

Syllabus for Online Course: BMI 601 Spring 2021

FUNDAMENTALS OF HEALTH INFORMATICS

3 credits

This syllabus is subject to change with reasonable advance notice. Please consult the syllabus on Canvas regularly.

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Instructor Information

- **Name:** Prof. Marcela Aliste, PhD, MS, ACUE
- **E-Mail:** marcela.alistegomez@asu.edu
- **Office/Room:** Remote
- **Phone Number:** Contact via email
- **Office Hours:** There will not be ASU on-ground office hours as the course is online. There will be Zoom conference calls available upon request.

TA Information

- **Name:** TBD
- **E-Mail:** TBD
- **Office/Room:** Remote
- **Phone Number:** Contact via email
- **Office Hours:** There will not be ASU on-ground office hours as the course is online. There will be Zoom conference calls available

Method of scheduling an appointment outside of office hours: e-mail

Course Description

This course offers an overview of the field of health informatics, with particular emphasis in clinical informatics. It combines perspectives from medicine and computer science for use of computers and information in healthcare and the health sciences. The course covers applications and general methodology in health informatics using current topics in the field.

Learning Outcomes

At the completion of this course, students will be able to:

1. Apply the definition of biomedical informatics and health informatics fields to categorize informatics research/applications/job opportunities

2. Discuss and critique the practical implications that four U.S. policies (HIPAA, HITECH Act, MACRA and Meaningful Use) had on the field of health informatics
3. Apply and critique the use of standards, such as clinical terminologies for the representation and exchange of medical data
4. Solve health information exchange problems and design solutions using clinical terminologies
5. Discuss the main challenges and opportunities for the adoption of Electronic Health Records and Clinical Decision Support Systems
6. Design health informatics plans based on human computer interaction and human factors to assess or resolve practical problems in health care, such as assessing consequences of implementing a new Electronic Health Record
7. Discuss emerging areas in the field of health informatics, including data mining, personalized medicine and mobile/wearable technology

Textbook

Shortliffe EH and Cimino JJ (eds). Biomedical Informatics, Computer Applications in Health Care and Biomedicine, 4rdth Edition, Springer, 2014.

Course Access

Your ASU courses can be accessed by both my.asu.edu and myasucourses.asu.edu

Bookmark both in the event that one site is down

Computer Requirements

This is a fully online course; therefore, it requires a computer with internet access and the following technologies:

Web browsers

- [Chrome](#). Canvas works the best using Google Chrome.
- [Adobe Acrobat Reader](#)
- [Adobe Flash Player](#)
- Webcam, microphone, headset/earbuds, and speaker
- Microsoft Office ([Microsoft 365 is free](#)) for all currently enrolled ASU students.
- Reliable broadband internet connection (DSL or cable) to stream videos.

Note: A smartphone, iPad, Chromebook, etc. will not be sufficient for completing your work in ASU Online courses. While you will be able to access course content with mobile devices, you must use a computer for all assignments, quizzes, and virtual labs.

Help

For Technical Support, use the Help icon in the black global navigation menu in your Canvas course or call the ASU Help Desk at +1 (855) 278-5080.

Representatives are available to assist you 24 hours a day, 7 days a week.

Student Success

To be successful:

- Check the course daily
- Read announcements
- Read and respond to course e-mail messages as needed
- Complete assignments by the due dates specified
- Communicate regularly with your instructor, teaching assistants, and peers
- Create a study and/or assignment schedule to stay on track
- Access [ASU Online Student Resources](#)

Evaluation types

Assessment Type	Numbers of Assignments	Point per Assignment	Total points
Introduction	2	1	2
HIPAA Quiz - Certification	1	5	5
Discussion Board	6	2	12
Papers	7	9	63
Quizzes	6	3	18

Assignment Description:

- ✓ **Introduction:**
 - ✓ Student will be asked to provide in class an introduction, explaining professional goals and course expectations (2 points)
- ✓ **HIPAA Quiz or Certification:**
 - ✓ Student is expected to watch a video on HIPAA and respond a HIPAA quiz, or to provide a non-expired HIPAA certificate (5 points)
- ✓ **Discussion Board:**
 - ✓ Student is expected to read selected or assigned up-to-date publications in the field.
 - ✓ Student will be asked to explain the paper and how it connects to the weekly material.
 - ✓ Student will be asked to provide well-informed answers to the provided questions for discussion.
 - ✓ **The initial post should be completed by Wednesday and the response post by Sunday**
 - ✓ This is a valuable opportunity for the student to interact and discuss with the other course students and the instructor topics of high relevance to the field (3 points)

Papers: (9 points)

- ✓ **Paper 1:** Use health informatics and biomedical informatics definitions to categorize the topic of two scientific articles
- ✓ **Paper 2:** Define HIPAA, HITECH Act, MACRA and Meaningful Use policies and discuss implications in health informatics
- ✓ **Paper 3:** Resolve practical coding exercises, using ICD-10, ICD-9, HCPCS and NDC coding systems
- ✓ **Paper 4:** Create solutions to support data exchange between a HIE and hospitals

- ✓ **Paper 5:** Analyze the lyrics of a song that discusses electronic medical record usability problems
- ✓ **Paper 6:** Apply human factor and human computer interaction methods to assess the implementation of a new EHR
- ✓ **Paper 7:** Review provided recent news/articles that discuss emerging topics on Health Informatics (data mining, personalized health, wearable and mobile health), applying concepts learned in class

▪ **Quizzes (3 points)**

- ✓ Weeks 2 through 7, every week there will be a quiz.

Course Schedule

Schedule of required readings, video views, assignments, exams and midterms with grades:

Week	Module	Assignments	Learning Objectives	Points
1	Introduction to Health Informatics	Review syllabus Complete syllabus quiz Read material View lectures Submit discussion board Submit paper	1	11
2	Healthcare Systems and Clinical Informatics	Read material View lectures Submit discussion board Submit quiz Submit HIPAA quiz or certificate Submit paper	2	19
3	Coding Systems	Read material View lectures Submit discussion board Submit quiz Submit paper	3	14
4	Data interoperability	Read material View lectures Submit discussion board Submit quiz Submit paper	4	14
5	Electronic Health Records and Clinical Decision Support	Read material View lectures Submit discussion board Submit quiz Submit paper	5	14

6	Human Factors and Human Computer Interaction	Read material View lectures Submit discussion board Submit quiz Submit paper	6	14
7	Emergent technology	Read material View lectures Submit discussion board Submit quiz Submit paper	7	14

While every effort is made to keep the course evaluation process consistent with what is in the initial syllabus, it is possible that slight changes may have to be made as the semester progresses. These changes will be communicated thoroughly to the students and although total points may potentially fluctuate, the percentages remain constant, meaning there is no intention of harm to the student's grades.

Any changes to the course evaluation process will be posted on Canvas as part of an announcement. However, it is the student's responsibility to be aware of the points and their grade and be proactive in speaking to the instructor if there are questions or concerns.

Students should not rely on Canvas or other students if they have a question on their grade in class, contact the instructor.

Grading

Your grade will be determined based on the following grading schema:

Grade	Percentage	Points
A	90-100%	90-100
B	80-89.9%	80-89.9
C	70-79.9%	70-79.9
D	60-69.9%	60-69.9
E	Below 60%	59.9 or below

Submitting Assignments

All assignments unless otherwise announced **MUST** be submitted to the designated area of Canvas. Do not submit an assignment via email.

Assignment due dates follow Arizona Standard time. Click the following link to access the [Time Converter \(Links to an external site.\)](#) to ensure you account for the difference in Time Zones.

Note: Arizona does not observe Daylight Savings Time.

Grading Procedure

- Grades reflect your performance on assignments and adherence to deadlines.
- Grades on assignments will be available within 3-5 days of the due date in the Grade Book.

Late or Missed Assignments

Notify the instructor **BEFORE** an assignment is due if an urgent situation arises and you are unable to submit the assignment on time.

Follow the appropriate University policies to request an [accommodation for religious practices](#) or to accommodate a missed assignment [due to University sanctioned activities](#).

Assignments submitted within 24 hours AFTER deadline will receive a half grade penalty, Assignments submitted after 24 hours will be considered missed assignments and will receive 0 points.

Communicating with the Instructor and TA: via email

Email

ASU e-mail is an official means of communication among students, faculty, and staff. Students are expected to read and act upon e-mail in a timely fashion. Students bear the responsibility of missed messages and should check their ASU assigned e-mail regularly.

All instructor correspondence will be sent to your ASU e-mail account.

ASU Online Course Policies

View the [ASU Online Course Policies](#)

Academic Integrity

<https://provost.asu.edu/academic-integrity/policy>

Syllabus Disclaimer

The Syllabus is a statement of intent and serves as an implicit agreement between the instructor and the student. Every effort will be made to avoid changing the course schedule but the possibility exists that unforeseen events will make syllabus changes necessary.

Remember to check your ASU e-mail and the course site often.