

1. Overview of Fields and Motivating Problems

10x10 – Introduction to Biomedical Informatics & Artificial Intelligence
William Hersh, MD, FACMI, FAMIA, FIAHSI
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Welcome to 10x10

William Hersh, MD, FACMI, FAMIA, FIAHSI,
FACP

Course Director

Professor, Biomedical Informatics

Oregon Health & Science University

Portland, OR, USA

[Email](#)

[Web](#)

[LinkedIn](#)



This segment of lecture

Origins of 10x10

Overview of course

Overview of Unit 1

Origins of 10x10

Dr. Charles Safran, former AMIA Chairman, advocated training one physician and one nurse from each of America's 6000 hospitals in informatics (Safran, 2005)

10x10 aimed to train 10,000 individuals in informatics by the year 2010

- Initial offering successful and well-received (Hersh, 2007)

Program continued beyond 2010 based on continuing interest and need in US and abroad

- Over 3400 have completed this offering since 2005

Also translated into Spanish and delivered to >1000 across Latin America (Otero, 2010)

1.1 - Microsoft Internet Explorer

Campus Virtual

Dra. Paula Otero
Medica

Outline Thumbnail Search

1.1.1 Informática médica como disciplina
2. Visión de la informática
3. Perspectiva histórica sobre la informát
4. ¿Que es la informática (bio) médica?
5. Tipología y topología de la informát
6. La informática tiene un problema de
7. Tiene un "Sistema fundamental"
8. Características de la informática biom
9. ¿Es la informática biomédica una po
10. ¿Es la informática biomédica una pr
11. ¿Es la IM una disciplina única?
12. Certificación en informática
13. Obo punto para la certificación
14. Aplicaciones de la informática biom
15. ¿Es informática ciencias de la comp
16. ¿Que sabemos de la práctica en info
17. Se sabe muy poco sobre la práctica
18. Habilidades deseadas en los gradu
19. Perspectiva de la actividad en Internet

Visión de la informática

- Es la intersección de lo que las personas hacen con la información y tecnologías para su mejor utilización (Kukafka, 2001)
- Es mas (y menos) que las ciencias de la computación
- Requiere una fuerte comprensión del dominio subyacente, como la medicina

Personas

Información

Tecnología

Informática

AMIA 10x10
10,000 trained by 2010

1.1

OHSU

HOSPITAL ITALIANO

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Libro

Intranet local

More details about course

Overview

Syllabus

On-line teaching modalities

Expectations

Overview

On-line portion

- 10 units, each utilizing teaching modalities described in next several slides
- Asynchronous but not self-paced
 - You must keep up with the work
 - A significant part of learning is interacting with your fellow students
- Expected time commitment: 4-8 hours per unit

In-person session – optional

- Bringing it all together
- Interaction and socialization with your colleagues
- Choice of which to attend within one year of course

Syllabus

Unit	Topic
1	Overview of Fields and Motivating Problems
2	Computing Concepts for Biomedical Informatics and Artificial Intelligence
3	Electronic and Personal Health Records (EHR, PHR)
4	Standards and Interoperability
5	Artificial Intelligence
6	Advanced Use of the EHR
7	EHR Implementation, Security, and Evaluation
8	Information Retrieval (Search)
9	Research Informatics
10	Other Areas of Informatics

On-line teaching modalities

Lectures

- Voice over Powerpoint
- Broken down into 5-8 segments of 20-30 minutes duration
- Served via Vimeo, allowing viewing on computer and mobile devices
- Also provide PDF files of slides and references cited for personal use – please do not redistribute

Discussion – the on-line interactive classroom

- Instructor posts 2-3 questions per unit to start
- Students encouraged to post additional questions about course materials, unit topic, or larger issues

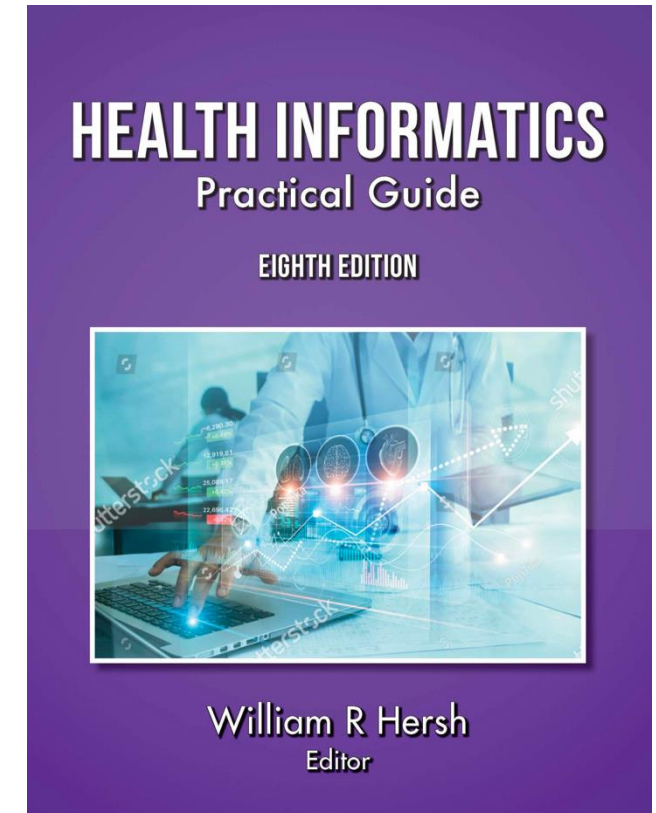
Teaching modalities (cont.)

Homework

- Multiple-choice quizzes that aim to apply material
- Please wait until after due date to pose questions about homework

Readings

- Optional readings from textbook (Hersh, 2022)
 - Chapters for each unit listed in syllabus
 - [Web site](#)



Discussion forum etiquette

Think of it as a classroom: Speak up, do not feel intimidated, and everyone has something to say

I will “seed” discussion with 2-3 questions but you are encouraged to start your own, including asking questions about things you do not understand (rather than emailing me, at least initially)

Observe simple etiquette

- Messages should be neither too short nor too long
- Be constructive and respectful
- Reply to messages in their respective threads
- Do not copy and paste from Web sites or generative AI output; use your own words and provide a link if desired
- Do not discuss quiz questions until one week after due date

Expectations of students

Complete lectures

- Course focus is on content in lectures but optional readings provide additional perspective

Participate in discussion

- Observe proper etiquette, but do not be afraid to speak up
- Ask questions about anything unclear in lectures or reading materials
- Challenge the instructor!

Complete all assignments by due dates

- You can occasionally be late but do not fall too far behind

Expectations for instructor

Create an environment of learning and objective inquiry

- Focus on frameworks and applications ideally evaluated in systematic reviews or exemplar studies – whether positive or negative results

Maintain high availability

- I am here to serve you; you are not wasting my time
- Best method of initial contact is email
 - williamhersh@gmail.com
 - Please indicate which course you are in
- Can talk by video or phone as needed

Expectations for instructor (cont.)

Lectures

- Quality is very good but not perfect
- I am not a talking head
- I try to convey my view of informatics, getting into the details but never losing the big picture
- One of my best compliments ever
 - “I like that Dr. Hersh pauses and makes mistakes and corrects himself ... It shows he is thinking about what he is saying instead of reading off a paper.”

Discussion

- I will read (and reply if appropriate) to all postings

Unit 1 Topics

1. Definitions and Historical Perspectives of Biomedical and Health Informatics (BMHI)
2. Definitions and Historical Perspectives of Artificial Intelligence (AI)
3. Problems in Healthcare Motivating BMHI and AI
4. Who Does BMHI and AI?
5. Resources for Fields: Organizations, Information, Education