American Public University System

The Ultimate Advantage is an Educated Mind

School of Health Sciences
HIMA410
Informatics and Analytics
Credit Hours: 3
Length of Course: 8 weeks
Prerequisites: None

Course Description (Catalog)

This course offers an overview of the field of health informatics and analytics by providing students with the fundamental knowledge of the concepts of health informatics applications as they relate to the collection, storage, retrieval, communication and optimal use of health related data and how technology can be used in the delivery of health care. The basic principles of health informatics and analytics that govern communication systems, clinical decisions, information retrieval, telemedicine, bioinformatics and evidence based medicine will be explored.

Course Scope

The scope of this course will be to connect the use of clinical information and technology, with statistics and use of data for decision-making. The course will capture the concepts of mobile technologies and importance of identifying end user needs for data utilization.

Course Learning Objectives

After successfully completing this course, candidates will be able to:
1. Analyze healthcare statistical data for decision making
2. Interpret inferential statistics
3. Utilize technology for data collection, storage, analysis and reporting of information

4. Assess systems capabilities to meet regulatory requirement for electronic signature, audit logs and data corrections
5. Evaluate systems architecture, database design and data warehousing
6. Create the electronic structure of health data to meet a variety of end user needs

Course Delivery Method

This course delivered via distance learning will enable students to complete academic work in a flexible manner, completely online. Course materials and access to an online learning management system will be made available to each student. Online assignments are due weekly as noted on the course outline and can include Discussion questions and written assignments. Assigned faculty will support the students throughout this eight-week course.

Course Materials

Required Course Textbook:
Nelson, R., Staggers, N. Health Informatics: An Interprofessional Approach. 2nd Edition. Elseiver.

[EHRGo Practice EHR Software](#)

Required Textbook for the degree program:
Candidates are expected to adhere to APA style throughout the program. The *Publication manual of the American Psychological Association (*Currently 7th ed.) should be purchased and used in all courses.

Web Sites
In addition to the required course texts, the following public domain web sites are useful. Please abide by the university's academic honesty policy when using Internet sources as well. Note web site addresses are subject to change.

Discussion

Please join the discussions each week. Replies must be posted in the week due and replies after the end of the each week will not be graded. The Discussions are for student interaction and input should be submitted before the week ends in order to fully participate in the discussions. Students should demonstrate their own knowledge in the discussions and avoid copying and pasting from websites.

Guidelines:

- Post the initial response to each discussion by 11:59pm, ET, Wednesday.
- Initial responses are to be original in content and demonstrate a thorough analysis of the topic.
- Reply to **at least 2 of your classmates** in each discussion by 11:59pm, ET, Sunday.
- Responses to classmates are significant to advance the discussion.
- All discussions can be accessed in the Discussions section of the course.

Grading Scale

Grade	Quality Points/ Grading Percent	Description
A	4.0/ 100 - 94	All: Very high quality, clearly above average work
A-	3.67/ 93 - 90	
B+	3.33/ 89 - 87	
B	3.0/ 86 - 84	Undergrad: Above average | Graduate: Expected performance level
B-	2.67/ 83 - 80	
C+	2.33/ 79 - 77	
C	2.0/ 76 - 73	
C-	1.67/ 72 - 70	Undergrad: Below Average | Graduate: Failing
D+	1.33/ 69 - 67	Undergrad: Unsatisfactory | Graduate: Failing
D	1.0/ 66 - 64	Undergrad: Unsatisfactory | Graduate: Failing
D-	.67/ 63 - 60	Undergrad: Unsatisfactory | Graduate: Failing
F	0.0/ 59 - 0	Undergrad: Failing | Graduate: Failing

Course Grading Outline

Grading Instrument	Percentage of Final Grade
Discussion	25
Quizzes	25
Assignments	25
Comprehensive Final Examination	25
TOTAL	**100%**

Course Outline

Lesson	Topic	Course Objective(s)	Reading(s)	Assignment(s)	Discussion(s)
1	Introduction to Informatics and Statistics	1	Chapter 1 Chapter 2 Oachs Chapter 16	Reading Discussion	W1.1 Introductions W1.2 Using Statistics
Lesson	Topic	Course Objective(s)	Reading(s)	Assignment(s)	Discussion(s)
2	Integration	3	Chapter 5 Chapter 27	Reading Discussion Quiz 1 Week 2- Assignment: Integrationand System Functions**	W.2.1 Data Integration
Lesson	Topic	Course Objective(s)	Reading(s)	Assignment(s)	Discussion(s)
3	Data Architecture	5	Chapter 5	Reading Discussion Week 3: Orientation to Data Analytics**	W3.1 Role of Data Architects
Lesson	Topic	Course Objective(s)	Reading(s)	Assignment(s)	Discussion(s)
4	DatabaseDesign	5	Chapter 6	Reading Discussion Assignment: Week 4: Data Model	W4.1 Database Design
Lesson	Topic	Course Objective(s)	Reading(s)	Assignment(s)	Discussion(s)

Lesson	Topic	Course Objective(s)	Reading(s)	Assignment(s)	Discussion(s)
5	System Users	6	Chapter 7 Oachs Chapter 16	Reading Discussion Week 5 Assignment: EHRGo - Applied Data Analytics II**	W5.1 Data Sampling
Lesson	Topic	Course Objective(s)	Reading(s)	Assignment(s)	Discussion(s)
6	Electronic Processes	4, 6	Chapter 6 Chapter 10 Chapter 11	Reading Discussion Quiz 2 Week 6 Assignment: Applied Data Analytics III Data Visualization**	W6.1 Dirty Data
Lesson	Topic	Course Objective(s)	Reading(s)	Assignment(s)	Discussion(s)
7	Data Sharing	1, 2	Chapter 23 Chapter 24 Chapter 26 Oachs Chapter 16	Reading Discussion Week 7: Presenting Results**	W7.1 Big Data Privacy
Lesson	Topic	Course Objective(s)	Reading(s)	Assignment(s)	Discussion(s)
8	Analytics and Reporting	1, 2, 3	Chapter 35 Chapter 36	Reading Discussion Week 8 Assignment: Clinical Reminder Visualization** Final Exam	W8.1 Workforce Analytics

Policies

Please see the Student Handbook to reference all University policies. Quick links to frequently asked question about policies are listed below.
Drop/Withdrawal
Plagiarism Policy
Policy
Extension Process and Policy
Disability Accommodations

Academic Writing Requirements:
The School of Health Sciences requires use of APA format and style and all students are encouraged to have a current copy of the APA Publication Manual. All written assignments must be submitted in APA format style unless otherwise noted in the assignment directions.

Health Information Management Program Policies

Assignment and Coursework Grading Policy

Students are expected to submit classroom assignments by the posted due date and to complete the course according to the published class schedule. Failure to submit coursework by the designated due date will result in a ten percent (10%) penalty per day until three (3) days after the coursework is due. Therefore, after three (3) days, the maximum grade the student can achieve with a late submission will be a grade of 70%(C-). If a student is ill, has a family crisis, or will miss scheduled coursework deadlines for any reason, the student shall notify the instructor in advance if at all possible. Assignments will NOT be accepted more than seven (7) days after the due date unless prior arrangements have been made in advance of the due date. Please refer to the student handbook for additional information. Student Handbook

Use of Online Sources such as Course Hero

Use of Online Sources such as Course Hero In addition to the university's plagiarism policy, students who are found to have submitted materials plagiarized from any online source, such as Course Hero, will be reported to the university and may fail the course and/or be expelled APUS. Use of said materials is academic dishonesty and will not be tolerated.

Self-Plagiarism

Each course in the program has unique course learning objectives designed to build professional knowledge and skills. To accomplish these learning objectives, all work submitted for a course must be original and cannot be a resubmission of one's own previous work. When repeating a course, students must submit newly created work as well.

Netiquette

Online universities promote the advancement of knowledge through positive and constructive debate – both inside and outside the classroom. Discussions on the Internet, however, can occasionally degenerate into needless insults and "flaming."
Such activity and the loss of good manners are not acceptable in a university setting – basic academic rules of good behavior and proper "Netiquette" must persist. Remember that you are in a place for the rewards and excitement of learning which does not include descent to personal attacks or student attempts to stifle the Discussion of others.

- **Technology Limitations:** While you should feel free to explore the full-range of creative composition in your formal papers, keep e-mail layouts simple. The classroom may not fully support MIME or HTML encoded messages, which means that bold face, italics, underlining, and a variety of color-coding or other visual effects will not translate in your e-mail messages.
- **Humor Note:** Despite the best of intentions, jokes and especially satire can easily get lost or taken seriously. If you feel the need for humor, you may wish to add "emoticons" to help alert your readers: ;-), :), J

Online Library

The Online Library is available to enrolled students and faculty from inside the electronic campus. This is your starting point for access to online books, subscription periodicals, and Web resources that are designed to support your classes and generally not available through search engines on the open Web. In addition, the Online Library provides access to special learning resources, which the University has contracted to assist with your studies. Questions can be directed to **librarian@apus.edu**.

- ***Charles Town Library and Inter Library Loan:*** The University maintains a special library with a limited number of supporting volumes, collection of our professors' publication, and services to search and borrow research books and articles from other libraries.
- ***Electronic Books:*** You can use the online library to uncover and download over 50,000 titles, which have been scanned and made available in electronic format.
- ***Electronic Journals:*** The University provides access to over 12,000 journals, which are available in electronic form and only through limited subscription services.
- ***Tutor.com***: AMU and APU Civilian & Coast Guard students are eligible for 10 free hours of tutoring provided by APUS. Tutor.com connects you with a professional tutor online 24/7 to provide help with assignments, studying, test prep, resume writing, and more. Tutor.com is tutoring the way it was meant to be. You get expert tutoring whenever you need help, and you work one-to-one with your tutor in your online classroom on your specific problem until it is done.

Library Guide for your course is located
This guide provides pointers for getting started with your research. It includes links to key library subscription resources, including article databases, journals, and books, as well as open web content. If you would like additional help with your research projects, or with learning how to use library resources, don't hesitate to contact the library.

If a guide you need is not available yet, please email the APUS Library: librarian@apus.edu.

2018 AHIMA Entry-Level Competencies Health Information Management Baccalaureate Degree

Domain I. Data Structure, Content, and Information Governance

Competency

I.2. Analyze strategies for the management of information.

I.5 Utilize classification systems, clinical vocabularies, and nomenclatures.

I.6. Evaluate data dictionaries & data sets for compliance with government standards

Domain III. Informatics, Analytics, and Data Use

Competency

III.1. Examine health informatics concepts for the management of health information.

III.2. Analyze technologies for health information management.

III.3. Interpret statistics for health services.

III.6. Manage data within a database management system.

III.7. Identify standards for exchange of health information.

Domain VI. Organizational Management & Leadership

Competency

VI.4. Leverage data-driven performance improvement techniques for decision making.