Professor Office: 421 Wakara Way, Suite 201, room 2011 Phone: 801.585.1481 Email: kathy.sward@utah.edu Office hours: By email appointment Communication Preference: Canvas or Email
TA	David Villarreal, MPH Graduate Research Assistant Office: 421 Wakara Way, Suite 201, room 2002F Phone: 801.671.6398 Email: david.villarreal@utah.edu Office hours: By email appointment Communication Preference: Canvas or Email

COURSE DESCRIPTION

A survey course covering concepts, definitions, theory, history, and scope of practice for healthcare informatics. This course provides an overview of basic concepts for specialty practice in healthcare-oriented informatics. These core concepts include an introduction to clinical informatics; foundational theory and practical application of clinical decision making and computerized decision support; electronic records in the healthcare setting; human factors issues in healthcare; information science in the healthcare domain; standards, terminologies, the uniqueness of biomedical data; and a special focus on emerging technologies.

COURSE OUTCOMES AND OBJECTIVES

By the end of this course, you will be able to:

1. Summarize the history and scope of practice for healthcare informatics.
2. Compare and contrast the similarities and differences between clinical informatics, bioinformatics, public health informatics, consumer health informatics, and translational/research informatics.
3. Articulate the core foundational components of healthcare informatics including electronic health records (EHRs), standards, terminologies, clinical decision support, cognitive and human factors issues, as well as current informatics trends.

4. Evaluate how the core foundational components of healthcare informatics influence the design and implementation of inpatient and outpatient EHRs.
5. Synthesize and integrate current topics, research, regulatory/policy initiatives, and ethical issues with their impact on informatics practice.

REQUIRED AND RECOMMENDED MATERIALS

Course materials will be provided in course modules within Canvas.

*no book requirement for this course

TEACHING METHODS

This is a survey course, so we emphasize breadth over depth. A major goal of the course is to assist students in beginning to think like informaticists. Team-oriented work and conceptual thinking are just as important as factual recall. We will expect that students will be able to synthesize information and extrapolate from the didactic material to other situations. Students will participate in individual and team activities.

Students should expect approximately 3 hours of work each week for each credit hour (Unit) of the course. Note: the actual amount of time spent per week will vary depending on pace for reading, etc. and the nature of the content for that week.

In this course, we employ a mix of case-based learning and project-oriented approaches, blending theoretical instruction with practical application. This methodology not only enhances theoretical understanding but also provides students with hands-on experience in solving real-world health informatics challenges. We incorporate simulation tools, such as the Epic EHR training environment, and data analysis projects to bring practical scenarios into the classroom. Collaborative projects and peer discussions are pivotal in our teaching strategy, fostering a learning environment that values teamwork and problem solving. This approach emphasizes the criticality of informatics in understanding patient needs, improving care coordination, and advancing healthcare practices.

COURSE POLICIES

ATTENDANCE

Given the nature of this course, attendance is required for the lab sessions and adjustments will only be permitted as required by [Policy 6-100, Section III.O](#). If you need to seek an ADA accommodation to request an exception to this attendance policy due to a disability, please contact the [Center for Disability and Access](#) (CDA). CDA will work with us to determine what, if any, ADA accommodations are reasonable and appropriate.

LATE POLICY

As a general rule, late work will NOT be accepted. It is the student's responsibility to ensure that all work is submitted SUCCESSFULLY in the correct format by the identified due date and time. The student is responsible for contacting faculty prior to an extenuating circumstance or situation, and it is the faculty's discretion to decide if make-up work will be given or points subtracted.

ASSIGNMENTS

Each module should be reviewed prior to the week it is scheduled for prerequisite readings and activities that support the module. Details of each module are provided in the modules section of this course in Canvas.

EVALUATION METHODS & CRITERIA

COURSE SCHEDULE

The following table is a high-level summary of weekly topics (modules) for this course. A synchronous class (or lab) is one that will be led by a faculty member in-class and simultaneously recorded through Zoom. Students are required to attend. If unavoidable circumstances prevent you from attending, notify the instructor and TA as soon as possible so alternate arrangements can be made. The dates and times of synchronous sessions are provided below.

<u>Date</u>	<u>Topic/Discussion</u>	<u>Due Dates</u>
Week 1: Mon Aug 18	Course Introduction and Syllabus/Schedule Review Aug 21 – In Person/Zoom Lab	Discussion Post, Quiz 1
Week 2: Mon Aug 25	U.S Healthcare System, Policy, & Economics	Quiz 2
Week 3: Mon Sep 1	Human Computer Interaction, Workflow and Information Flow	Assignment 1
Week 4: Mon Sep 8	Electronic Medical Record Sept 11 – In Person/Zoom Lab	Lab Activities, Quiz 3
Week 5: Mon Sep 15	Interoperability, Standards, Terminologies, & Biomedical Data	Quiz 4, Assignment 2
Week 6: Mon Sep 22	Data Science, Big Data, Misinformation	Quiz 5
Week 7: Mon Sep 29	Informatics Education and Credentialling	Assignment 3
Week 8: Mon Oct 13	Guidelines, Care Process Models	Quiz 6
Week 9: Mon Oct 20	EMR Part II Oct 23 – In Person/Zoom Lab	Assignment 4, Lab Activities
Week 10: Mon Oct 27	Artificial Intelligence Methods	Quiz 7, Extra Credit
Week 11: Mon Nov 3	Consumer Health Informatics	Quiz 8, Extra Credit
Week 12: Mon Nov 10	Clinical Decision Support Nov 13 – In Person/Zoom Lab	Lab Activities
Week 13: Mon Nov 17	Public Health Informatics	Quiz 9, Final Canvas Page

Week 14:

Mon Nov 24

Ethics

Quiz 10

Nov 27 – No Lab/Thanksgiving Holiday**Week 15:**

Mon Dec 1

Informatics Trends and Emerging Tech

Peer Feedback, Course Eval

Dec 4 – In Person/Zoom Lab

This syllabus is subject to change at the discretion of the instructor(s).

UNIVERSITY POLICIES & RESOURCES**Americans with Disabilities Act (ADA)**

The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities.

All written information in this course can be made available in an alternative format with prior notification to the [Center for Disability & Access](#) (CDA). CDA will work with you and the instructor to make arrangements for accommodations. Prior notice is appreciated. To read the full accommodations policy for the University of Utah, please see Section Q of the [Instruction & Evaluation regulations](#).

In compliance with ADA requirements, some students may need to record course content. Any recordings of course content are for personal use only, should not be shared, and should never be made publicly available. In addition, recordings must be destroyed at the conclusion of the course.

If you will need accommodations in this class, or for more information about what support they provide, contact:

Center for Disability & Access

801-581-5020

disability.utah.edu

Third Floor, Room 350

Student Services Building

201 S 1460 E

Salt Lake City, UT 84112

Safety at the U

The University of Utah values the safety of all campus community members. You will receive important emergency alerts and safety messages regarding campus safety via text message. For more safety information and to view available training resources, including helpful videos, visit safeu.utah.edu.

To report suspicious activity or to request a courtesy escort, contact:

Campus Police & Department of Public Safety

801-585-COPS (801-585-2677)

dps.utah.edu

1735 E. S. Campus Dr.

Salt Lake City, UT 84112

Addressing Sexual Misconduct

Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status, or genetic information.

If you or someone you know has been harassed or assaulted, you are encouraged to report it to university officials:

Title IX Coordinator & Office of Equal Opportunity and Affirmative Action

801-581-8365

oeo.utah.edu

135 Park Building

201 Presidents' Cir.

Salt Lake City, UT 84112

Office of the Dean of Students

801-581-7066

deanofstudents.utah.edu

270 Union Building

200 S. Central Campus Dr.

Salt Lake City, UT 84112

To file a police report, contact:

Campus Police & Department of Public Safety

801-585-COPS (801-585-2677)

dps.utah.edu

1735 E. S. Campus Dr.

Salt Lake City, UT 84112

If you do not feel comfortable reporting to authorities, the U's Victim-Survivor Advocates provide free, confidential, and trauma-informed support services to students, faculty, and staff who have experienced interpersonal violence.

To privately explore options and resources available to you with an advocate, contact:

Center for Campus Wellness

801-581-7776

wellness.utah.edu

350 Student Services Building

201 S. 1460 E.

Salt Lake City, UT 84112

Academic Misconduct

It is expected that students comply with University of Utah policies regarding academic honesty, including but not limited to refraining from cheating, plagiarizing, misrepresenting one's work, and/or inappropriately collaborating. This includes the use of generative artificial intelligence (AI) tools without citation, documentation, or authorization. Students are expected to adhere to the prescribed professional and ethical standards of the profession/discipline for which they are preparing. Any student who engages in academic dishonesty or who violates the professional and ethical standards for their profession/discipline may be subject to academic sanctions as per the University of Utah's

Student Code: [Policy 6-410: Student Academic Performance, Academic Conduct, and Professional and Ethical Conduct](#).

Plagiarism and cheating are serious offenses and may be punished by failure on an individual assignment, and/or failure in the course. Academic misconduct, according to the University of Utah Student Code:

“...Includes, but is not limited to, cheating, misrepresenting one’s work, inappropriately collaborating, plagiarism, and fabrication or falsification of information...It also includes facilitating academic misconduct by intentionally helping or attempting to help another to commit an act of academic misconduct.”

For details on plagiarism and other important course conduct issues, see the U's [Code of Student Rights and Responsibilities](#).

Student Support at the U

Your success at the University of Utah is important to all of us here! If you feel like you need extra support in academics, overcoming personal difficulties, or finding community, the U is here for you. Please refer to the [Student Support Services page for the U](#) for updated information.

Student Wellness

Your personal health and wellness are essential to your success as a student. Personal concerns like stress, anxiety, relationship difficulties, depression, or cross-cultural differences can interfere with a student's ability to succeed and thrive in this course and at the University of Utah. Please feel welcome to reach out to your instructor or TA to handle issues regarding your coursework.

For helpful resources to manage your personal wellness and counseling options, contact:

Counseling Services

801-581-6826

counselingcenter.utah.edu

Student Services Building

201 South 1460 East, Rm 426

Salt Lake City, UT 84112

Center for Student Wellness

801-581-7776

wellness.utah.edu

2100 Eccles Student Life Center

1836 Student Life Way

Salt Lake City, UT 84112

Basic Needs Collective

Success at The University of Utah includes learning about and using available resources. The [Basic Needs Collective](#) (BNC) is a coordinated resource referral hub. They educate about and connect students to campus and community resources to help them meet their basic needs. As a central location for resource referrals related to food, housing, health insurance, managing finances, legal services, mental health, etc., any student experiencing difficulties with basic needs is encouraged to contact them. Drop into their office located in the Union basement, or schedule with them online for an in-person or virtual visit through their webpage: basicneeds.utah.edu.

Title IX Accommodations for Pregnant Students

Pregnant and parenting students are protected through Title IX from discrimination in educational settings. Students may request reasonable modifications through the Title IX Office as a result of pregnancy or pregnancy-related conditions.

For further support, please contact:

Title IX Coordinator & Office of Equal Opportunity and Affirmative Action

801-581-8365

oeo.utah.edu

135 Park Building

201 Presidents' Cir.

Salt Lake City, UT 84112

Drop/Withdrawal Policies

Students may drop a full-term course within the first two weeks of a given semester without financial penalties. Students may officially withdraw (W) from a class or all classes after the drop deadline through the midpoint of a course. A "W" grade is recorded on the transcript and appropriate tuition/fees are assessed. The grade "W" is not used in calculating the student's GPA. For deadlines to withdraw from full-term, first, and second session classes, see the U's [Academic Calendar](#). It is *strongly recommended* you discuss academic implications with your program academic advisor before the drop/withdrawal deadline.