Request for Graduate Addition, Deletion, or Change of a Certificate

1. Prepare one paper copy with all signatures and supporting material and forward to the Graduate Council Chair.
2. E-mail one identical PDF copy to the Graduate Council Chair. If attachments included, please merge into a single file.
3. **The Graduate Council cannot process this application until it has received both the PDF copy and the signed hard copy.**
NOTE: If proposing a new certificate, please read this first: www.marshall.edu/graduate/graduatecouncil/certificatespolicy/certificatepolicy.pdf

College: Health Professions   Dept/Division: Health Informatics

Contact Person: Girmay Berhie   Phone: 304 696 2718

Name of Certificate   Nursing Informatics

Check action requested: ☒ Addition   ☐ Deletion   ☐ Change

Effective Term/Year   Fall 2018 ☐   Spring 20 ☐   Summer 20 ☐

Information on the following pages must be completed before signatures are obtained.

Signatures: if disapproved at any level, do not sign. Return to previous signer with recommendation attached.

Dept. Chair/Division Head _Girmay Berhie_	Date 10/30/2017
College Curriculum Chair _[signature]_	Date 10/31/17
College Dean _[signature]_	Date 10/31/17
Graduate Council Chair _____	Date _____
Provost/VP Academic Affairs _____	Date _____
Presidential Approval _____	Date _____

Form updated 10/2011

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College: Health Professions

Dept/Division: Health Informatics

Contact Person: Girmay Berhie

Phone: 304 696 2718

Name of Certificate Nursing Informatics

Check action requested: ☒ Addition   ☐ Deletion   ☐ Change

Effective Term/Year   Fall 2018 ☐   Spring 20 ☐   Summer 20 ☐

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Dept. Chair/Division Head _____	Date _____
College Curriculum Chair _____	Date _____
College Dean _____	Date _____
Graduate Council Chair _____	Date _____
Provost/VP Academic Affairs _____	Date _____
Presidential Approval _____	Date _____

Form updated 10/2011

Please provide a rationale for addition, deletion, change:

The discipline of nursing informatics is a well-established specialty within Health Informatics which has grown past the point where nurses simply help IT choose equipment. Now this role is an integral part of healthcare delivery and a differentiating factor in the selection, implementation, and evaluation of health IT that supports safe, high quality, patient-centric care. By offering a Nursing Informatics degree, Marshall will be able to provide continuing education for working nurses enabling them to keep up with the recent adoption of information technology into the healthcare delivery system mandated by the Affordable Care Act.

Please describe any changes in curriculum:
List course number, title, credit hours. Note whether each course is required or optional. Enter NONE if no change.

All courses required:
HP 605 - Role of EHR & PHR (3 Credit Hours)
HP 615 - Health Quality & Safety (3 Credit Hours)
HP 620 - Legal Ethics for Health Care (3 Credit Hours)
HP 630 - Research Methods and Data Analytics for Health Informatics (3 Credit Hours)
IS 535 - Applied Healthcare Databases/Tools (3 Credit Hours)
HP 650 - Practicum 200 hours Nursing Informatics (3 Credit Hours)

1. ADDITIONAL RESOURCE REQUIREMENTS: If your program requires additional faculty, equipment or specialized materials to ADD or CHANGE this certificate, attach an estimate of the time and money required to secure these items.
NOTE: Approval of this form does not imply approval for additional resources. Enter NONE if not applicable.

In order to teach the new course on Database Management, the Health Informatics department needs to acquire one faculty member with a 9-month salary in the range of 50,000 to 70,000. This position will also be requested for other Health Informatics department responsibilities aside from this certificate. The responsibilities will include being a Health Informatics Practicum Coordinator, Health Informatics program promotion, student advising and recruitment, and other administrative responsibilities.

2. NON-DUPLICATION: If a question of possible duplication occurs, attach a copy of the correspondence sent to the appropriate department(s) describing the request and any response received from them. Enter NONE if not applicable.

NONE

For catalog changes as a result of the above actions, please fill in the following pages.

3. *Current* **Catalog Description**

Insert the *Current* Catalog Description and page number from the latest catalog for entries you would like to change. May attach separate page if needed)

NONE

4. *Edits* **to the Current Description**

Attach a PDF copy of the current catalog description prepared in MS WORD with strikethroughs to mark proposed deletions and use the highlight function to indicate proposed new text.

5. *New* **Catalog Description**

Insert a 'clean' copy of your proposed description, i.e., no strikethroughs or highlighting included. This should be what you are proposing for the new description. (May attach separate page if needed).

Attached

Please insert in the text box below your change summary information for the Graduate Council agenda. Please enter the information exactly in this way (including headings):

Department:
Name of Certificate:
Credit Hours:
Type of Change: *(addition, deletion, change)*
Rationale:

Department: Health Informatics
Name of Certificate: Nursing Informatics
Credit Hours: 18 Credit Hours
Type of Change: Addition
Rationale: The discipline of nursing informatics is a well-established specialty within Health Informatics which has grown past the point where nurses simply help IT choose equipment. Now this role is an integral part of healthcare delivery and a differentiating factor in the selection, implementation, and evaluation of health IT that supports safe, high quality, patient-centric care. By offering a Nursing Informatics degree, Marshall will be able to provide continuing education for working nurses enabling them to keep up with the recent adoption of information technology into the healthcare delivery system mandated by the Affordable Care Act.

Graduate Certificate Program in Nursing Informatics

According to the American Nurse Association (ANA), nursing informatics is a specialty that integrates nursing science, computer science, and information science to manage and communicate data, information, knowledge, and wisdom in the nursing practice. The ultimate goal of Nursing Informatics is to improve patient health through information technology. Nursing Informatics strives to (1) enhance the productivity of nurses by utilizing information technology, (2) facilitate innovative solutions in healthcare, and (3) reduce costs through evidence-based decisions obtained from clinical data.

The Marshall University Nursing Informatics certificate is designed to enable nurses to evaluate and design new or modified information solutions, analyze data in order to improve nursing workflow and reduce errors, act as a liaison between nurses and technical engineers, develop strategies and policies involving information technology in nursing, and understand how information technology is used to ensure patient security and confidentiality.

Nursing informatics is for individuals that have passion for nursing and can see information technology as a tool to achieve improvement in the healthcare arena. The certificate is designed to complement existing nursing degrees and to suit the needs of students and professionals who want to specialize in the fast-expanding field of nursing information. Students who should apply for the certificate program would be individuals with a bachelor's in nursing.

n the HIMSS 2014 Nursing Informatics Workforce Survey, conducted by the Healthcare Information and Management Systems Society, the median salary reported for Nurse Informaticist was $93,000. The average salary reported was $100,717. Health informatics is a rapidly expanding career field. According to the American Medical Informatics Association (AMIA), around 70,000 specialists in this field will be needed within the next few years - including nursing Informaticist.

Admission Requirements

Applicants should follow the admissions process described in the Graduate Catalog, or at the Graduate Admissions website. (Submit all materials to the Graduate Admissions Office.) Students must meet the following admission requirements:

*   Each student must hold a BSN degree from a program accredited by ACEN, CCNE, or equivalent accrediting body.

*   Cumulative grade point average of 3.0 on a 4.0 scale for all undergraduate course work.

*   Undergraduate coursework must include 3 semester credit hours of basic statistics and 3 semester credit hours of basic research with a grade of "C" or better.

If a student plans to sit for the ANCC-informatics Nursing Credentialing, they must also:

*   Hold a current, active RN license in a state or territory of the United States or hold the professional, legally recognized equivalent in another country.

*   Have practiced the equivalent of 2 years full-time as a registered nurse immediately prior to application.

Program Requirements: .... 18 Credit Hours

Students must take the following courses:

HP 605 - Role of EHR & PHR (3 Credit Hours)

HP 615 - Health Quality & Safety (3 Credit Hours)

HP 620 - Legal Ethics for Health Care (3 Credit Hours)

HP 630 - Research Methods and Data Analytics for Health Informatics (3 Credit Hours)

IS 535 - Applied Healthcare Databases/Tools (3 Credit Hours)

HP 650 - Practicum 200 hours Nursing Informatics (3 Credit Hours)

Courses in the certificate can be also applied to a Masters in Health Informatics.

Request for Graduate Course Addition

1. Prepare one paper copy with all signatures and supporting material and forward to the Graduate Council Chair.
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College: Health Professions   Dept/Division: Health Informatics   Alpha Designator/Number: IS 535   ● Graded   ○ CR/NC

Contact Person: Girmay Berhie   Phone: 304 696 2718

NEW COURSE DATA:

New Course Title: Applied Healthcare Databases/Tools

Alpha Designator/Number: | I | S | 5 | 3 | 5 | | | | |

Title Abbreviation: | A | p | p | l | i | e | d | | H | e | a | l | t | h | c | a | r | e | D | a | t | a | b | a | s |

(Limit of 25 characters and spaces)

Course Catalog Description: (Limit of 30 words)
To understand the logical and physical design of data stored and retrieved from relational databases, how it applies to healthcare, and how HIM professionals can effectively communicate business requirements.

Co-requisite(s): None   First Term to be Offered: Fall 2018

Prerequisite(s): Graduate Status   Credit Hours: 3

Course(s) being deleted in place of this addition (*must submit course deletion form*):   N/A

Signatures: if disapproved at any level, do not sign. Return to previous signer with recommendation attached.

Dept. Chair/Division Head _Girmay Berhie_	Date	10/30/2017
Registrar _Sonja Cm_ 110481	Date	11/1/17
College Curriculum Chair _(signature)_	Date	10/31/17
Graduate Council Chair _____	Date	_____

Form updated 10/2011   Page 1 of 5

Request for Graduate Course Addition

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College: Health Professions   Dept/Division: Health Informatics   Alpha Designator/Number: IS 535   ◉ Graded   ◯ CR/NC

Contact Person: Girmay Berhie   Phone: 304 696 2718

NEW COURSE DATA:

New Course Title: Applied Healthcare Databases/Tools

Alpha Designator/Number: | I | S | 5 | 3 | 5 | | | | |

Title Abbreviation: | A | p | p | l | i | e | d | | H | e | a | l | t | h | c | a | r | e | D | a | t | a | b | a | s |

(Limit of 25 characters and spaces)

Course Catalog Description: (Limit of 30 words)

To understand the logical and physical design of data stored and retrieved from relational databases, how it applies to healthcare, and how HIM professionals can effectively communicate business requirements.

Co-requisite(s): None   First Term to be Offered: Fall 2018

Prerequisite(s): Graduate Status   Credit Hours: 3

Course(s) being deleted in place of this addition (*must submit course deletion form*): N/A

Signatures: if disapproved at any level, do not sign. Return to previous signer with recommendation attached.

Dept. Chair/Division Head _____   Date _____

Registrar _____   Date _____

College Curriculum Chair _____   Date _____

Graduate Council Chair _____   Date _____

College: Health Professions   Department/Division: Health Informatics   Alpha Designator/Number: IS 535

Provide complete information regarding the new course addition for each topic listed below. Before routing this form, a complete syllabus also must be attached addressing the items listed on the first page of this form.

1. FACULTY: Identify by name the faculty in your department/division who may teach this course.

 To be announced (TBA)

2. DUPLICATION: If a question of possible duplication occurs, attach a copy of the correspondence sent to the appropriate department(s) describing the proposal. Enter "**Not Applicable**" if not applicable.

 Not Applicable

3. REQUIRED COURSE: If this course will be required by another deparment(s), identify it/them by name. Enter "**Not Applicable**" if not applicable.

 Not Applicable

4. AGREEMENTS: If there are any agreements required to provide clinical experiences, attach the details and the signed agreement. Enter "**Not Applicable**" if not applicable.

 Not Applicable

5. ADDITIONAL RESOURCE REQUIREMENTS: If your department requires additional faculty, equipment, or specialized materials to teach this course, attach an estimate of the time and money required to secure these items. (Note: Approval of this form does not imply approval for additional resources.) Enter "**Not Applicable**" if not applicable.

 The Health Informatics department needs to acquire one faculty member with a 9-month salary in the range of 50,000 to 60,000. This position will also be required for other Health Informatics department responsibilities aside form this course. The responsibilities will include being a Health Informatics Practicum Coordinator, Health informatics program promotion, student advising and recruitment, and other administrative responsibilities. As such, this position will need to be filled by June 30th, 2016.

6. COURSE OBJECTIVES: (May be submitted as a separate document)

 Please refer to the attached syllabus.

7. COURSE OUTLINE   (May be submitted as a separate document)

 Please refer to the attached syllabus.

8. SAMPLE TEXT(S) WITH AUTHOR(S) AND PUBLICATION DATES (May be submitted as a separate document)

 Database Systems Edition: 11th (February 4, 2014)
 Author: Carlos Coronel, Steven Morris
 ISBN: 9781285196145

 Database Processing: Fundamentals, Design, and Implementation 14th Ed. (July 26,2015)
 Author: David M. Kroenke, David J. Auer
 ISBN: 978-0133058352

9. EXAMPLE OF INSTRUCTIONAL METHODS (Lecture, lab, internship)

 Recorded Lecture (Online Course)
 Instructor Guided Content with Student-Driven Learning
 Discussion Boards

10. EXAMPLE EVALUATION METHODS (CHAPTER, MIDTERM, FINAL, PROJECTS, ETC.)

Midterm Exam
Homework Projects
Discussion Board Posts
Final Project

11. ADDITIONAL GRADUATE REQUIREMENTS IF LISTED AS AN UNDERGRADUATE/GRADUATE COURSE

Not Applicable

12. PROVIDE COMPLETE BIBLIOGRAPHY   (May be submitted as a separate document)

Database Systems, Coronel, C. & Morris, S. Eleventh Edition, 2014. ISBN: 9781285196145
Database Processing: Fundamentals, Design, and Implementation, Kroenke, D. D., & Auer D., Fourteenth Edition, 2015 ISBN: 9780133058352

Request for Graduate Course Addition - Page 5

Please insert in the text box below your course summary information for the Graduate Council agenda. Please enter the information exactly in this way (including headings):

Department:
Course Number and Title:
Catalog Description:
Prerequisites:
First Term Offered:
Credit Hours:

Department: Health Informatics
Course Number and Title: IS 535 Applied Healthcare Databases/Tools
Catalog Description: To understand the logical and physical design of data stored and retrieved from relational databases, how it applies to healthcare, and how HIM professionals can effectively communicate business requirements.
Prerequisite: Graduate status
First year offered:Spring 2018
Credit Hours: 3

Course Title/Number	**IS 535 – Applied Healthcare Databases/Tools**
Semester/Year	Fall 2018
Days/Time	Online Course – No Meeting times or dates
Location	Online
Instructor	TBA
Office	TBA
Phone	
Email	
Office/Hours	By Appointment; Open communication via email at any time
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to http://www.marshall.edu/academic-affairs/policies/. Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment

Course Description from Catalog
To understand the logical and physical design of data stored and retrieved from relational databases, how it applies to healthcare, and how HIM professionals can effectively communicate business requirements.

Student Learning Outcome (Students will...)	Practiced by:	Assessed by:
Be able to identify and define data elements and construct a data dictionary for a Health care application.	Reading assignments, Homework	Homework, Projects, Midterm
Be able to normalize data from a healthcare data set/setting environment.		
Be able to develop and entity relationship diagram (ERD) based on healthcare business requirements/end user needs..		
Be able construct Structured Query Language (SQL) statements for healthcare database definitions, manipulation, and data retrieval.		
Be able to apply the principles of information integrity, security, and confidentiality to a healthcare database. Additional, emphasis on confidentiality due to HIPPA requirements.		
Be able to identify issues with database systems that are unique to the healthcare environment.		

Attendance Policy
Online class: Not applicable.

Required Texts, Additional Reading, and Other Materials	
	Healthcare Databases: A Simple Guide to Building and Using Them
Author	Alan Giles
ISBN	978-1857759723
Publisher	CRC Press
	Database Systems: Design, Implementation, & Management
Author	Carlos Coronel & Steven Morris
ISBN	9781285196145
Publisher	CRC Press
Pub. Date	2015

Other Materials
1. Campbell, Robert J. "*Database design: what HIM professionals need to know*." Perspectives in health information management/AHIMA, American Health Information Management Association 1 (2004).
2. AHIMA. "*Managing Copy Functionality and Information Integrity in the EHR*." Journal of AHIMA 83, no.3 (March 2012): 47-49.

   a. http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_049377.hcsp?dDocName=bok1_049377

   b. http://csrc.nist.gov/news_events/hiipaa_june2012/day1/day1-b2_drode_integrity-protections.pdf

3. Eliason, B., Burke, J., & Hess, P. *"Master Data Management in Healthcare: 3 Approaches"* Health Catalyst

   a. https://www.healthcatalyst.com/master-data-management-in-healthcare-3-approaches

4. LeSuer, D. *"5 Reasons Healthcare Data Is Unique and Difficult to Measure"* Health Catalyst

   a. https://www.healthcatalyst.com/5-reasons-healthcare-data-is-difficult-to-measure

5. Dolins, S., Kero, R. *"Data Managmenet Challenges for U.S. Healthcare Providers"*

   a. http://www.irma-international.org/viewtitle/32893/

6. MITRE. (2015) *"Eliciting, Collecting, and Developing Requirements"* MITRE- Systems Engineering Guide

   a. http://www.mitre.org/publications/systems-engineering-guide/se-lifecycle-building-blocks/requirements-engineering/eliciting-collecting-and-developing-requirements

Course Requirements/Due Dates		
Discussion Board Posts		
Most weeks, there will be a discussion board post due. It will be based on the Healthcare Database: A Simple Guide to Building and Using Them, articles in relation to effective communication of business requirements/needs, and challenges of database management in healthcare.		

Homework: The homework assignments will utilize health care data sets.

#	Description	Due beginning of:
1	Identification of Data Elements/Terminology	3rd Week
2	Data Normalization	5th Week
3	Data Dictionary	7th Week
4	Database Modeling and Design	10th Week
5	Data Definition Language SQL	11th Week
6	Data Manipulation Language SQL	13th Week
7	Data Query Language SQL	15th Week

Mid-Term: Due by Midnight Monday of the 9th week of class.
There will be a take home exam that will include multiple choice, t/f, and problem solving questions.

Project Proposal (Due Monday Midnight 7th Week): Project Description, and proposed reports ideas.

Project Rough-Draft (Due Monday Midnight 12th Week): Requires Project Description, Business Requirements, Data Dictionary, ERD Diagram, Two Sample Reports Descriptions/Outlines

Final Project: Due by Midnight the last day of class.
There will be a final project in where the student will elect a project or be given a project that utilizes a healthcare data setting. The project submission will include:
- *Project Description*
- *Business Requirements/End Use Requirements: KEY ELEMENT*
- *Data Dictionary*
- *ERD Diagram*
- *Data Definition Queries*
- *Two Sample Reports Needed and Accompanying Queries*

Grading Policy	
A	90-100%
B	80-89%
C	70-79%
F	Below 70%

Activities & Points	
15%	Discussion Board Posts
30%	Homework Assignments
10%	Mid-Term
10%	Project Proposal
10%	Project Rough Draft
20%	Final Project

Late Assignments will be deducted 10% for each day they are turned in late.
100% credit will be given for completing all aspects of the assignment correctly. Any points deducted will have an accompanying explanation.
10% extra credit can be earned on any assignment in which a student goes above and beyond the requirements or produces otherwise exceptional work.

Note: The professor reserves to the right to make changes to this syllabus.

| Course Schedule			
Week	**Text Book***	**Topic**	**Assignments (Monday at Midnight)**
1	Chapter 1 & 2	Introduction; General Terminology, Systems, Models, Importance in Healthcare	2nd week: Discussion Board Post
2	Chapter 3 & 6	Relational Model & Normalization	3rd Week Discussion Board Post: HW #1
3	Chapter 4, 5, 6	Data Elements, Data Types	4th Week: Discussion Board Post
4	Chapter 4	Business Requirements, Data Dictionary	5th Week: Discussion Board Post 5th Week: HW #2
5	Chapter 4	Database Modeling	6th Week: Discussion Board Post
6	Chapter 4	Database Modeling (Give out Midterm)	7th Week: HW #3 7th Week: Project Proposal
7	Chapter 7, 9	Data Definition Language SQL	8th Week: Discussion Board Post
8	Chapter 7, 9	Data Definition Language SQL	9th Week: Midterm Due
9	Chapter 7	Data Manipulation Language SQL	10th Week: HW #4 10th Week: Discussion Board Post
10	Chapter 7	Data Manipulation Language SQL	11th Week: Discussion Board Post 11th Week: HW #5
11	Chapter 7, 8	Data Query Language SQL	12th Week: Project Rough Draft
12	Chapter 7, 8	Data Query Language SQL	13th Week: Discussion Board Post 13th Week: HW #6
13	Article 2 of other Resources	Principles of Information Integrity, security, and confidentiality to a database (HIPPA, EHRS, HIEs)	14th Week: Discussion Board Post
14	Thanksgiving Break!	Thanksgiving Break! No Reading Assigned	15th Week: Discussion Board Post 15th Week: HW #7
15	Articles 3	Issues with Database Management in Healthcare	16th Week: Discussion Board Post
16	Finals Week		Exam Day: Final Project Due (1 point extra credit for each day a complete project is turned in early)
* TextBook for listed Chapters: *Database Systems: Design, Implementation, & Management*			

Nursing Informatics
Online Graduate Certificate

Department of Health Informatics

Marshall University

September 26, 2017
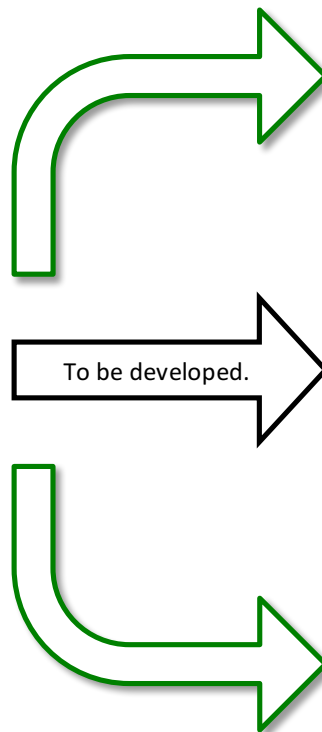
Certificate

Increased Job Opportunities

To be developed.

MS - Nursing

Nursing Informatics

MS

Health Informatics

Girmay Berhie, Ph.D.

Professor/Director

MARSHALL

Online Nursing Informatics Graduate Certificate

The purpose of the Nursing Informatics certificate is to provide nurses with an opportunity to enhance their knowledge and skillset with a crucial element of today's healthcare system – Health Informatics. The nursing informatics certificate can also act as a pathway program to a Master's In Health Informatics and to be developed Masters of Nursing with an emphasis in Nursing Informatics.

Nursing Informatics Certificate Curriculum

Courses	Credits
HP- 605 – Role of EHR & PHR	3
HP- 615 – Health Quality & Safety	3
HP- 620 – Legal and Regulatory Environment for Health Care and Informatics	3
HP- 630 – Research Methods and Data Analytics for Health Informatics	3
IS- 535 – Applied Healthcare Databases /Tools, Or IS 623 – Database Systems	3
HP- 650 – Practicum (200 Hour Nursing Informatics)	3
Total	**18**

Note: *At this time, these courses will NOT be dually listed as HP/NUR, they will be offered as HP courses. We will revisit the idea of dually listing courses upon development of the MSN-Nursing Informatics.*

The above courses have been revised from the standard Health Informatics curriculum. The courses in this graduate certificate have been tailored to the field nursing informatics. That is, it focuses on:
- Foundations of Practice
- System Design Life Cycle
- Data Management and Health Care Technology

See the syllabi for updated books, materials, and assignments.

Curriculum to Nursing Informatics Domain Matching

Domain I: Foundations of Practice	HP 605, HP 615, HP 620, HP 630, HP 650
Domain II: System Design Life	HP 605, HP 615, HP 630, HP 650
Domain III: Data Management and Health care Technology	IS 535/IS 623, HP 630, HP 650

For in depth domain outline, see appendix.

Affiliation Agreement or the Online Nursing Informatics Certificate

In order to offer an online 200-hour faculty supervised practicum experience remotely, students will be responsible for seeking out a facility to obtain their practicum experience. Upon finding a facility, they will be responsible for obtaining a signed copy of the "Affiliation agreement for the distance nursing informatics certificate". See Attached Appendix.

Admission Requirements

Students must meet the following admission requirements:

- Each student must hold a BSN degree from a program accredited by ACEN, CCNE, or equivalent accrediting body.
- Cumulative grade point average of 3.0 on a 4.0 scale for all undergraduate course work.
- Undergraduate coursework must include 3 semester credit hours of basic statistics with a grade of "C" or better.
- Undergraduate coursework must include 3 semester credit hours of basic research with a grade of "C" or better.

If a student plans to sit for the ANCC-Informatics Nursing Credentialing, they must also:

- Hold a current, active RN license in a state or territory of the United States or hold the professional, legally recognized equivalent in another country.
- Have practiced the equivalent of 2 years full-time as a registered nurse immediately prior to application.

ANCC – Informatics Nursing Certification

Upon adding the 200 hours practicum as part of the certificate, we have received verbal confirmation from ANCC that students who fulfill the first three eligibility requirements may sit for the informatics nursing certification after completing of the graduate certificate in nursing informatics. The ANCC representative defined one graduate level credit hour of nursing informatics coursework as equivalent to 15 continuing education hours in nursing informatics.

ANCC Eligibility Criteria

- Hold a current, active RN license within a state or territory of the United States or the professional, legally recognized equivalent in another country.
- Hold a bachelor's or higher degree in nursing or a bachelor's degree in a relevant field.
- Have practiced the equivalent of 2 years full-time as a registered nurse.
- Have completed 30 hours of continuing education in informatics nursing within the last 3 years.

Meet one of the following practice hour requirements:

- Have practiced a minimum of 2,000 hours in informatics nursing within the last 3 years.
- Have practiced a minimum of 1,000 hours in informatics nursing in the last 3 years and completed a minimum of 12 semester hours of academic credit in informatics courses that are part of a graduate-level informatics nursing program.
- Have completed a graduate program in informatics nursing containing a minimum of 200 hours of faculty-supervised practicum in informatics nursing.

Appendix

A. Affiliation Agreement
B. ANCC Nursing Informatics Domain Outline
C. Syllabi

A. Nursing Practicum Affiliation Agreement
AFFILIATION AGREEMENT FOR THE ONLINE NURSING CERTIFICATE

THIS AGREEMENT, effective _____ between the
_____ (hereafter known as the FACILITY), and Marshall
University on behalf of the Marshall University College of Health Professions (MUCOHP), Graduate
Certificate in Nursing Informatics, for the purpose of establishing an extramural training program.

MUTUAL BENEFIT
IT IS AGREED to be of mutual benefit and advantage that the MUCOHP Graduate Certificate in
Nursing Informatics ("the Department") and the FACILITY establish a program to provide clinical
instruction, practicum experience, and research opportunities to students enrolled in the
MUCOHP.

The following provisions shall govern this agreement:

ACADEMIC PREPARATION, ASSIGNMENT, SUPERVISION, RULES
MUCOHP agrees that the students shall have completed academics appropriate to the training
activities prior to assignment to the extramural site. The Graduate Certificate in Nursing
Informatics Department Director or designee shall make assignment of students with mutual
agreement of and advance notice to the FACILITY. When at the FACILITY the students shall observe
and act in accordance with the policies and procedures set forth by the FACILITY.

EVALUATION, WITHDRAWAL
FACILITY and MUCOHP shall evaluate the performance of each student. In addition, the FACILITY
may request, in writing, that the department withdraw any student whose appearance, conduct,
or work with patients or personnel is not in accordance with FACILITY'S policies or other
acceptable standards of performance and such request shall be granted by the department. The
request shall contain the specific reasons the FACILITY is requesting that the student be removed.
Final action of student's evaluation and/or withdrawal is the responsibility of the department.

FACILITY acknowledges and agrees that the students' education records and any personally
identifiable information from such education records (collectively "Student Information") created
by FACILITY and/or provided by MUCOHP to FACILITY is subject to the confidentiality provisions of
the federal Family Educational Rights and Privacy Act, 20 USC § 1232g, ("FERPA") and its
implementing regulations (34 C.F.R. Part 99). Accordingly, FACILITY agrees not to disclose or re-
disclose any Student Information to any other party without the prior written consent of MUCOHP
and the student(s) to whom the Student

Information pertains unless the disclosure or re-disclosure falls under a FERPA exception allowing
disclosure without the student(s)' consent. FACILITY also agrees to only use Student Information
for the purpose(s) for which the Student Information was disclosed.

If FACILITY receives a court order, subpoena, or similar request for Student Information, FACILITY shall, to the extent permitted by law, notify MUCOHP within two (2) business days of its receipt thereof, and reasonably cooperate with MUCOHP in meeting MUCOH P's and/or FACILITY's FERPA obligations in complying with or responding to such request, subpoena, and/or court order.

LIABILITY

MUCOHP agrees to provide and maintain professional and general liability insurance through the West Virginia State Board of Risk and Management (BRIM) for all faculty and students participating in any clinical program on behalf of MUCOHP. The amount of coverage provided by the State Board of Risk and Insurance Management is One Million Dollars ($1,000,000), per occurrence and at least Three Million ($3,000,000), in the aggregate. (See attached proof of insurance.)
Upon request, the FACILITY will provide proof that it maintains liability insurance in an amount that is commercially reasonable.

HIPAA REQUIRMENTS

To the extent required by federal law, the MUCOHP agrees to comply with the Health Insurance Portability and Accountability Act of 1996, as codified at 42 U.S.C. 1320(d)-2 through 42 U.S.C.§ 1320(d)-4 (HIPAA) and any current and future regulations promulgated there under including without limitation the federal privacy regulations contained in 45 C.F.R. § 160-164 (the Federal Privacy Regulations), the federal security standards contained in 45 C.F.R. § 142 (the Federal Security Regulations), and the federal standard of electronic transactions contained in 45 C.F.R §§ 160 and 162, all collectively referred to herein as HIPAA Requirements; and The Privacy Act found at 5 U.S.C. 552a, et seq.,. The parties agree not to use or further disclose any Protected Health Information (as defined in 45 C.F.R §§ 164.500, et.seq.) or Individually Identifiable Health Information (as defined in 42 U.S.C. § 1320(d)-2 through § 1320(d)-4, other than as permitted by HIPAA Requirements and the terms of this Agreement. MUCOHP will makes its internal practices, books, and records relating to the use and disclosure of Protected Health Information available to the Secretary of Health and Human Services to the extent required for determining compliance with the Federal Privacy Regulations.

NONDISCRIMINATION

MUCOHP agrees that by execution and acceptance of this agreement, MUCOHP will comply with Title VII of the Civil Rights Act of 1964, as amended (42 U.S.C. § 2000d), prohibiting discrimination on the basis of race, color, or national origin; Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794) and Titles one through five of the Americans with Disabilities Act of 1990, both prohibiting discrimination on the basis of Disability; Title IX of the Education Amendments of 1972 (20 U.S.C. §§ 181, 1682), prohibiting discrimination on the basis of age; and U.S. Department of Health and Human Services regulations issued pursuant thereto and found at 45 C.F.R. Parts 80, 81, 84, 86, 90, and 91/

ENTIRE AGREEMENT, REVISIONS, ADDITIONS, EXTENSIONS

This agreement is strictly an agreement for student extramural education. It does not create an employment relationship. This agreement together with provisions (a,b,c,d,e,f) below, constitute the entire agreement between parties and supersedes all previous agreements.

a) This agreement shall be automatically renewed on an annual basis unless terminated by either party.

b) Either party with sixty (60) days prior written notice may terminate this agreement. Any student currently in extramural training at the time of notice should be permitted to complete the program.

c) Notwithstanding the aforementioned, this agreement may be terminated, at any time, and participating student's experience curtailed, in the interest and at the convenience of the United States Government.

d) This agreement will be governed by the laws of the State of West Virginia and Federal law. In the event of a conflict, Federal law shall control.

e) Revisions may be recommended by either party, which becomes effective upon written approval signed by both parties.

f) More specific agreements with individual programs may be entered into as needed.

g) This is a 200hours educationally directed evidence base Nurse Informatics Practicum. The competencies that will covered in the Nursing Informatics Practicum are:
   1. Foundations of Practice (15 competencies)
   2. System Design Life Cycle (24 competencies)
   3. Data Management and Health Care (24 competencies)

h) It is the responsibility of the student to contact agency and find preceptors that fulfills the requirements of the Certificate (see practicum attachment).

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives intending to be legally bound as of the effective date defined above.

Marshall University
One John Marshall Drive
 Huntington, WV 25755
Tel: 304 696-2718

_____   _____
Sign   Sign

_____   _____
Date   Date

 Girmay Berhie, Ph.D. MIS   Michael Prewitt, Ph.D.
 Director of Health informatics   Dean of College of Health Professions
 College of Health Professions   College of Health Professions
 Tel: 304 696-2718   Tel: 304 696-3765

 Agency:

_____
Name

_____
Address Line 1

_____
Address Line 2

Preceptor(s):

_____   _____
Name   Name

_____   _____
Title   Title

_____   _____
Sign   Sign

_____   _____
Date   Date

B. ANCC Nursing Informatics Domain Outline

I.   Foundations of Practice (47.33%)
   A. Professional Practice
       Knowledge of:
       1. Nursing informatics scope and standards of practice
       2. Ethical practices related to management of electronic data (e.g., collection, storage, manipulation, dissemination)
       3. Healthcare industry trends (e.g., informatics, social media applications, cloud computing)
       Skills in:
       4. Selecting appropriate modes of communication for the situation (e.g., face-to-face, written, verbal, body language)
       5. Team building (e.g., leading teams, selecting members, facilitating teams, participating in teams, assigning roles, promoting accountability)
       6. Conflict management
       7. Staff development (e.g., performance goal setting, performance appraisal, continuing education, competency development)
   B. Models and Theories
       Knowledge of:
       1. Foundations of nursing informatics (e.g., computer science, information science and nursing science, cognitive science, nursing process, testing and evaluation methodologies)
       2. Concepts or theories that support the practice (e.g., nursing, organizational behavior, communication, systems, adult education)
       3. Models that support the practice (e.g., data, workflow, and predictive)
       Skill in:
       4. Facilitating quality outcomes {Quality improvement process} (e.g., FOCUS-PDCA, root cause analysis, failure mode effect analysis, QSEN, TQM, Six Sigma, LEAN)
   C. Rules, Regulations, and Requirements
       Knowledge of
       1. Regulatory and accreditation requirements (e.g., The Joint Commission, Centers for Medicare and Medicaid Services (CMS), Meaningful Use and HITECH (Health Information Technology for Economic and Clinical Health Act), Affordable Care Act, ADA regulations)
       2. Legal issues (e.g., malpractice, scope of practice, proprietary data misuse)
       3. Security, privacy, and confidentiality regulations, laws, and principles (e.g., HIPAA [Health Insurance Portability and Accountability Act], HITECH [Health Information Technology for Economic and Clinical Health])
       Skill in:

4. Writing and reviewing policy and procedures (e.g., clinical documentation, downtime, computerized provider order entry [CPOE], barcode scanning, and security) for compliance and relevance to practice

II. System Design Life Cycle (26.00%)

   A. Planning and Analysis Knowledge of:
1. Systems planning
2. Strategic planning (e.g., short-term, long-term)
3. Skills in:
4. Planning education (e.g., environment, instructional design, training materials, teaching strategies, and evaluation).
5. Conducting a clinical information systems needs assessment
6. Analyzing systems (e.g. gap analysis, workflow analysis, ADA evaluation)

   B. Designing and Building Knowledge of:
1. Human-Computer interaction (e.g., end user, graphical user interface [GUI], software interface consistency, visual design factors)
2. Usability (e.g., efficiency, ease of learning and use)
3. Concepts related to building systems (e.g., barcode medication administration, fetal monitoring interfacing)
4. Ergonomics (e.g., equipment selection and placement, attributes of the physical environment, and special needs accommodations)
5. Skills in:
6. Designing data collection methods to enable the collection of reportable data and improve patient care outcomes.
7. Designing/redesigning systems to support workflow

   C. Implementing and Testing Knowledge of:
1. Project management, (e.g., scope, timelines, project management tools, task management, team support, accountability management)
2. Change management processes (e.g., educating end-users, identifying and vetting change, prioritizing changes)
3. Skills in:
4. Testing (e.g., functionality, regression and integration testing, end-user acceptance)
5. Implementing systems (including conversion, migration, legacy systems)
6. Managing change effectively

   D. Evaluating, Maintaining, and Supporting Knowledge of:
1. Systems evaluation, maintenance, and support (e.g., upgrades, optimization, break/fix, enhancement recommendations, ongoing value assessment)
2. Skills in:
3. Maintaining and supporting systems including ongoing analysis, decommission, "sun-setting"
4. Developing tools to collect user feedback summary data
5. Measuring end user acceptance and satisfaction (e.g., help desk tickets, face to face feedback, performance reports)

III.   Data Management and Health Care Technology (26.67%)
    A. Data Standards Knowledge of:
        1. Metadata and semantic representation
        2. Concepts related to standardized terminologies (e.g., NIC, NOC, NANDA, SNOMED CT, OMAHA, CCC, CPT, ICD)
        3. Concepts related to technical standards (e.g., HL7, ISO)
        4. Skills in:
        5. Integrating standardized terminologies into clinical informatics practice and software build
        6. Validating interoperability among clinical information systems for seamless integration of patient-related health information
    B. Data Management Knowledge of:
        1. Database types, data integration, and data warehousing
        2. Data archiving concepts and principles
        3. Backup processes (e.g., frequency, onsite/offsite, redundancy)
        4. Disaster recovery
    C. Data Transformation Knowledge of:
        1. Metastructures: data, information, knowledge (including decision support), and wisdom (including evidence-based practice)
        2. Data mining
        3. Data representation (e.g., graphs, charts, images, reports)
        4. Information retrieval (e.g., referential data bases, web surfing, literature searches)
        5. Skills in:
        6. Querying and reporting from databases (e.g., SQL, SAS)
        7. Selecting appropriate data representation (e.g., graphs, charts, images, reports)
    D. Hardware, Software, and Peripherals Knowledge of:
        1. Hardware (e.g., smart devices, tablets, laptops, small footprint computers, all-in-ones)
        2. Clinical devices and equipment management (e.g., electronic beds, IV pumps, physiological monitoring devices, barcode scanners, and automatic dispensing cabinets)
        3. Communication technologies (e.g., networks, encryption, wireless connectivity, RFID, VOIP)
        4. Skills in:
        5. Selecting device types appropriate to different clinical scenarios (e.g., mobile computing, barcode medication administration)
        6. Triage hardware and software related issues for patients and clinical end users
        7. Recommending hardware and software solutions, enhancements, and optimizations to support the nursing process (e.g., operating system compatibility)

Marshall University
Syllabus Template

Course Title/Number	**HP 605 – The role of EHR and PHR** (3 hours credit) **Simulation Lab: Cerner**
Semester/Year	Fall 2017
Days/Time	Monday-4:00 pm to 6:20 pm
Location	GH 123
Instructor	**Girmay Berhie, PhD, MSW, MS-IS**
Office	GH 107
Phone	304-696-2718
E-Mail	berhie@marshall.edu
Web-page	webpages.marshall.edu/~berhie
Office/Hours	By appointment only on day of the class
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy be going to www.marshall.edu/academic-affairs and clicking on "Marshall University Policies." Or, you can access the policies directly by going to http://www.marshall.edu/academic-affairs/?page_id=802

Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment |

Course Description: From Catalog

The course will introduce students to the main concepts of Electronic Health Records and the current EHR systems being used at major health care providers in the US.

	Course Student Learning Outcomes	How Practiced in this Course	How Assessed in this Course
EHR	Describe the factors that led to the emergence of electronic health records.	Video – Conference Case- studies Power point presentation Lecture Guest speaker Demonstration of software Benchmarking	Exam Research project Papers Power point presentation Article critique
	Discuss the concept and evolution of the electronic health record (EHR).		
	Discuss EHR challenges and the supporting roles of health information management professionals in addressing them, especially with respect to privacy, security and legal aspects.		
	Describe the planning and implementation aspects of EHRs.		
	State examples of EHR systems as they may be implemented in various types of care setting.		
	Identify and define terms associated with EHRs.		
	Relate the various initiatives local, regional, and national adoption of EHR and health information technology (HIT).		
	Describe the current state of EHR adoption and the technologies that help transition to the EHR.		
	Explain how paper records are converted to an EHR system.		
	Demonstrate an understanding of how EHR's are used in physician practices.		

	Course Student Learning Outcomes	How Practiced in this Course	How Assessed in this Course
EHR & PHR	Demonstrate an understanding of how electronic health records are used in hospitals.	Video – Conference Case- studies Power point presentation Lecture Guest speaker Demonstration of software Benchmarking	Exam Research project Papers Power point presentation Article critique
	Describe the different types of Personal Health Records and explain how PHR's differ from EHR's.		
	Demonstrate an understanding of the challenges to maintain information privacy and security.		
	Compare various types of EMR/EHR systems		
	Based on hands-on experience, describe the benefits of using an electronic health record.		
	Effectively utilize information technology and medical terms as they apply to EHR/EMR.		
	Discuss the concept and evolution of the electronic health record (EHR) and evaluate and defend the current state of the EHR and technologies.		
	Differentiate between heath information type, content, and forms of media.		
	Differentiate between health record data definitions, vocabularies, terminologies and dictionaries.		

HIPPA			
	Understand the process and key features of HIPAA regulation and its impact on the healthcare professional.		
	Define HIPAA and explain what information must be protected under the privacy laws.		
	Explain HIPAA patient rights		
	Identify consequences for non-compliance with HIPAA Regulations.	Video – Conference Case- studies Power point presentation Lecture Guest speaker Demonstration of software Benchmarking	Exam Research project Papers Power point presentation Article critique
	Define security standards regarding passwords and email.		
	Define security policies regarding network security, including definitions of authentication, VPN, Intrusion detection, Virus Software, and Firewalls.		
	Explain disaster recovery and how to handle paper record disposal.		
	Define Medical Informatics and give an overview of different Healthcare Software Applications.		
	Identify various job roles and job duties that are part of Health Informatics.		
	List Professional Organizations that support Health Informatics		

Required Texts, Additional Reading, and Other Materials

Required:
Health IT and EHRs: Principles and Practice: sixth Edition Margret K. Amatayakul
MBA, RHIA, CHPS, CPHIT, CPEHR, FHIMSS (**Requred)**

Electronic Health Records: A Practical Guide for Professionals and Organizations, Fifth Edition, AHIMA
Margret K. Amatayakul (**Recommended)**
ISBN 978-1-5842-6291-6

Required Journal Articles for Session 1.
⇒ Health Information Technology for economic and Clinical Health (HITECH) Act, Title XIII of Division A and Title IV of Division B of the American Recovery and Reinvestment Act of 2009 (ARRA), Pub. L. N0'111-5 (Feb 17,2009), codified at 42 U.S.C §§300jj et seq.; §§17901 et seq.
⇒ Kulikowski,C.,Shortliffe E.,L. Currie et al. "AMIA Board white paper: definition of biomedical informatics and specification of core competencies for graduate education in the discipline" Journal of the American Medical Informatics Association. http:/jamia.bmj.com/content/early/2012/06/20 amiajnl-2012-001053.full.
⇒ Jones,S.,Heaton,P.,Rudin,R.,E Schneider. "Unraveling the IT productivity Paradox – Lessons for Health Care" New England Journal of Medicine, 366:24;p.2243-2245.

Recommended:
Medicare Patients Aren't Getting Sicker or Older, But Doctors Are Charging More
MacNeil/Lehrer Productions | video | MLP-2012-09-17-1 | 0h 6m 30s

In 2012, the Center for Public Integrity investigated how Medicare billing changed over the past decade and found doctors were billing at much higher rates. Hari Sreenivasan talks to Center for Public Integrity's Fred Schulte to understand why doctors are 'upcoding' more and why electronic medical records could be driving higher prices. Air Date: 9/17/2012 © MacNeil/Lehrer Productions

Course Requirements / Due Dates

HCA 600- Health Care System in the United States (3hr)

Grading Policy

Graded (Required) Activities	Weight	Final Grade Policy	
Exam 1:	20%	A	90% - 100%
Exam 2:	20%	B	80% - 89%
Exam 3:	20%	C	70% - 79%
Term Paper	30%	F	< 69%
Attendance:	10%		
IRB: RCR Course*	5%		
Total	**105%**		

* Passing the Responsible Conduct of Research (RCR) course for Institutional Board of Research is requirement to pass this course. All researchers, staff and students of NSF sponsored grants are required to complete an educational course. The educational course utilized by Marshall University is the Collaborative Institutional Training Initiative (CITI). You will receive a certificate when you pass the course with an 80% or higher. Send the copy of the certificate to receive completion credit for the course.

Instructions for signing up and completing the RCR course can be found:
http://www.marshall.edu/ori/human-subject-research/education/
On this page, use the instructions link entitled for detailed instructions:
CITI Registration Instructions for Responsible Conduct of Research (RCR) Course

MAKE-UP TEST PROCEDURES
If it is necessary to be absent during an assigned test period, the student must make-up that examination within one week of the original test date (if the exam is given on Monday, it must be made up PRIOR to the next Monday). Failure to dos so will result in a zero for the examination. The student may miss one exam without penalty, as long as the test is made up within the specific time period. If the student misses more than one exam, the exam may be made up, but the maximum score allowed is 80%. The final examination must be taken on the scheduled date and at the scheduled time.

Attendance Policy

Students are expected to attend all classes. If it is necessary to be absent from class the student is responsible for all assignments and materials covered in class. It will be necessary to obtain a fellow classmate's notes or have a classmate tape-record the lecture for you. It is the student's responsibility to make up deficits incurred due to absence from class and to do so in a timely manner. If there are questions or handouts, come and see the instructor as necessary.

Students will be expected to participate in all class activities. Outside assignments include preparation for classroom discussion. Assigned readings and unit objectives are to be completed prior to class time.

Course Schedule

Guest Lecturers:
9/8, 9/15: Alfred Cecchetti: All Scripts/EHR/Data Structure)
10/13: Pete Andresen (Next Gen)
10/20: Nathan Cantrell – Meaningful Use Stages 1, 2, 3

Date	Session Content
8/25	**1: Introduction to Electronic Health Records** ⇒ Definition of Health Informatics and EHR, History, Benefits of EHR, EHR Migration path (clinical data), EHR. adoption status and Limitations ⇒ Chapter 1 – Electronic Health Records *Assignments:* Read Chapter 2 and 3 Read the articles and identify the key point in each of the three articles listed in the Required Texts, Additional Reading, and Other Material for Session 1.
9/1	**2. Information Systems and EHR adoption** ⇒ Information systems theory, systems development Life Cycle, challenges and leadership to EHR adoption. ⇒ Quality Improvement Utilizing the EHR – Using the EHR to analyze and learn about Quality Management and performance improvement within the healthcare system. ⇒ Chapter 2 & 3 – Electronic Health Records *Assignments:* Read Chapter 4, 5 and 6 Electronic Health Records
9/8	**3. EHR Project Management, Strategic Planning and Quality Care** ⇒ Project management tools and resources, strategic planning applied to the EHR and impact on Quality of Care. ⇒ Clinical Decision – Exploring 'order checks' in the EHR and their role in Clinical Decision Making. ⇒ Chapter 4,5,6. – Electronic Health Records by Margret K. Amatayakul *Guest Speaker:* Alfred Cecchetti (All Scripts/EHR/Data Structure)
	Assignments: Study Case, You are in charge to evaluate the quality, and the level of implementation of EHR in a health care facility. Develop a check list to evaluate roles, responsibilities, design, implementation and quality including the key elements in EHR project management, strategic planning and quality care.

9/15	**_4. Workflow and process mapping tools and skills, Functional needs assessment process, process improvement_** ⟹ Hospital Inpatient Quality Measures – Making a detailed review, or audit, of a chart to determine if the documentation meets the standards outlined in the 'Specifications Manual for National Hospital Inpatient Quality Measures' by the Joint Commission. ⟹ Select a Health care facility and implement the check list designed. Write a report with the conclusions and recommendations to improve. **_Guest Speaker:_** Alfred Cecchetti (All Scripts/EHR/Data Structure)
	Assignments: Test preparation.
9/22	**_6. Exam I: Chapter 1, 2, 3, 4_**
	Assignments Chapter 9 & 10 Electronic Health Records
9/29	**_7. Information Technology and Health Information Systems Infrastructure_** ⟹ Data Infrastructure, Architecture, Network, Interoperability, Standard Messaging Protocols, Documentation and emerging technologies. ⟹ Reporting in the EHR – Utilizing the report functions in the EHR to query Patient Information ⟹ Electronic Health Records Overview ⟹ By Center for Enterprise Modernization, McLean, Virginia. Available at www.ncrr.nih.gov/publications/informatics/ehr.pdf **_Guest Speaker:_**
	Assignments: Chapter 12 & 13 Electronic Health Records by Margret K. Amatayakul
10/6	**_8. Overview of the current software_** ⟹ Retrieval of Data – Performing Data Retrieval within the EHR that focuses on finding key information from a patient's chart to be used in a research study ⟹ Resource Patient Management System (RPMS) Basic Training. ⟹ By Betty Ruuttila, DSS training Program. Available at: ⟹ www.anthc.org/cs/dit/dss/rpmstraining/upload/RPMS-Basic-Training.PDF ⟹ RPMS Programming Standards and Convention By Indian Health Service – Office of Information Technology.Available at www.ihs.gov/rpms/Downloads/RPMS_ProgrammingSAC 2009.pdf **_Guest Speaker:_**
	Assignments: None

10/13	**_9. Current Software_** ⟹ Resource and Patient Management System (RPMS) ⟹ Chart Deficit Query/Data Mining in the EHR ⟹ Resource Patient Management System (RPMS) Basic Training ⟹ By Betty Ruuttila, DSS training Program. Available at : ⟹ www.anthc.org/cs/dit/dss/rpmstraining/upload/RPMS-Basic-Training.PDF ⟹ RPMS Programming Standards and Convention By Indian Health Service – Office of Information Technology. Available at www.ihs.gov/rpms/Downloads/RPMS_ProgrammingSAC_2009.pdf

	Guest Speaker: Pete Andresen: Next Gen/ ICD-10
	Assignments: None
10/20	***9. Current Software*** ⟹ Veterans Health Information Systems and Technology Architecture (VISTA) ⟹ Summary and Feedback ⟹ Other Vendors (such as SIEMENS, EPIC, HIMG, etc) ***Guest Speaker:*** Nathan Cantrell – Meaningful Use Stages 1, 2, 3
	Assignments: Write a strategy or criteria's to select, buy and implement a patient management system.
10/27	***10. EXAM II:*** Chapter 5, 6, 7, 8, 9
	Guest Speaker:
11/3	*11. EHR Implementation* ⟹ Development and Deployment of EHR. ⟹ Technical Standards (ANSI) ⟹ Key questions to start EHR. Implementation ⟹ So you've decided to Buy an EHR… ⟹ By West Virginia eHealth Initiative White Paper - Electronic Health Record System Acquisition. Available at ⟹ http://www.wvhin.org/library/ Documents/Library/Reference%20Documents/wvehiwhitepaper%20final09.pdf ⟹ ANSI Standard ANSI/HL7 EHR, System Functional Model – Conformance Clause – Supportive Functions – Information Infrastructure Functions-2007 ⟹ Interview Questions Prior to EHR Implementation ***Guest Speaker:***
	Assignments: Select one health care facility (Ex: Hospital), Choose one section (Ex: RX) and design an strategy step by step to implement EHR on that section.

11/10	***12: Personal Health Records (PHR)*** ⟹ Definition, Policies and practices, legal requirements, safety patient, personalization, prescription, Medical decision and new challenges ⟹ Electronic Health Records: A Practical Guide for Professionals and Organizations. ⟹ By Margret K. Amatayakul, AHIMA. Available at http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_015872.pdf ***Guest Speaker:***
	Assignments: Prepare the Test Read the article and identify the key points: Hersh, W."A stimulus to define informatics and health information technology" BMC Medical Informatics and Decision Making. 9:24 (May 15,2009). Accessed July 6, 2012. http//www.biomedcentral.com/1472-6947/9/24.
11/17	***13 The Health Insurance Portability and Accountability Act of 1196 (HIPAA)***

	⇒ HIPAA **Term Paper Due** *Guest Speaker:*
	Assignment: Assignment: Chapter 19 Health Informatics Exchange
12/2	***14 Case Study*** ⇒ West Virginia Health Information Technology Infrastructure: Broadband Availability for Health Care Programs in West Virginia" October 2011. ⇒ Managing transition from paper to electronic health records. ⇒ Security, Audits and Editing Electronic Health Information. ***Guest Speaker:***
12/8	***15. EXAM III: Chapter 11, 12, 13, 14, 15***

Marshall University
Syllabus Template

Course Title/Number	**HP 615 – Quality and Performance Improvement** (3 hours)
Semester/Year	Fall 2017
Days/Time	Thursday 4:00 pm to 6:20 pm /3hours
Location	GH -
Instructor	**Girmay Berhie, PhD, MSW, MS-IS**
Office	GH 107
Phone	304-696-2718
E-Mail	berhie@marshall.edu
Web-page	webpages.marshall.edu/~berhie
Office/Hours	By appointment only on day of the class
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy be going to www.marshall.edu/academic-affairs and clicking on "Marshall University Policies." Or, you can access the policies directly by going to http://www.marshall.edu/academic-affairs/?page_id=802
	Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment

Course Description: From Catalog

Students will learn skills in data analysis, performance improvement tools, and data presentation to address the issues involved in the quality management and performance improvement in the health care settings.

Course Student Learning Outcomes	How **Practiced** in this Course	How Assessed in this Course
Understand Quality and Performance Improvement activities within the health care setting to include terminology, Health Information Management's role, and the impact of accreditation, regulatory, and federal agencies upon these activities.	Video – Conference Case- studies Power point presentation Lecture Guest speaker Demonstration of software Benchmarking	Exam Research project Papers Power point presentation Article critique
Understand and use performance improvement methods to develop performance measures, assess performance, and apply data analysis and presentation skills.		
Define how utilization management and case management activities contribute to resource and quality management of patient care.		
Understand the purpose and value of an effective risk management program to the health care organization.		
Define and understand how to use performance improvement tools, techniques and how to develop performance measures.		
Use data analysis and presentation skills in the assessment of performance.		
List external and internal influences that have caused hospitals to monitor quality.		
Define the terms and acronyms used in quality and performance improvement programs in health care.		
Define and state the purposes of quality assurance/quality improvement/performance improvement	Video – Conference Case- studies Power point presentation Lecture Guest speaker Demonstration of software Benchmarking	Exam Research project Papers Power point presentation Article critique
Understand the concepts of performance measurement and assessment as they relate to quality and performance improvement.		
Identify a state Quality Improvement Organization and the current priority performance improvement topics.		
Understand the role of the HIM professional in a health care facility's performance improvement activities		
Identify components of a utilization management plan.		

Required Texts, Additional Reading, and Other Materials

<table>
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Managing Health Organizations For Quality And Performance \

Author
 L. Fleming Fallon Jr., James W. Begun, William J. Riley

ISBN:
1449653278

ISBN-13: 9781449653279

PUB. DATE:
 February 2012

PUBLISHER:
Jones & Bartlett Learning

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Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition

Author
Patricia L. Shaw, MEd, RHIA, FAHIMA Chris Elliott, MS, RHIA Product#
: AB102711

ISBN # : 9781584263104

Publisher : AHIMA Press
Copyright : 2012

</td></tr>
</table>

Course Requirements / Due Dates

HCA 600-Health Care System

Grading Policy

EXAMINATIONS AND TERM PAPER

There will be 2 examinations (Midterm and Final term) and assignments papers.

Activities & Points		Grades
Exam 1:	20%	A: 90 – 100%
Exam 2:	20%	B: 80 – 89%
Term papers (project):	50%	C: 70 – 79%
Attendance:	10%	F: below 70%

Total	100%	

Attendance Policy

Students are expected to attend all classes. If it is necessary to be absent, from class the student is responsible for all assignments and materials covered in class. It will be necessary to obtain a fellow classmate's notes or have a classmate tape-record the lecture for you. It is the student's responsibility to make up deficits incurred due to absence from class and to do so in a timely manner. If there are questions or handouts, come and see the instructor as necessary.

Students will be expected to participate in all class activities. Outside assignments include preparation for classroom discussion. Assigned readings and unit objectives are to be completed prior to class time.

MAKE-UP TEST PROCEDURES

If it is necessary to be absent during an assigned test period, the student must make-up that examination within one week of the original test date (if the exam is given on Monday, it must be made up PRIOR to the next Monday). Failure to do so will result in a zero for the examination. The student may miss one exam without penalty, as long as the test is made up within the specific time period. If the student misses more than one exam, the exam may be made up, but the maximum score allowed is 80%. The final examination must be taken on the scheduled date and at the scheduled time

Course Schedule

Session 1 – Presentation	**Date:**
Topics	Course requirements, syllabus, objectives, evaluation methods, and introduction lecture.
Text	Not Apply
Assignment	Read Chapter 1 & 2- Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition
Guest speaker(s)	Girmay Berhie, PhD

Session 2-Managing for Quality and Performance	Date
Topic	Defining a Performance Improvement Model and Identifying Improvement Opportunities Based on Performance Measurement: 1. Performance Improvement/Research Advisory Panel: A Model for Determining Whether a

	Project is a Performance or Quality Improvement Activity or Research 2. Design of a quality and performance improvement project for small primary care practices 3. Challenges and Opportunities in Measuring the Quality of Mental Health Care Satisfaction with the Billing Process Using a Patient Survey to Identify Opportunities for Process Improvement 4. Systems Thinking
Text	**Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition** **Chapter 1 - Defining a Performance Improvement Model** **Chapter 2 - Identifying Improvement Opportunities Based on Performance Measurement** **Managing Health Organizations For Quality And Performance** **Chapter 1 - Introduction**
Assignment	**Read Chapter 3- Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition** **Read Chapter 2 – Managing Health Organizations For Quality And Performance**
Guest speaker(s)	Girmay Berhie, PhD

Session 3 – *The policy Context For Management & Strategic Planning*		Date
Topic	Policy-making process, US Health policy, Policy and management Applying teamwork in performance Improvement Article: 1. Facilitating quality improvement team performance: a developmental perspective Fostering Teamwork in an Intermediate Care Unit	
Text	**Chapter 3 – Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition**	
	Chapter 2 – Managing Health Organizations For Quality And Performance	
Assignment	**Write a paper about (1 page):** **Based in a national and corporate policy define basic team works in a health care facility to ensure performance improvement.**	
Guest speaker(s)	Girmay Berhie, PhD	

Session 4 – Organizational Structure and Improvement		Date
Topic	Structuring for improvement (organizational structure) Data types, data display techniques and data analysis to support performance improvement	
Text	**Chapter 4 - Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition**	
	Chapter 6 - Managing Health Organizations For Quality And Performance	
Assignment	**Select a Health care facility, and one specific area. Write a mission and vision statement and develop a communication strategy applying the concepts in communication performance**	

	improvement described in chapter 5 -Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition
Guest speaker(s)	Girmay Berhie, PhD

Session 5- *Measuring Customer Satisfaction*		Date
Topic	Present case study for small-group discussion with summarization by class Article: 1. Improving Patient Satisfaction by Sharing the Inpatient Daily Plan of Care Development and Psychometric Validation of the General Practice Nurse Satisfaction Scale.	
Text	**Chapter 6 - Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition**	
Assignment	**Read Chapter 7 - Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition**	
Guest speaker(s)	Girmay Berhie, PhD	

Session 6 - Refining the Continuum of Care		Date

Topic	Optimizing the Continuum of Care
	Article:
	    1. The new continuum of Glaucoma Management: New Diagnostic and Treatment Options to Optimize Patient Care
	    2. The Relationship Between Program Restrictiveness and Youth Behavior Problems
	After Critical Care a study to explore patients' experiences of a follow up service	

Text	**Chapter 7 (Refining The Continuum of Care)**	
Assignment	**Chapter 8 (Improving the Provision of Care, Treatment, and Services)- Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition**	
Guest speaker(s)	Girmay Berhie, PhD	

Session 7 –*Preparing for emergencies, preventing and controlling infectious*		Date
Topic	Preparing for Emergencies Managing the Infections Disease Experience Article: **1.** Managing the care of patients with herpes zoster ophthalmicus Managing MRSA Video: Emergency Response	
Text	**Chapter 9 (Preventing and Controlling Infectious Disease) - Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition.** **Chapter 10 (Decreasing Risk Exposure) - Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition.**	

	Chapter 5 (Preparing for Emergencies) - Managing Health Organizations For Quality And Performance.
Assignment	**Read and identify management points to ensure effective control risk and emergencies procedures.** **Chapter 10 (Decreasing Risk Exposure) - Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition.** **Chapter 5 (Preparing for Emergencies) - Managing Health Organizations For Quality And Performance.**
Guest speaker(s)	Girmay Berhie, PhD

Session 8- Decreasing Risk Exposure		Date
Topic	Article: 1. Incident reporting practices in the preanalytical phase Low reported frequencies in the primary health care setting Incident reporting improves safety: the use of the RAID process for improving incident reporting and learning within primary care	
Text	Chapter 10 (Decreasing Risk Exposure) - Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition. Chapter 5 (Preparing for Emergencies) - Managing Health Organizations For Quality And Performance.	
Assignment	Read Chapter 11 (Building a Safe Medication Management System) - Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition.	
Guest speaker(s)	Girmay Berhie, PhD	

Session 09- *Building a Safe Medication Management System*		Date
Topic	Optimizing Patient Care Article: 1. A Quality Improvement Model for Optimizing Care of the Diabetic End-Stage Renal Disease Patient Optimizing the care of patients with depression in primary care the views of general practitioners. Video: Topic - Medical decision and personalized medicine new challenges.	
Text	**Chapter 11 (Building a Safe Medication Management System)- Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition.**	

Assignment	**Select an article from a medical journal related with medical decisions and do a critique. (Summarize the article – identify advantages and disadvantage – Choose three key points or statements that you will implement in your professional job).**
Guest speaker(s)	Girmay Berhie, PhD

Session 10 - Managing the Environment of Care	Date
Topic	Improving the Care Environment and Safety Article: 1. Using observations of care to focus risk management and quality improvement activities in the clinical setting. 2. Medical emergency team a strategy for improving patient care and nursing work environments.
Text	Chapter 11 – Building a safe medication management system- Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition Chapter 12 (Managing the Environment of Care)- Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition
Assignment	Chapter 13 (Developing Staff and Human Resources) - Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition. Chapter 8 (Organizing Human Resources) – Managing Health Organizations for Quality and Performance.
Guest speaker(s)	Girmay Berhie, PhD

Session 11- Developing Staff and Human Resources	Date
Topic	Developing Staff and Human Resources Article: 1. Human Resource Needs, Health Care Reform, And The Practice Of Medicine/Psychiatry. 2. Cost Effective Human resource Development in Health Care.
Text	Chapter 13 (Developing Staff and Human Resources) - Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition. Chapter 8 (Organizing Human Resources) – Managing Health Organizations for Quality and Performance.
Assignment	Define a profile for the Health Informatics professional in a Health Care Facility
Guest speaker(s)	Girmay Berhie, PhD

	Session 12 – Managing Finance and Budgets	Date
Topic	1. Business Plans 2. Budgets 3. Operating Budget for EHR. and PHR	
Text	Chapter 15 (Managing Finance and Budgets) – Managing Health Organizations for Quality and Performance	
Assignment	Write a paper about: How business plan should include Medical Decision and Safety Patient?	
Guest speaker(s)	Girmay Berhie, PhD	

	Session 13-Managing the Human Side of Change	Date
Topic	Change Management Strategies	
Text	Chapter 18 (Managing the Human Side of Change) - Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition Chapter 17 (Managing Change) - Managing Health Organizations for Quality and Performance	
Assignment	Read Chapter 15 (Navigating the Accreditation, Certification, or Licensure Process) - Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition	
Guest speaker(s)	Girmay Berhie, PhD	

	Session 14- Navigating the Accreditation, Certification, or Licensure Process	Date
Topic	Change Management Strategies	
Text	Chapter 15 (Navigating the Accreditation, Certification, or Licensure Process) - Quality and Performance Improvement in Healthcare: A Tool for Programmed Learning, Fifth Edition	
Assignment	Prepare final test.	
Guest speaker(s)	Girmay Berhie, PhD	

	Session 15- Final test	Date
Topic	**Final test**	
Guest speaker(s)	Girmay Berhie, PhD	

I'd rather attempt to do something great and fail than to attempt to do nothing and succeed.

~Robert H. Schuller

Course Title/Number	**HP 620 – Legal and Regulatory Environment for Health Care and Informatics**
Semester/Year	Fall 2017
Days/Time	Tuesday, 4:00 pm to 6:20 pm ~ 3 hours
Location	GH 121
Instructor	Girmay Berhie, Ph.D.
Office	GH 107
Phone	(304) 696-2718
Email	berhie@marshall.edu
Web-page	http://www.marshall.edu/health-informatics/
Office/Hours	By Appointment only on day of the class
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to http://www.marshall.edu/academic-affairs/policies/. Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment

Course Description from Catalog

The course will introduce students to IT governance to improve efficiency, innovation, growth, customer response and business competitiveness in terms of health information ethic and legal requirements.

Student Learning Outcome	Practiced by:	Assessed by:
Understand the role of IT in Health care management and Health Information systems.	Video – Conference Case- studies	Case study Papers
Develop analytical and critical skills to select the best practices and leadership improvement performance	Power point presentation Lecture/Guest speaker Demonstration of software Benchmarking	Article critique Exam

Required Texts, Additional Reading, and Other Materials

	Legal: *Legal and Ethical Aspects of Health Information Management, Edition 4*
Author	Dana C. Mc.Way, JD, RHIA
ISBN	978-1435483309
Pub. Date	December 31, 2014
Publisher	Delmar Cengage Learning
	IT: *IT Governance: How top performers manage IT Decision Rights for superior Results*
Author	Peter Weill & Jeanne W.Ross
ISBN	1-59139-253-5
Pub. Date	June, 2004
Publisher	Harvard Business Review Press

Course Requirements/Due Dates

Term Paper Proposal	5%	February 24th, 2016
Midterm - Legal Chapters 1-11	20%	March 2nd, 2016
Chapter Presentation	10%	To Be Assigned (Mar 16th – April 20th)
Term Paper Draft	10%	March 30th, 2016
Term Paper Presentation	10%	April 20th, April 27th, 2016
Term Paper Final	20%	April 27th, 2016
Final - Legal Chapters 12-15 IT All Chapters	20%	May 4th, 2016
Attendance	5%	All Class Periods

Grading Policy

A	90-100%
B	80-89%
C	70-79%
F	Below 70%

Attendance Policy

Students are expected to attend all classes. If it is necessary to be absent, from class the student is responsible for all assignments and materials covered in class. It will be necessary to obtain a fellow classmate's notes or have a classmate tape-record the lecture for you. It is the student's responsibility to make up deficits incurred due to absence from class and to do so in a timely manner. If there are questions or handouts, come and see the instructor as necessary.

Students will be expected to participate in all class activities. Outside assignments include preparation for classroom discussion. Assigned readings and unit objectives are to be completed prior to class time.

MAKE-UP TEST PROCEDURES

If it is necessary to be absent during an assigned test period, the student must make-up that examination within one week of the original test date (if the exam is given on Monday, it must be made up PRIOR to the next Monday). Failure to do so will result in a zero for the examination. The student may miss one exam without penalty, as long as the test is made up within the specific time period. If the student misses more than one exam, the exam may be made up, but the maximum score allowed is 80%. The final examination must be taken on the scheduled date and at the scheduled time

	Date	Topic	Due
1	Jan-13	Course requirements, syllabus, objectives, evaluation methods, and introduction lecture. Chapter 1 – Legal	Your Attendance
2	Jan-20	Chapter 1: Legal; Chapter 2: Legal	Read Chapter 1: Legal Read Chapter 2: Legal
3	Jan-27	Chapter 3: Legal; Chapter 4: Legal	Read Chapter 3: Legal Read Chapter 4: Legal
4	Feb-03	Chapter 5: Legal, Chapter 6: Legal	Read Chapter 5: Legal Read Chapter 6: Legal
5	Feb-10	Chapter 7: Legal, Chapter 8: Legal	Read Chapter 7: Legal Read Chapter 8: Legal
6	Feb-17	Chapter 9: Legal, Chapter 10: Legal	Read Chapter 9: Legal Read Chapter 10: Legal
7	Feb-24	Chapter 11: Legal, Chapter 12: Legal	Read Chapter 11: Legal Read Chapter 12: Legal Paper Proposal
8	Mar-02	Midterm	
9	Mar-09	Chapter 12: Legal, Chapter 13: Legal	Read Chapter 13: Legal Read Chapter 14: Legal
10	Mar-16	Chapter 15: Legal, Chapter 1: IT	Read Chapter 15: Legal Read Chapter 1: IT IT Chapter 1 Presentation
11	Mar-23	Spring Break	
12	Mar-30	Chapter 2: IT, Chapter 3: IT	Read Chapter 2: IT Read Chapter 3: IT IT Chapter 2 Presentation IT Chapter 3 Presentation Paper Draft 1
13	Apr-06	Chapter 4: IT, Chapter 5: IT	Read Chapter 4: IT Read Chapter 5: IT IT Chapter 4 Presentation IT Chapter 5 Presentation
14	Apr-13	Chapter 6: IT, Chapter 7: IT	Read Chapter 6: IT Read Chapter 7: IT IT Chapter 6 Presentation IT Chapter 7 Presentation
15	Apr-20	Chapter 8: IT, Term Paper Presentations	Read Chapter 8: IT IT Chapter 8 Presentation Paper Presentations
16	Apr-27	Term Paper Presentations	Paper Presentations Final Paper Due
17	May-04	Final Exam	

NOTE: *If I obtain a guest lecturer for any day on this schedule. You will still be responsible for the assigned readings and the PPTs will be made available to you. If you were supposed to present a chapter that day, I will expect you to record your presentation and make it as well as your presentation materials (i.e. ppt, prezi, notes, and suggested exam questions) available to your classmates via blackboard.*

Marshall University
Syllabus Template

Course Title/Number	**HP 630- Research Methods and Data Analytics for Health Informatics(elective)** (3 hours)
Semester/Year	Spring 2015
Days/Time	Wednesday, 4:00 pm to 6:20 pm /3hours
Location	GH -
Instructor	**Girmay Berhie**
Office	GH 107
Phone	304-696-2718
E-Mail	berhie@marshall.edu
Web-page	webpages.marshall.edu/~berhie
Office/Hours	By appointment only on day of the class
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy be going to www.marshall.edu/academic-affairs and clicking on "Marshall University Policies." Or, you can access the policies directly by going to http://www.marshall.edu/academic-affairs/?page_id=802
	Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment

Course Description: From Catalog

In this course, students will develop analytical and critical skills, and they will acquire knowledge in research process, from formulating questions to designing, collecting data, and interpreting results.

Course Student Learning Outcomes	How Practiced in this Course	How Assessed in this Course
Acquire research skills to apply in Health informatics Identify concepts, methods, tools and strategies to develop research in Health Informatics Develop analytical and critical skills to implement the best practices and leadership in research projects	Video – Conference Case- studies Power point presentation Lecture Guest speaker Demonstration of software Benchmarking	Case study Papers Article critique Exam
Biomedical research supported by Health Informatics	Case-studies in Biomedical sciences : Neuroscience and Developmental Biology – Toxicology and Environmental Health Sciences– Cardiovascular disease, Diabetes and Obesity- Infectious and immunological Diseases - Cancer Biology.	Case - Study Analysis

Required Texts, Additional Reading, and Other Materials

Handbook of Evaluation Methods for Health Informatics. Edition 1 Author Jytte Brender ISBN 13:978-0-12-370464-1 ISBN 10: 0-12-370464-2 PUB. DATE: December 21, 2005 PUBLISHER: Oxford
Designing and Conducting Mixed methods Research, 2nd. Edition Author John W. Creswell and Vicki L. Plano Clark ISBN-10: 1412975174 ISBN-13: 978-1412975179

Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, 3rd Edition.

Author
John W. Creswell

Marshall Biomedical Sciences' Researchers Publish e-book on Nutrition and Cancer.

Course Requirements / Due Dates

CLS -105 Clinical Lab Terminology or previous background (undergraduate or courses related) in medical science.

Grading Policy

EXAMINATIONS AND TERM PAPER

There will be 2 examinations (Midterm and Final term) and assignments papers.

GRADES

Activities & Points		Grades
Exam 1:	20%	A: 90 – 100%
Exam 2:	20%	B: 80 – 89%
Term papers (project):	50%	C: 70 – 79%
Attendance:	10%	F: below 70%

Total	100%	

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Course Schedule

Session 1 – Presentation and Introduction		Date:
Topics	Course requirements, syllabus, objectives, evaluation methods, and introduction lecture. Basic concepts in Evaluation, differences between methodology, method, technique and framework.	
Text	Handbook of Evaluation Methods for Health Informatics. Edition 1	
Assignment	Read Chapter 3 and 4 - Handbook of Evaluation Methods for Health Informatics. Edition 1 Two students has to select one example each one on the book section 2.4 Perspective and prepare a short presentation, with an analysis and critique to promote discussion, brainstorm and conclusions on the group.	
Guest speaker(s)		

Session 2- Types of user assessment during the phases of a system's life cycle.		Date
Topic	Project life cycle. (explorative, technical development, adaptation and evolution phases)	
Text	**Handbook of Evaluation Methods for Health Informatics. Edition 1**	
Assignment	**Read Chapter 5 and 6**	
Guest speaker(s)		

Session 3 – Overview of assessment methods		Date

Topic	Assessment methods per phase (Explorative, technical development, adaptation and evolution)
Text	Handbook of Evaluation Methods for Health Informatics. Edition 1
Assignment	Read chapter 7 According to the professor criteria, students will prepare a short presentation, with a brief description of the method and technique, an analysis and critique to promote discussion, brainstorm and conclusions on the group.
Guest speaker(s)	

Session 4 – Assessment methods		Date
Topic	Students presentations	
Text	NA	
Assignment	Read Chapter 3 – Choosing a mixed methods design - Designing and Conducting Mixed methods Research, 2nd. Edition	
Guest speaker(s)		

Session 5- *Choosing a mixed methods design*		Date
Topic	Case study and examples Biomedical Science	
Text	**Designing and Conducting Mixed methods Research, 2nd. Edition**	
Assignment	**Read Chapter 6 – Collecting data**	
Guest speaker(s)		

Session 6 – Collecting data in mixed methods research		Date
Topic	Collecting data Examples	
Text	**Designing and Conducting Mixed methods Research, 2nd. Edition**	
Assignment	**Read Chapter 7 – Analyzing and Interpreting Data**	
Guest speaker(s)		

Session 7 – Analyzing and interpreting data in mixed methods research		Date
Topic	Analyzing and interpreting data Examples	

Text	**Designing and Conducting Mixed methods Research, 2nd. Edition**
Assignment	**Read Chapter 8 –Writing and evaluation mixed methods research**
Guest speaker(s)	

Session 8- *Writing and evaluation mixed methods research*		Date
Topic	**Guidelines for writing, structure of a proposal, evaluation methods**	
Text	Designing and Conducting Mixed methods Research, 2nd. Edition	
Assignment	Write an abstract (2 pages) about one research topic related with Health Informatics. Prepare Exam	
Guest speaker(s)		

Session 09- **Mid term Exam**		Date
Assignment	Read Part 1 Chapter 4 (Writing strategies and Ethical Considerations) - Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, 3rd Edition	

Session 10 – Writing strategies and Ethical Considerations		Date
Topic	Writing ideas and proposals Ethical Issues (Research, data collections, data analysis, interpretation and dissemination process) Examples	
Text	Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, 3rd Edition	
Assignment	Read part II, chapter 6 The purpose Statement and chapter 7 Research Questions and Hypotheses	
Guest speaker(s)		

Session 11- *Purpose statement, qualitative and quantitative research questions*		Date
Topic	Purpose statement examples Qualitative research questions examples Quantitative research questions examples	
Text	Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, 3rd Edition	
Assignment	Read Part II chapter 8 Quantitative methods	
Guest speaker(s)		

	Session 12 – Quantitative methods	Date
Topic	Definitions, components of a survey, components of an experimental method plan, data analysis in Health Informatics. Examples	
Text	Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, 3rd Edition	
Assignment	Read Part II chapter 9 Qualitative methods	
Guest speaker(s)		

	Session 13 – Qualitative methods	Date
Topic	Characteristics, data collection procedures, data recording, data analysis in Health Informatics. Examples	
Text	Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, 3rd Edition	
Assignment	Using a research project or abstract related with Biomedical sciences (Neuroscience and Developmental Biology – Toxicology and Environmental Health Sciences– Cardiovascular disease, Diabetes and Obesity- Infectious and immunological Diseases - Cancer Biology). Prepare a presentation including an analysis and critique of: a. Statement and hypotheses b. Methodology c. Application of Health Informatics in data collection, data analysis and dissemination (including medical decision). d. Conclusions e. Writing f. Dissemination g. Ethical considerations	
Guest speaker(s)		

	Session 14- Final conclusions	Date
Topic	**Students presentations**	
Text	Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, 3rd Edition	
Assignment	Prepare final exam	
Guest speaker(s)		

Session 15- Final Exam	Date