Principles of Public Health Informatics I  
Course Syllabus  
Fall 2007

“The machine does not isolate man from the great problems of nature but plunges him more deeply into them”
Antione de Saint–Exupery

Course Organizer: William E. Morse, J.D.  
Chief Information Officer & Director, IT Services  
Oglethorpe University

Office Hours: By Appointment  
Voice: 404/364-8535  
Fax: 404/364-8866  
Email: wmorse@sph.emory.edu

Course Schedule: Tuesdays, 4:00 -6:00 PM  
Location: TBA

Course Description: The purpose of this course is to provide students with a basic understanding of “Informatics” and its application in a Public Health setting. The goal of Public Health Informatics I is for students to understand the basic technological tools and building blocks needed to develop and manage Public Health data collection systems to meet analytical needs. Public Health Informatics II (taught in the Spring) will show students how to take these systems and implement them successfully in Public Health environments.

Course Objectives: At the end of this course, students will be able to:

- Discuss informatics as used in Public Health
- Describe the historical roots of today's Information Technology systems
- Identify and demonstrate the various tools used in Information Technology
- Coordinate and collect those tools into systems, and have the ability to describe how those tools can be used in systems
- Investigate solutions in Information Technology by using web and other research tools
- Analyze current healthcare information systems
- Develop a working vocabulary of Information Technology terminology
- Demonstrate a working knowledge of the systems development life cycle

Assignments/Grading Evaluation:

Reading Report (10% of grade)
Students will be asked to write a brief summary limited to no more than two pages on the book The Age of Spiritual Machines and how the concepts in the book could be relevant in the future of Public Health systems.

Web Site Participation (40% of grade)
A class web site will be developed and students will be expected to check this site every week. The site will give students access to the course syllabus, announcements, a discussion board and project information. STUDENTS ARE EXPECTED TO SIGN ONTO THE EMORY BLACKBOARD SYSTEM AT LEAST TWICE A WEEK AND ACTIVELY PARTICIPATE IN THE FOLLOWING WAYS:

1. Students will pick a newspaper or other periodical and follow the technology trends during the semester (e.g., AJC, NYT, Computer Currents, InfoWeek etc.).
Four times during the semester, each student is expected to make a posting to the class discussion board about their readings. Students are expected to read each others’ postings and make comments as appropriate.

2. Each course unit will have a “Question(s) of the Unit” posted on the class discussion board. These questions are designed to make the students think about the course material. Students are expected to post a response to at least 5 of the questions.

3. Part of understanding informatics relies on a solid vocabulary of the information systems field. A running vocabulary list will be kept on the class web site. When students run across a new term, they are asked to add the work and definition to the vocabulary list. [In order to clarify terms, the instructor may modify the definitions at his own discretion and other students are also encouraged to comment.]

Final Examination (40% of grade)
The final examination will be an open book, four - part essay covering informatics tools and the student’s written explanation of their mastery of using them in systems.

Professional Expectations (10% of grade)
Students are expected to be in class, complete course readings and participate in discussions.

Course Readings:


Online Resources:
www.phii.org

Grading Scale:
In accordance with the Rollins School of Public Health grading system, the following grade scale will be used: A, A-, B+, B, B-, C and F.

*ALL ASSIGNMENTS ARE DUE AT THE BEGINNING OF CLASS ON THE DAY INDICATED. THE INSTRUCTOR MUST BE NOTIFIED PRIOR TO CLASS IF THE STUDENT WOULD LIKE AN EXTENSION. FAILURE TO NOTIFY THE INSTRUCTOR MAY AFFECT THE STUDENT’S GRADE.*
Class Schedule:
This schedule represents a general plan for the course. Deviations may be necessary.

Unit I (2 Weeks)
Introduction to Public Health Informatics

Topics Covered
- Overview of the course
- Definition of Informatics
- (Importance of) Other terminology
- Overriding themes
- History of Information Technology Systems
- Data vs. Information
- Components of an Information System
- Golden Rules for success in Information Systems

Readings and Assignments (Skip all readings regarding E-Commerce)
- General Readings
  Stair & Reynolds: (preface) pp. xxi – xxiii, Overview: An Introduction to Information Systems pp. 2-38
- Question of the Unit

Sept. 4, 2007 – Unit I, Week 1
Topic: Impact of Informatics on the US Public Health System
Lecturer: David Ross, Sc.D., Director, Public Health Informatics Institute
Reading for next week:

Sept. 11, 2007 – Unit I, Week 2
Topic: What is Informatics?
Lecturer: William Morse, JD, CIO & Director, IT Services, Oglethorpe University
Start Reading:

Unit II (2 weeks)
Information Technology Tools

Topics Covered
- Hardware vs. Software Systems
- Introduction and Management of Databases
- Research Software
- Relationship between Telecommunications and Network Systems
Readings and Assignments (Skip all readings regarding E-Commerce)

• General Readings
  Stair & Reynolds: Hardware pp. 88-137, Software Systems pp. 140-188
  Organizing Data and Information pp. 192-238, Telecommunications
  and Networks pp. 241-292
• Question of the Unit

Sept. 18, 2007 – Unit II, Week 1
Topic: Network Considerations for Public Health Information Systems
Lecturer: William Morse, JD, CIO & Director, IT Services, Oglethorpe University
Readings: The Age of Spiritual Machines

Sept. 25, 2007 – Unit II, Week 2
Topic: Database Design
Lecturer: William Morse, JD, CIO & Director, IT Services, Oglethorpe University
Reading: The Age of Spiritual Machines

Unit III (1 week)
Internet and World Wide Web

Topics Covered
• Internet
• World Wide Web

Readings and Assignments (Skip all readings regarding E-Commerce)
• General Readings
  Stair & Reynolds: The Internet, Intranets and Extranets pp. 295-340
• Question of the Unit

Oct. 2, 2007
Topic: Multimedia & Web
Lecturers: Eric Huret, Manager of Internet Services, Oglethorpe University

Unit IV (1 week)
Tools of the Future

Topics Covered
• Future Forecasting
• Discussion of periodical readings
• Discussion of the book The Age of Spiritual Machines

Readings and Assignments
• The Age of Spiritual Machines

Assignment due Oct. 16, after break:
Book Report, The Age of Spiritual Machines
Oct. 9, 2007
Fall Break – No Class

Oct. 16, 2007
Topic: Future Needs for PHI
Lecturer: Gordon Shippy
Topic: Discussion of the book The Age of Spiritual Machines
Leader: William Morse, CIO & Director, IT Services, Oglethorpe University

Unit V (1 week)
Information Technology Systems Development and Implementation

Topics Covered
- Systems Development
- Systems Investigation
- Design Implementation

Readings and Assignments (Skip all readings regarding E-Commerce)
- General Readings
  Stair & Reynolds: Systems Investigation and Analysis pp. 554-608,
  Systems Design pp. 611-662
- Question of the Unit

Oct. 23, 2007
Topic: Words of Wisdom on Information System Implementation
Lecturer: David Ross, Sc.D., Director, Public Health Informatics Institute
Reading: Review content of www.phii.org

Unit VI (2 weeks)

Information Technology Systems

Topics Covered
- Management Systems
- Decision Support Systems
- Artificial Intelligence and Expert Systems
- Public Health Surveillance Systems

Readings and Assignments (Skip all readings regarding E-Commerce)
- General Readings
  Stair & Reynolds: Information and Decision Support Systems pp. 452–504
  Specialized Business Information Systems pp. 507-547
- Question of the Unit

Oct. 30, 2007 – Unit VI, Week 1
Topic: Knowledge Management in Public Health
Lecturer: Janise Richards, Ph.D., CDC, National Center for Public Health Informatics
Nov. 6, 2007 – Unit VI, Week 2
Topic: Management in Informatics
Lecturer: William Morse, JD, CIO & Director, IT Services, Oglethorpe University

Unit VII (2 weeks)
Security Privacy and Confidentiality

Topics Covered
• Why are S/P/C Important
• How do you ensure S/P/C
• Discussion of The Cuckoo's Egg

Readings and Assignments (Skip all readings regarding E-Commerce)
• General Readings
  Stair & Reynolds: Security pp.669-719
• Question of the Unit

Nov. 13, 2007 – Unit VII, Week 1
Topic: Privacy and Confidentiality
Lecturer: Gail Horlick, MSW, JD Senior Legal Analyst, Office of Scientific Regulatory Services, Office of the Chief Science Officer

Nov. 20, 2007 – Unit VII, Week 2
Topic: Project Management
Lecturer: Marc Overcash, Deputy CIO, Rsch & Hlth Sciences, Office of IT

Nov. 27, 2007 – Unit VII, Week 3
Topic: System Security
Lecturer: William Morse, JD, CIO & Director, Oglethorpe University
Reading: The Cuckoo’s Egg

Unit VIII (2 weeks)
PHI Implemented

Topics Covered
• Systems Deployment
• Systems Results
• Design Implementation

Readings and Assignments
• Question of the Unit

Dec. 4, 2007 – Unit VIII, Week 1
Topic: PHI in the Developing World
Lecturer: Nabil Issa, CDC, National Center for Environmental Health
Dec. 11, 2007 – Unit VIII, Week 2
Topic: *Synthesis of Topics Covered to Date*
Lecturer: William Morse, JD, CIO & Director, Oglethorpe University

Dec. 18, 2007
Final Exam Due