



## **NURS 5308 : Informatics in Healthcare COURSE SYLLABUS: Fall 2018**

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**Preferred Form of Communication:** e-mail

**Communication Response Time:** 2 business days

**Instructor:** Bo Han, PhD

**Office Location:** BA 325

**Office Hours:** 4-5:30 PM every Monday and Tuesday  
12-2 PM every Friday Or by appointment

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**Preferred Form of Communication:** e-mail

**Communication Response Time:** 24 hours

### **Welcome!**

Welcome to Informatics in Healthcare class. If you have any questions about the course, Dr. Mahoney and Dr. Han are here to help you. If the question is about the informatics software, please be sure to include a screen shot of the software in your email, so we can detect and resolve the issue according to the screen shot. Thank you! We hope that everyone enjoys this course! Please be informed that the class will have three face-to-face meetings on Commerce campus. Course contents will be discussed in the three meetings. The meeting dates and time are **Meeting 1: 1-4 PM on August 29, 2018; Meeting 2: 1-4 PM on October 3, 2018; Meeting 3: 1-4 PM on December 5, 2018.** The classroom where we meet is **EDS 103**. If the room is changed, an email notification will be sent.

If you are unable to physically attend the meetings, nursing students please contact Dr. Mahoney, business analytics students please contact Dr. Han, so that they can arrange alternatives for you.

# **COURSE INFORMATION**

## **Materials – Textbooks, Readings, Supplementary Readings**

### **Required Textbook**

McGonigle, D., & Mastrian, K. (2017). *Nursing informatics and the foundation of knowledge* (4<sup>th</sup> Ed.). Sudbury, MA: Jones & Bartlett Publishers.

### **Optional Textbooks**

American Nurses Association (2014). *Nursing informatics: Scope and standards of practice*. Washington, D.C.: Author.

American Psychological Association. (2010). *Publication manual of American Psychological Association* (6<sup>th</sup> ed.). Washington, DC: Author.

### **Course Description (3 semester credit hours)**

This course focuses on the application of computer technology to healthcare management of individuals and groups, with recognition of the social, ethical, and legal issues involved. Available resources useful in patient care and educational settings are emphasized. The opportunity for application of specific concepts is provided.

### **Student Learning Outcomes**

Upon completion of the course, the student will have been given the opportunity to:

1. Demonstrate beginning competency with specific computer applications.
2. Evaluate the appropriateness of the applications within healthcare practice.
3. Articulate the relationship between the concepts of informatics and advanced nursing practice.
4. Evaluate the advantages, concerns, ethical, and legal issues related to the use of informatics in identified healthcare settings.
5. Critically evaluate the role of informatics in the development and dissemination of nursing knowledge.
6. Demonstrate the ability to communicate on a global basis.
7. Analyze current and emerging technologies to support safe practice environments, and to optimize patient safety, cost-effectiveness, and health outcomes.

## **COURSE REQUIREMENTS**

### **Minimal Technical Skills Needed**

Using the D2L learning management system, using Microsoft Word and PowerPoint.

### **Instructional / Methods / Activities Assessments**

Teaching and learning methods will include lecture, presentations, group discussion, use of audiovisuals, on-line course information, handouts, reading and written assignments, and case studies.

## Student Responsibilities

**Online Etiquette:** Please use the following a guide to your online behavior.

- Make a personal commitment to learning about, understanding, and supporting your peers.
- Assume the best of others in the class and expect the best from them.
- Recognize and value the experiences, abilities, and knowledge each person brings to class. Value the diversity of the class.
- Participate actively in the discussions, having completed the readings and thought about the issues.
- Pay close attention to what your classmates write in their online comments. Ask clarifying questions, when appropriate. These questions are meant to probe and shed new light, not to minimize or devalue comments.
- Think through and re-read your comments before you post them.
- Never make derogatory comments toward another person in the class.
- Do not make sexist, racist, homophobic, or victim-blaming comments at all.
- Disagree with ideas, but do not make personal attacks.
- Be open to be challenged or confronted on your ideas or prejudices.
- Challenge others with the intent of facilitating growth. Do not demean or embarrass others.
- Encourage others to develop and share their ideas.
- Be willing to change.

## GRADING

Final grades in this course will be based on the following scale:

A = 90%-100%

B = 83%-89%

C = 75%-82%

D = 60%-74%

F = 59% or Below

Evaluation Methods	
Group Assignment #1 Compare and contrast 3 health care apps with same focus	20%
Group Assignment #2 Emerging technologies	20%
Group Assignment #3 Healthcare Data Analysis	20%
Midterm Examination	20%
Final Examination	20%

### Assessments

**Exams:** Exams will be an online, timed assessment of the units specified in the course schedule. A student who is unable to take the scheduled exam must notify the instructor prior to the start of the exam to determine whether a make-up is available.

#### Group Assignment 1: Health Care Applications Evaluation Grading Criteria

This is a group assignment. Topic must be approved by course faculty. Group paper will be submitted and group will make presentation to peers. 10% of your grade consists of your peers' evaluation of your presentation.

Criteria	Possible Points	Score	Comments
Introduction of at least three health care applications and their relevance to patient care.	15		
Discuss patient care problem leading to the development of the applications.	5		
Social, ethical, and legal considerations of the use of the applications including HIPAA	15		
Appropriate research findings related to the topic.	15		
Compare and contrast the health care applications in terms of: Usability, Cost, Ease of implementation/installation, Comprehensiveness, User satisfaction. Identify recommended improvements for one or more of the applications.	25		
Correct APA format for headings, sub-headings, citations, and references Correct spelling and use of grammar	10		
No more than 5 written pages not including cover and reference page Minimum of 4 current references other than text that represent a variety of views and sources.	5		
Peer evaluation of PowerPoint Presentation	10		
<b>TOTAL</b>			

**Group Assignment 2: Emerging Technologies Group Presentation and Paper:  
Grading Criteria**

Groups will be formed including graduate nursing and business management students. Topic is emerging technology in health care. Topic must be approved by course faculty. A group paper will be submitted. The group will present to their peers during class. 10% of your grade consists of your peers' evaluation of your presentation.

Topics may include but are not limited to:

- Telehealth
- Nanotechnology
- Genetics/Genomics
- Devices and hardware
- Robotics
- Educational technologies
- Tools for patient access to health information

<b>Criteria</b>	<b>Possible Points</b>	<b>Score</b>	<b>Comments</b>
Description of new technology including history of development, need for new technology (patient care problem that this technology addresses)	10		
Analysis of social, economic, political, ethical, legal aspects of the implementation of this emerging technology	25		
Applicability of new technology to advanced practice nursing, i. e. Safe practice environment, patient safety, cost effectiveness and health outcomes	25		
Identify relevant research related to this issue	20		
Correct APA format for headings, sub-headings, citations, and references Correct spelling and use of grammar Length of 5 pages, not including title and reference pages	10		
Peer evaluation of PowerPoint Presentation	10		
<b>Total</b>			

### Group Assignment 3: Healthcare Data Analysis

A data analysis project will be given this semester. This project does not only need you to use statistical models to analyze the data set, but also need you to use nursing informatics knowledge to interpret the implications to practitioners. When the class meets for the second time (October 3), a variety of statistical models will be introduced to you. You can use those models to analyze the given data set. You can also use other statistical models.

Criteria	Possible Points	Score	Comments
Describe why this project is conducted. The purpose of the analysis on the given data set, e.g., Can patients get benefits? Can healthcare organization save cost from the findings of your analysis? etc.	10		
Present the relevant studies that have been done before. For example, if you are asked to analyze the association between diabetes and diet, please have a summary of how other studies performed the data analysis and what findings those studies received.	20		
Describe the model you choose for your analysis, why you believe the model is appropriate for your study, and how you perform the data analysis by using the chosen model.	30		
Explain what finding you receive after the data analysis, and how practitioners can use your findings.	20		
Correct APA format for headings, sub-headings, citations, and references Correct spelling and use of grammar At least 5 pages written analysis report, not including title and reference pages	10		
Peer evaluation of PowerPoint Presentation	10		
<b>Total</b>			

## Peer Review of PowerPoint Presentation

Please use the following criteria to evaluate your peer groups' presentations.

Criteria	Possible points	Score	Comments
Clarity	20		
Relevance to current healthcare environment	20		
Creativity	20		
Grammar, spelling, APA format for references	20		
		Total	

## TECHNOLOGY REQUIREMENTS

D2L (MyLeo Online) is committed to performing key application testing when new browser versions are released. New and updated functionality is also tested against the latest version of supported browsers. However, due to the frequency of some browser releases, D2L cannot guarantee that each browser version will perform as expected. If you encounter any issues with any of the browser versions listed in the tables below, contact D2L Support, who will determine the best course of action for resolution. Reported issues are prioritized by supported browsers and then maintenance browsers.

Supported browsers are the latest or most recent browser versions that are tested against new versions of D2L products. Customers can report problems and receive support for issues. For an optimal experience, D2L recommends using supported browsers with D2L products.

Maintenance browsers are older browser versions that are not tested extensively against new versions of D2L products. Customers can still report problems and receive support for critical issues; however, D2L does not guarantee all issues will be addressed. A maintenance browser becomes officially unsupported after one year.

Note the following:

- Ensure that your browser has JavaScript and Cookies enabled.
- For desktop systems, you must have Adobe Flash Player 10.1 or greater.
- The Brightspace Support features are now optimized for production environments when using the Google Chrome browser, Apple Safari browser, Microsoft Edge browser, Microsoft Internet Explorer browser, and Mozilla Firefox browsers.

### Desktop Support

Browser	Supported Browser Version(s)	Maintenance Browser Version(s)
Microsoft® Edge	Latest	N/A
Microsoft® Internet Explorer®	N/A	11
Mozilla® Firefox®	Latest, ESR	N/A
Google® Chrome™	Latest	N/A
Apple® Safari®	Latest	N/A

### Tablet and Mobile Support

Device	Operating System	Browser	Supported Browser Version(s)
Android™	Android 4.4+	Chrome	Latest
Apple	iOS®	Safari, Chrome	The current major version of iOS (the latest minor or <b>point</b> release of that major version) and the previous major version of iOS (the latest minor or <b>point</b> release of that major version). For example, as of June 7, 2017, D2L supports iOS 10.3.2 and iOS 9.3.5, but not iOS 10.2.1, 9.0.2, or any other version.  Chrome: Latest version for the iOS browser.
Windows	Windows 10	Edge, Chrome, Firefox	Latest of all browsers, and Firefox ESR.

- You will need regular access to a computer with a broadband Internet connection. The minimum computer requirements are:
  - 512 MB of RAM, 1 GB or more preferred
  - Broadband connection required courses are heavily video intensive



- Video display capable of high-color 16-bit display 1024 x 768 or higher resolution
- You must have a:
  - Sound card, which is usually integrated into your desktop or laptop computer
  - Speakers or headphones.
  - \*For courses utilizing video-conferencing tools and/or an online proctoring solution, a webcam and microphone are required.
- Both versions of Java (32 bit and 64 bit) must be installed and up to date on your machine. At a minimum Java 7, update 51, is required to support the learning management system. The most current version of Java can be downloaded at: JAVA web site <http://www.java.com/en/download/manual.jsp>
- Current anti-virus software must be installed and kept up to date.

Running the browser check will ensure your internet browser is supported.

Pop-ups are allowed.

JavaScript is enabled.

Cookies are enabled.

- You will need some additional free software (plug-ins) for enhanced web browsing. Ensure that you download the free versions of the following software:
  - Adobe Reader <https://get.adobe.com/reader/>
  - Adobe Flash Player (version 17 or later) <https://get.adobe.com/flashplayer/>
  - Adobe Shockwave Player <https://get.adobe.com/shockwave/>
  - Apple Quick Time <http://www.apple.com/quicktime/download/>
- At a minimum, you must have Microsoft Office 2013, 2010, 2007 or Open Office. Microsoft Office is the standard office productivity software utilized by faculty, students, and staff. Microsoft Word is the standard word processing software, Microsoft Excel is the standard spreadsheet software, and Microsoft PowerPoint is the standard presentation software. Copying and pasting, along with attaching/uploading documents for assignment submission, will also be required. If you do not have Microsoft Office, you can check with the bookstore to see if they have any student copies.

### **ACCESS AND NAVIGATION**

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or [helpdesk@tamuc.edu](mailto:helpdesk@tamuc.edu).

**Note:** Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

## **COMMUNICATION AND SUPPORT**

### **Brightspace Support**

#### **Need Help?**

#### **Student Support**

If you have any questions or are having difficulties with the course material, please contact your Instructor.

#### **Technical Support**

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778 or click on the **Live Chat** or click on the words "[click here](#)" to submit an issue via email.



#### **System Maintenance**

Please note that on the 4th Sunday of each month there will be System Maintenance which means the system will not be available 12 pm-6 am CST.

## **COMMUNICATION AND SUPPORT**

Communication between faculty and students is important and taken seriously. To that end, faculty are committed to student success in this course. Students are responsible for making appointments and asking questions to clarify any questions or procedures. Preferred communication methods are through individualized faculty office hours, email, or office phone and occur during regular business hours. If a phone call is not answered, please leave a message and send an e-mail using the direct e-mail link on the course home page. You will be treated with collegial respect and you are expected to communicate likewise in a professional manner.

## **COURSE AND UNIVERSITY PROCEDURES/POLICIES**

### **CLASS**

1. Exam dates are listed in each course syllabus, and the student is expected to take the

- exams as scheduled.
2. As an adult learner and responsible professional, the student is responsible for reading and completing assignments prior to class and for being prepared to participate in discussions over the assigned material. It should not be expected that all material will be covered in class. Students are expected to come to class prepared.
  3. Assignments must be handed in on time. Assignments submitted late without prior arrangement with the classroom instructor will receive a zero.

### **Paper submissions**

All documents submitted online are to be in .docx, .rtf or .pdf format. No other formats will be accepted (JPEG, GIF, etc.). Assignments need to be submitted in a maximum of one document per assignment. Failure to follow these guidelines will result in a grade of "0" on the assignment.

### **Late Submissions**

It is expected that students will submit all assignments on time. If an extension is needed, it should be requested before the due date and may or may not be approved at the discretion of the course coordinator. Unexcused late assignments will be penalized 10% per day for each of the first two days overdue; on the 3rd day, the grade will be assigned as 0%. Communication on these matters is the student's responsibility.

### **Syllabus Change Policy**

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

## **University Specific Procedures**

### **Student Conduct**

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the [Student Guidebook](#).

<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: [Netiquette](#)

<http://www.albion.com/netiquette/corerules.html>

### **TAMUC Attendance**

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedure 13.99.99.R0.01](#).

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

## **Academic Integrity**

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

[Undergraduate Academic Dishonesty 13.99.99.R0.03](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

[Graduate Student Academic Dishonesty 13.99.99.R0.10](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf>

## **ADA Statement**

### **Students with Disabilities**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

#### **Office of Student Disability Resources and Services**

Texas A&M University-Commerce

Gee Library- Room 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: [studentdisabilityservices@tamuc.edu](mailto:studentdisabilityservices@tamuc.edu)

Website: [Office of Student Disability Resources and Services](#)

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

## Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

## Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

## COURSE OUTLINE / CALENDAR

Week	Date	Content	Readings
1	8/29/18	<b>Meet on Campus</b> Nursing Science and the Foundation of Knowledge Intro to information, information science, and information systems The scope of nursing informatics practice	McGonigle Chap: 1 & 2 ANA, Nursing Informatics: Scope and Standards (pp 1-18)
2	9/5/18	Computer science & the foundation of knowledge model Intro to cognitive science and cognitive informatics	McGonigle Chap: 3 & 4 ANA, Nursing Informatics: Scope and Standards (pp. 18-36)

3	9/12/18	Ethical Applications of informatics History and Evolution of nursing informatics Functional area of nursing informatics <b>Faculty Approval of Group Presentation #1 Topic due</b>	McGonigle Chap: 5 & 6 ANA, Nursing Informatics: Scope and Standards (pp. 49-52, 79-80)
4	9/19/18	Informatics as a specialty Developing standardized terminologies to support nursing practice Legislative aspect of NI: HITECH & HIPAA	McGonigle Chap: 7 & 8 ANA, Nursing Informatics: Scope and Standards (pp. 9-13, 62-63, 70, 72)
5	9/26/18	Systems development life cycle Organization decision making Administrative Information Systems Informatics Competencies	McGonigle Chap: 9 & 10 ANA, Nursing Informatics: Scope and Standards (pp. 41-47)
6	<b>10/3/18</b>	<b>Meet on Campus</b> Data Mining Compare, Contrast, & Evaluation of 3 Health care applications <b>Group Presentation #1 due 10/3/18 at 11:59 PM</b>	
7	10/10/18	The Human-Technology interface Electronic Security <b>Faculty Approval of Group Presentation #2 Topic due</b>	McGonigle Chap: 11 & 12 ANA, Nursing Informatics: Scope and Standards (pp. 34-36)
8	10/17/18	<b>Midterm Exam</b>	
9	10/24/18	Workflow and beyond meaningful use The Electronic Health Record and Clinical Informatics	McGonigle Chap: 13 & 14 ANA, Nursing Informatics: Scope and Standards (p. 68)
10	10/31/18	Informatics Tools to Promote Patient Safety and Quality Outcomes	McGonigle Chap: 15 & 16

		Patient Engagement and Connected Health Standards of Nursing Informatics <b>Group Presentation #2 due 11/4/18 at 11:59 PM</b>	ANA, Nursing Informatics: Scope and Standards (pp. 67-94)
11	11/7/18	Using Informatics to Promote Community/Population Health Telenursing and remote access Telehealth	McGonigle Chap: 17 & 18 ANA, Nursing Informatics: Scope and Standards (pp.57-58)
12	11/14/18	Nursing Informatics and Nursing Education Simulation, Game Mechanics, and Virtual Worlds in Nursing Education	McGonigle Chap: 19 & 20 ANA, Nursing Informatics: Scope and Standards (pp.27-29, 57,)
13	11/21/18	Nursing Research, Data Collection, Processing and Analysis Data Mining as a Research Tool Standards	McGonigle Chap: 21 & 22 ANA, Nursing Informatics: Scope and Standards (pp. 32-34, 83)
14	11/28/18	Translation research: generating evidence for practice Bioinformatics, biomedical informatics & computational biology	McGonigle Chap: 23 & 24  ANA, Nursing Informatics: Scope and Standards (pp. 29-30)
15	<b>12/5/18</b>	<b>Meet on Campus</b> Student Presentations Data Mining The Art of Caring in Technology-Laden Environments <b>Group Presentation #3 due 12/5/18 at 11:59 PM</b>	McGonigle Chap: 25 ANA, Nursing Informatics: Scope and Standards (pp.53-62)
16	12/12/18	<b>Final Exam</b>	