



King Saud University
College of Pharmacy
PHCL 498 (2 + 0)

Course Syllabus Fall 2018/ First Semester 1439/1440

I. GENERAL INFORMATION

Course Number

Course Title	Health informatics
Lecture Hours Per Week	(2+0) hours
Credit Hours Per Semester	2
Admission Particulars	Pre-requisites: None Co-requisites: None
Course coordinator:	Female Campus: Nouf Almeshal, MSc Lecturer Office Location: Building #8, 3 rd floor Email: Nialmeshal@ksu.edu.sa Office hours: by appointment Male Campus: Omar Almohammed, PhD Assistant Professor of Clinical Pharmacy Office Location: Email: oalmohammed@ksu.edu.sa Office hours: by appointment
Clock hours & Locations:	Days and time: Wednesday from 1:00pm – 3:00 pm. Location: TBA

Participating Faculty

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Guest Speakers

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II. COURSE DESCRIPTION

This course introduces the student to principles of health informatics by providing students with the fundamental knowledge of the concepts of health informatics and how technology can be used in the delivery of health care. This course focuses on issues related to storing and analyzing medical information and understands how the use of electronic health records can help in exploring patient data to identify trends in disease and treatment. Topics covered in this course include an introduction to health informatics, electronic health records, quality improvement in health IT, global health informatics, and development of health informatics project. Effective and secure design and use of electronic and other technology-based systems, including electronic health records, to capture, store, retrieve, and analyze data for use in patient care, and confidentially/legally share health information in accordance with federal policies.

III. COURSE OBJECTIVES

At the completion of the course series, the student should be able to:

1. To gain an in-depth understanding of the health informatics in healthcare
2. Understand the required analytical skills to for health informatics specialists that will aid them in gathering and organizing medical information
3. Will develop the knowledge of information system design and networking
4. Be up-to-date with the latest IT-based innovations in healthcare
5. This course will also help the students to understand how the health informatics can develops the procedures that help improve the quality of healthcare.
6. Apply the principles for health informatics in their research project

IV. COURSE ABILITY OUTCOMES

Following the successful completion of this course, a student will be able to:

1. Demonstrate knowledge and understanding of different types of Health Informatics.
2. Be able to identify the benefits of the use of big data to enhanced insight and decision-making in healthcare and to improve efficiency to reduce overall cost of healthcare.
3. Describe the principles for analytical skills for health informatics specialists.
4. List, describe and compare different types of IT-based innovations in healthcare.
5. Select and apply appropriate statistical methods for managing common types of medical data and answering a particular research question.
6. Be able to identify the health informatics procedures that help improve the quality of healthcare.
7. Develop a project in health informatics to assess the quality of health care.

V. RESOURCES

REQUIRED TEXTBOOK:

- **Book 1: Healthcare Information and Management System (CPHIMS Review Guide) (edition?)**
- **Book 2: Electronic Health Records – a Practical Guide for Professionals and Organizations (fifth edition, 2013)**
- Other references or handouts can be provided during the course.
- All supplemental materials will be available to the students, electronically through blackboard or distributed by faculty members via email or in class. Class handouts and patient cases (when applicable) will be posted on the KSU blackboard server (<https://lms.ksu.edu.sa/>), or handed to you by the lab instructors. It is the student responsibility to check the blackboard site regularly for any updates.
- Other reading materials will be distributed in the class as required.

VI. COURSE POLICIES

A. ACADEMIC DISHONESTY/PLAGIARISM

- Students are expected to demonstrate professionalism and honesty during this course. Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabricating of information or citations, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. Students found in violation of such policy are subjected to disciplinary actions as per University Policy.
- Please read the manual of study and tests for undergraduate students and operational rule (لائحة الدراسة والاختبارات للمرحلة الجامعية والقواعد التنفيذية المعتمدة) <http://dar.ksu.edu.sa/Regulations>
- Please read the manual of students rights and duties (لائحة تأديب الطلاب بجامعة الملك سعود) <http://dar.ksu.edu.sa/Regulations>

B. CLASS PARTICIPATION AND PROFESSIONALISM

- It is expected that all students come to class prepared by completing where applicable all assigned readings, online homework, and other assignments before class and ready to actively participate in classroom activities. Faculty will clarify and expand on the reading material. Use of phones is prohibited during class.

C. GUIDELINES FOR E-MAIL COMMUNICATION

- E-mail is often perceived as an informal method of communicating, but some basic rules of style or etiquette are expected. In general, rules of common courtesy for interaction with people should be used for any situation and on the internet it is especially important where, for example, body language and tone of voice must be inferred.
 1. **All emails should be sent from your KSU account ONLY**
 2. Mail should have a subject heading which reflects the content of the message.
 3. Your message should begin with an appropriate salutation, including the name of the person being addressed, and end with the full name of sender.
 4. Use mixed case and proper punctuation.
 5. Current e-mail addresses for all students must be maintained in the Blackboard system. Each student must edit this in the "Personal Information" section of "Tools". Faculty will not be able to contact you if your email address is not updated and you could miss important information about courses.
 6. **Check your e-mail daily.** Most information and communication from instructors will come via e-mail or will be posted on Blackboard under announcements.
 7. **Failure to check email/Blackboard may result in you missing important assignments and subsequently affect your grade.**
 8. Direct your request to the appropriate person, as indicated below. Please note that discussion board posts are preferred whenever your questions do not involve personal matters to reduce the number of individual emails.
 - **Questions concerning lecture content:**
 - First, post your question on the **discussion board of Blackboard**. All faculty teaching in this course have access to blackboard and will reply to questions posted. Other students may have the same question that you have or may have the answer. Please allow adequate time for faculty to respond.
 - Inquire if the faculty member teaching that lecture has office hours and try to attend.
 - If neither of the above steps adequately answers your question, email the faculty member teaching that lecture.
 - **General course questions or if you are unsure of where to direct questions:**
 - Contact the Course Director if your question involves a personal matter. Post general course related questions on the **discussion board** dedicated to the overall course logistics.
 - **DO NOT** send message to "All Instructors".



D. ATTENDANCE AND EXCUSED ABSENCE

- In the case of illness or prolonged absence, it is the student's responsibility to notify the faculty member and/or the Course Director within 5 days from the first date of absence. Exceptions to the five-day notification period are rare and can only be approved by the Vice Dean of Academic Affairs. With acceptable documentation from a student, an official memorandum will be issued notifying faculty of an excused absence. In the case of a legitimate excused absence, course instructors will make all reasonable attempts to assist the student to satisfy requirements of the course.
- Students missing 25% or more on attendance are forbidden from setting in the final exam per University Policy.
- If a student missed a midterm exam for an **ELIGIBLE** reason, Student must submit proper documentation within 7 weeks of scheduled exam time to the faculty member and the course coordinator.
- For any missed exams, student should fill a make-up exam form (pick up from department secretary) and obtain the necessary signatures and approvals from faculty member, the course director and head of the department.
- The faculty member has the right to determine the method for make-up exam, which can be any of the following:
 - Increasing the percentage of the remaining exams to cover the missed exam
 - Assigning the final exam, a higher percentage to cover the missed exam for that student
 - A make-up exam (the exam will be based on short answer questions)
 - If the final is cumulative, the section relating to the missed examination material can be used as the grade for that missed exam.
- If a student missed an in class lab assignment with an **ELIGIBLE** reason, student must submit proper documentation within 7 weeks of scheduled assignment time to the faculty member and course coordinator. In case of absences with no reasons zero points will be given to the missed lab assignment. The lab instructor has the right to determine the method for make-up assignment.

VII. EXAMINATION AND GRADING CRITERIA

A. EXAMS/QUIZZES

- Two midterm exams and a cumulative final exam will be administered throughout this course.
- Written exams mainly are based on case scenarios and consist of, but not limited to: one correct answer multiple choice questions, true/false, short notes, matching, organize a list and fill in blanks (one word).
- Random Quizzes will assess your understanding of general concepts found in the recommended class course materials. Each quiz will be administered randomly either in the class or through Blackboard.
- Make up quizzes will NOT be possible under any circumstance.
- The final course grade will be calculated based on the total number of points earned on each examination in addition to points earned through quizzes, assignments, including project presentations, in comparison to the total number of points available.

B. ASSIGNMENT & SUBMISSION

- Late assignments/homework (for both lectures) will be penalized by 30% reduction in grade per day late.
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GRADE DISTRIBUTION

Midterm	One midterm exam for 20% of the total course grade. Exam questions may vary from: one correct answer multiple choice questions, true/false, short notes, matching, organize a list and fill in blanks (one word). Other types of questions may also be present in the exam.	40%
Assignments	Assignments distributed throughout this course, could be handled and answered in class or in home.	5%
Project	Project presentation. Two to three students in each group.	15%
In-Class Discussion	Students are expected to participate throughout the semester. Faculty can subtract grades from those not attending class, did not read required material, or failed to participate effectively throughout lecture.	
Final Exam	Cumulative test. Exam questions may vary from: one correct answer multiple choice questions, true/false, short notes, matching, organize a list and fill in blanks (one word). Other types of questions may also be present in the exam.	40%
Total		100%

Note: Faculty can subtract up to two grades for any unprofessionalism

C. CONFLICT RESOLUTION:

- Any issues related to this course teaching, examinations and grading should be resolved with the course instructor promptly to ensure healthy learning atmosphere.
- Unresolved matter should be directed to the course coordinator. If matter is not yet resolved, please direct your complaint to the department head/Vice Head.

D. CHANGE IN THE COURSE SYLLABUS OR GRADE DISTRIBUTION: students will be notified with any changes to the course syllabus or grade distribution.

E. GRADING SCALE: grades will be earned based on KSU grading policy. the following scale:

Letter Grade	Score Achieved	Letter Grade	Score Achieved
A+	> 95%	C+	75 - 79.99 %
A	90 - 94.99 %	C	70 - 74.99 %
B+	85 - 89.99 %	D+	65 - 69.99 %
B	80 - 84.99 %	D	60- 64.99 %
		F	< 60%

F. COURSE SCHEDULE

Week	Date	Hijri	Topic	Reference	Instructors
1	05/9/2018	25/12/1439	Introduction to Health Informatics		MA
2	12/9/2018	02/12/1439	Various Types of Health Information Systems		MA
3	19/9/2018	09/01/1439	Data Quality, Standards and Interoperability		MA
4	26/9/2018	16/01/1439	Big data Analytics for Healthcare Data/Health informatics		IT
5	03/10/2018	23/01/1439	Data Mining for Pharmacy outcomes		MA
6	10/10/2018	01/02/1439	Midterm-1		MA/NA
			Security, Privacy and Ethical Considerations in health informatics		
7	17/10/2018	08/02/1439	Healthcare IT Project Management / HIMSS Analytics Maturity Models		NA
8	24/10/2018	15/02/1439	Medication Use Process 1: Technology and Medication Use Process		HA
9	31/10/2018	22/02/1439	Project Presentation		MA/LA/NA
10	07/11/2018	29/02/1439	Medication Use Process 2: E - prescribing (CPOE)		NA
11	14/11/2018	07/03/1439	Clinical Decision Support Systems and Technology Impact on Patients		NA
12	21/11/2018	13/03/1439	Midterm-2		LA/NA
13	28/11/2018	20/03/1439	Patient empowerment and personal health records. Consumers Informatics		LA
14	05/12/2018	27/03/1439	Emerging Development on E-Health: Telehealth and mobile health informatics		LA
15	12/12/2018	05/04/1439			

MA: Monira Alwhaibi, LA:Lamya Alnaim, NA: Nouf Almeshal, IT: Isra'a Alturaiki, HA: Haza'a Alghamdi

The syllabus content and schedule may be changed by the faculty if needed & students will be notified of these changes

G. Project Description

a) Objectives:

- Improve the knowledge and skills of designing mobile application for Healthcare.
- Encourage creative thinking and problems solving.

b) The project consists of 2 parts:

- **Report (App description):**

- The report length is between 300 - 500 words
- The report will contain:
 - Background information and the problem this application will be solving.
 - The proposed solution (application)
 - The significance of this solution (optional)
 - The target population, who will use this application. (include age, level of education, gender... etc when applicable)
 - Scope (and include out of scope), iOS or Android.
 - Description of each selected button (include expected inputs and outputs)
 - Sketch (you are encouraged to use online tools such as)

- **Presentation:**

- A rapid fire presentation style that is a subset of the idea and is intended to be as if you are presenting your project in 5 minutes (1 slide presentation). All students will present their ideas in lay language
- For more information about presentation style: please visit <http://guides.library.illinois.edu/presentation/rapidfire>



H. COURSE BINDING AGREEMENT

The Course binding agreement has to be signed by each student and returned through the class leader to the course instructor before the second lecture. Failure to do that will prevent student from attending further classes.

“I have read this syllabus, understand its implications (and have sought clarification of those parts that were unclear to me), and will abide by it. I understand that the course coordinator has the right to make alterations to the course and exam schedule as needed.”

Name of Student: _____

University ID: _____

Signature of Student: _____

Date _____