



CMED 301
Medical Informatics
Course Orientation

Medical Informatics and e-learning

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Health/Medical/Biomedical Informatics

- The science of health/clinical/bio/medical **data/information/knowledge** is
 - Acquired/Collected
 - Manipulated
 - Classified
 - Organized
 - Retrieved
 - Stored

Medical Informatics

- This course is designed to provide 3rd year students with knowledge and skills about Medical Informatics.
- Students will learn how data, information and knowledge is created, managed and processed using Information and Communication Technology.
- This course will also introduce the students to electronic health record, computerized physician order entry, imaging, and Internet health applications.

Brooks, Henri Age: 54 years Sex: Male Location: BWIN; 1N09; 02 Allergies: penicillin, Shellfish allergy Isolation Status:

Inpatient Summary Print 4 minutes ago

150% Expand All Customize View Help

Inpatient Summary

Brooks, Henri M 54 Years DOB: 05/27/1955 MRN: BWMC 008-024 FIN: 019000 Visit Reason: AMI
 This page is not a complete source of visit information.

Patient Information

Chief Complaint: Chest Pain
 Primary Physician: Zimmerman MD, Phyllis
 Emergency Contact: Wallace, Adrian
 Emergency #: (913) 931-2212
 Advance Directive: Yes

Diagnoses (1 Active)

ACUTE MYOCARDIAL INFARCTION (410)

Problems (7 Active)

Alteration in comfort: pain (34240014)
 Back pain (2646370015)
 Benign essential hypertension (3135013)
 Chest pain (49966017)
 Diabetes mellitus - adult onset (493775015)
 Diabetes mellitus without complication (178796018)
 Esophageal reflux (GERD) (530.81)

Allergies (2 Active) +Add

penicillin rash
 Shellfish allergy

Medications (5) +Add

Inderal 10 mg oral tablet 1 tab(s), PO, BID, 180 tab(s)
 Lasix 10 mg/ml oral liquid 1 mL, PO, Once Daily, 30 mL
 lisinopril 10 mg oral tablet 10 mg, 1 tab(s), PO, Once Daily
 metformin 500 mg oral tablet 500 mg, 1 tab(s), PO, BID
 omega-3 polyunsaturated fatty acids oral capsule PO

Past Medical (2) +

Procedures (1) +

Vitals and Measurements Last 2 years +Add

	Latest	Previous	Previous
TEMP:	137.5 2 wks ago	36.5 13 mos ago	37.0 13 mos ago
HR:	65 13 mos ago	95 13 mos ago	80 13 mos ago
Respiratory Rate:	16 13 mos ago	16 13 mos ago	17 13 mos ago
BP:	120/65 13 mos ago	112/65 13 mos ago	105/75 13 mos ago
Weight Measured:	73.400 13 mos ago	76.000 13 mos ago	78.000 13 mos ago
Weight Dosing:	73.400	76.000	78.000

Labs Last 2 years

	Latest	Previous	Previous
Sodium Level :	146 13 mos ago	135 13 mos ago	139 23 mos ago
Potassium Level :	4.5 13 mos ago	4.0 13 mos ago	5.0 23 mos ago
Chloride :	110 13 mos ago	100 13 mos ago	110 23 mos ago
CO2 :	40 13 mos ago	30 13 mos ago	40 23 mos ago
AGAP :	0 13 mos ago	9 13 mos ago	6 23 mos ago
Glucose, Random :	195 13 mos ago	178 13 mos ago	178 23 mos ago
BUN :	20 13 mos ago	18 13 mos ago	13 23 mos ago
Creatinine :	.6 13 mos ago	1.0 13 mos ago	1.4 23 mos ago

Diagnostics (0) Last 6 months

	Within	Status
EKG (0)		
No results found.		

Microbiology (0) Last 6 months

Pathology (0) Last 5 results

Documents (2) Last 2 years +Add

	Author	Date
Admission Note-Physician	Morris MD, Lee	03/26/10
Admission Note-Physician	Zimmerman, Phyllis	03/02/09

My Favorite Orders +Add

Meds	Labs	Imaging	Billing	Other
amoxicillin 250 mg oral capsule				1 cap(s), PO, TID, 10 day(s), 30 cap(s)
atenolol 50 mg oral tablet				1 tab(s), Tab, PO, Once Daily, 90.00 tab(s)
Capoten 50 mg oral tablet				1 tab(s), Tab, PO, BID, 180.00 tab(s)
ibuprofen 800 mg oral tablet				1 tab(s), PO, TID, 90 tab(s), PRN, as needed for pain
Lasix 40 mg oral tablet				1 tab(s), Tab, PO, Once Daily, 90.00 tab(s)
metformin 500 mg oral tablet				1 tab(s), Tab, PO, BID, 180.00 tab(s)
simvastatin 20 mg oral tablet				1 tab(s), PO, At Bedtime, 30 tab(s)

Scratch Pad

Select Order
 No Orders on Scratch Pad

Search Mode

Outstanding Orders (31) Last 2 years

Admission History Adult
Admission Assessment Adult
furosemide 20 mg Tab UD
Propranolol 20 mg tab
Lipid Panel

Notes/Reminders (0)

Sticky Notes (0)

Author	Date	Text
No results found.		

Learning Objectives (LO)

At the end of the course, students will be able :

LO1: To understand the **current trends** in medical informatics as they apply to the healthcare field and the health profession

LO2: To **increase awareness** of the ways in which information technology is used in **health-related situations**

Learning Objectives

LO3: To explore computer applications in health education, practice, administration and health research.

LO4: To identify and observe various types of information systems used within **various units** in healthcare institutions

LO5: To **conduct online search in healthcare literature as educational resources**

Resources

- **Course text book** : Shortliffe, E., Cimino, J. (2014). Biomedical Informatics: Computer Applications in Healthcare and Biomedicine, 4th Edition, Springer

Resources

- Chapter 1: Biomedical Informatics: the science and the pragmatics
- Chapter 2: Biomedical Data: Their Acquisition, Storage, and Use
- Chapter 10: Ethics in Biomedical and Health Informatics: Users, standards and outcomes
- Chapter 12: Electronic Health Systems

Resources

- Chapter 17: Consumer Health Informatics and personal health records
- Chapter 22: Clinical Decision-support systems
- Selected readings from paper

Resources

- Main topics covered from book
- Other topics- will be added from chapter
- Slides are for guides but not sufficient for examination.
- Examination questions come from textbook & Readings from selected papers

Learning Objectives	Topics Covered	Assessments
LO1	All topics esp Consumer Health Informatics, Telehealth	Quiz, Midterm, Finals
LO2	Workshops, EHR, DSS, Telehealth, CPOE EHR, DSS, Telehealth, CPOE	Quiz, Midterm, Final, Workshop
LO3	CIS field visit, Ethics	CIS field visit report
LO4	Clinical Informatics as A Career for Physician, Ethics	Quiz, Midterm, Final
LO5	Tutorials & Workshops	Tutorials & Workshops

	Assessment task	Proportion of Total Assessment
1	Tutorial (one tutorial per group)	2%
2	Workshop: Patient safety, Paper appraisal, e-sihi, CIS	8%
3	Midterm	20%
4	Online quiz (Week 3 and Week 11)	10%
5	Final examination	40%
6	CIS Site Visit- Presentation and Report	20%
	TOTAL	100%

Tutorial Participation (2%)

1. **There will be 9 tutorials this year**
2. Tutorials will include discussion, case study, system review, demonstration etc.
3. Members of designated group will present the tutorial
4. All groups must attend and participate in discussion or Q&A
5. Upload presentation on Blackboard to receive grade

Example

Week	Topic	Activities	# OF GROUPS
3	Clinical Data and Databases (Tutorial)	Review Electronic Health Record- review different types of data What kind of errors can occur during data entry? How will this affect the quality of data?	2 groups

Workshop Participation(8%)

1. There will be 4 Workshops this year
2. Workshop will be 2-3 hours long
3. All groups members must participate actively

Use of Computer and Web

- Blackboard
- Search Engines
- Googledoc, SlideShare, Dropbox

Blackboard- Learning Management System

- www.lms.ksu.edu.sa
- Logging In
- Course name
- Download lecture slides/View lecture slides
- Announcements
- Online Quiz
- Upload report

Attendance

- Class Attendance

Please come on time

10% missing- 1st warning letter

20% missing- 2nd warning letter

25%- will be barred from taking the final examination

- Workshop & Tutorial participation

Active Participation

Reminder: Never SIGN on behalf of your friends. Your integrity is our PRIORITY!

Course Policy

i. Lecture Hours

- Attend class regularly
- Pay attention
- Questions are welcomed
- Respect each other

ii. Tutorial and Workshop Hours

- Be prepared
- Avoid flaming and arguing without basis
- Open discussion
- Discussion within given topics
- Other issues can be brought up outside classroom

Course Policy

iii. Grades

- Follow grading criteria (available on Blackboard)
- Re-grading can only be done by submitting written requests and **within one week** after grade is announced.
- Always check **Grade Center** from time to time and contact us if there's any error as soon as possible

Clinical Information System Site Visit

- To visit **ONE clinical information system** used in a healthcare organization/center/wards.
- Examples
 - Electronic Health Record,
 - Radiology Information System
 - Computerized Physician Order Entry
 - PACS

Clinical Information System Site Visit

CIS Milestone

Week 3: Announcement of the Project

Week 5: Select system & write letter to organization

Week 7-10: Visit Organisation (choose one convenient date)

Week 11-13: Prepare CIS Site Visit Report

Week 14: CIS Presentation Day

Week 15: Submit Report

REMINDER: TUTORIAL #1

Please submit GROUP that will be responsible of tutorial #1

**Submit name to by 5 pm today to
nzakaria@ksu.edu.sa**

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Facebook:

<https://www.facebook.com/Ksumielu>

Thank You

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