Department's Manual

Program Title: Health Informatics

Name of Department: Public Health

College of Applied Medical Sciences

Majmaah University, Majmaah, Riyadh KSA

Department of Public Health

قسم الصحة العامة

Message from the Head of the Department

The Public Health Department at the College of Applied Medical Sciences contains Health Informatics program, which has become the backbone of health institutions that are looking for quality and efficiency through the optimal use of health information technologies. Also, it provides traditional courses as well as extensive experience in actual computer laboratories.

Moreover, The Department of Public Health aims to prepare and qualify students with theoretical knowledge and practical skills that qualify them to obtain a Bachelor's degree in Public Health and work as qualified health professionals and
observers in all areas of public health. This would contribute to solve many of the health problems facing different societies.

Program's lectures and labs provide students with a substantial knowledge base as well as fundamental skills and techniques. In addition, students are actively involved in discussions related to health informatics throughout their study at the program.

Finally, in different programs included in Public Health Department, all the students are expected to develop understanding of public health principles, basic skills and professionalism. The Public Health Department staff participates in a wide variety of activities within the department and professional community.

Head of The Department
Dr. Saleh Abdullah Aloyuni

About The Department

This Department is concerned with the promotion of Public health of the community through the development of research and analysis tools, in order to find out the causes of diseases and, consequently; improve public health in the community. It has for objective to ensure suitable environment for physical, mental and social human health. This would be achieved through the assessment and monitoring population groups at risk, identifying problems and health priorities, and thereafter; drawing the necessary policies and regulations to deal with these problems and health priorities in order to guarantee adequate health care, including preventive care for all segments of the society.

Relevance of the Program

The program mission clearly outlines the three functions through which we serve the community which are the education and production of future healthcare professionals, the direct and indirect healthcare services, and the research that will eventually improve health care.

The vision, mission, and values are all directly related to our community needs and the role that we serve in the community in terms of medical education, research and healthcare. The undergraduate program's mission clearly identifies the changing nature of healthcare needs of the Saudi community. These complies with Majmaah university Mission and goals. With a rapidly growing population and diversity of nationalities and ethnic backgrounds medical practice is challenging. With increasing awareness and modernization, issues of health prevention and education are becoming increasingly important.

Excellency in designing and executing the health informatics applications and electronic portfolio for developing the medical care and scientific research services.

Preparation graduates with competitive technical skills in the field of health informatics through distinct learning environment to serve the community and to support scientific research.

Through innovative education, world class research, and high quality healthcare we can achieve the vision of MU by contributing in building the knowledge based economy that our country

greatly needs. In response to the program mission to prepare the students for the future challenges and needs for the Saudi community lot of stress is given on learning skills, professionalism, and health informatics.

Earning a degree in health informatics opens up a variety of career possibilities, many of which offer higher-than-average pay. In addition to learning about new technologies involved with healthcare information management, students also learn about healthcare business and administration, gaining a multifaceted understanding of the industry. Students graduate with a firm understanding of how to improve healthcare information systems. They also gain the background necessary to pursue a graduate degree in the field.

To meet the medical needs of the aging baby boomer population, the Bureau of Labor Statistics (BLS) projects that the healthcare industry will grow by 2.4 million jobs between 2016 and 2026. A portion of this demand requires workers who can organize, manage, and analyze the influx of healthcare data and information created as a result of this rapidly growing patient base. As more healthcare facilities adopt electronic health records (EHRs), they will need employees who understand how to manage this technology. The BLS projects medical records and health information technicians jobs to increase by 13% between 2016 and 2026, which is almost double the rate of growth for all occupations.

Program Mission:

Qualifying distinguished cadres in the fields of public health through advanced educational programs that contribute to scientific research and achieve the requirements of the labor market.
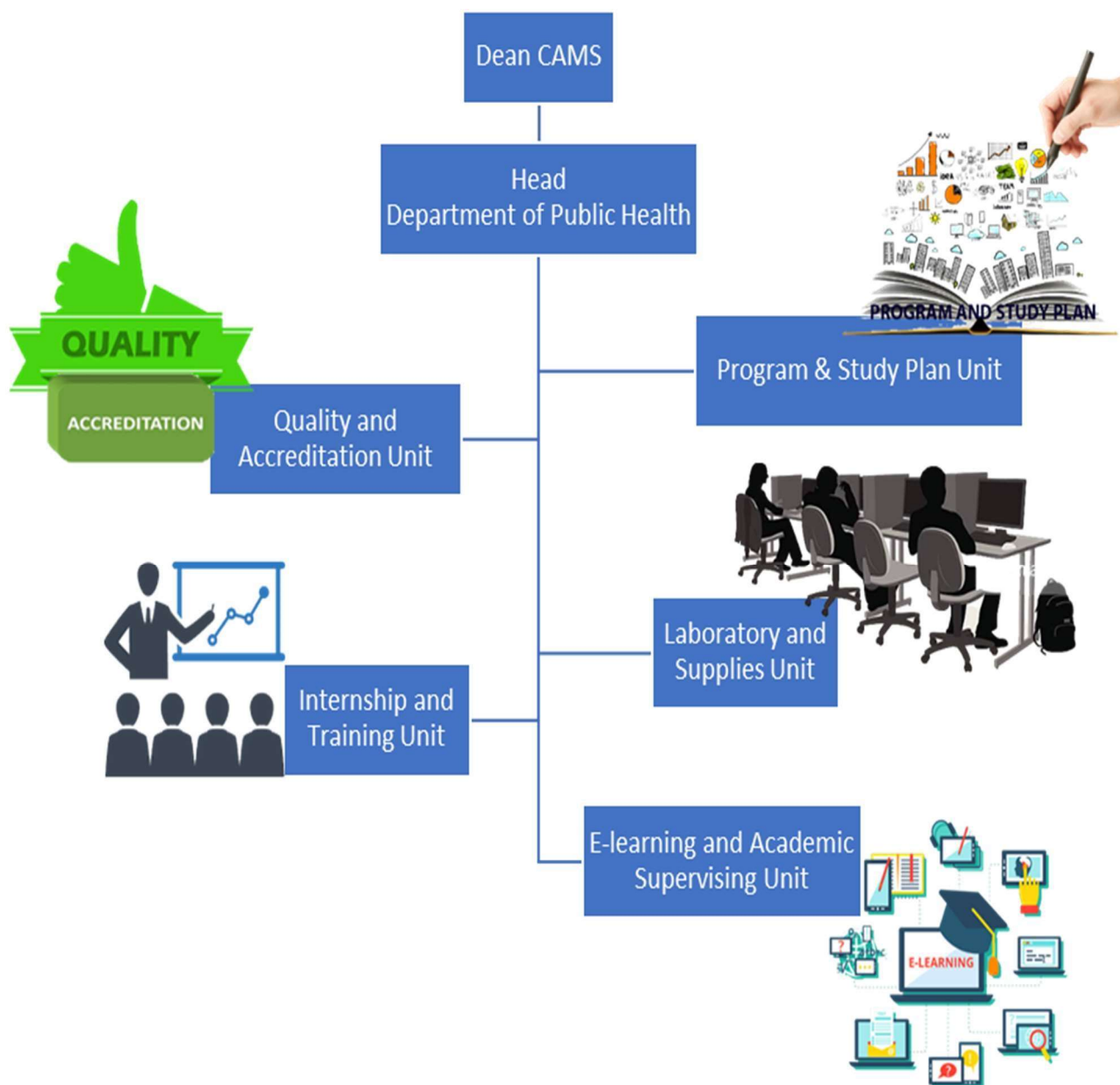
Program Vision:

Leadership in public health disciplines through qualifying national competencies for developing health services and supporting the applied research.

Program Objective:

1. Articulate the proper informatics management tools for health organization.
2. Identify information and data needs of research projects or program users and stakeholders with health organization.
3. Describe the information system development, procurement and implementation needs that meet the public health program needs within health organization.
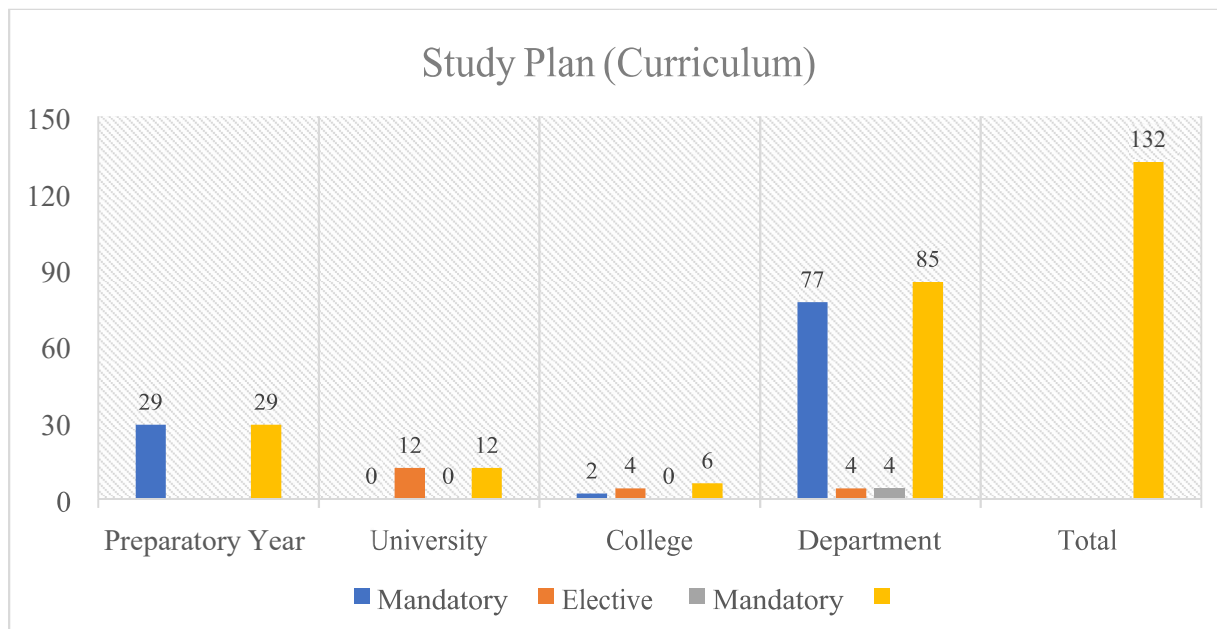4. Design and monitor the security management system of patient records.

Organizational Structure of the Department

Program Learning outcome (Course Learning Outcome):

Domain	Code	Student Learning Outcomes
A	a1	The student will be able to describe basic procedures for applying various management tools and techniques in a safe and efficient manner.
	a2	The student will able to demonstrate a comprehensive and well-founded knowledge.
	a3	The student will be able to recognize the underlying principles and concepts from various disciplines.
B	b1	The student will able to implement solutions for technical problems which ensure confidentiality, security, and integrity.
	b2	The student will able to evaluate the healthcare delivery system and the impact of social, cultural, economic, and environmental factors.
	b3	The student will able to develop strategies (plans) for improving healthcare delivery.
	b4	The student will develop the process of critical thinking to support the evidence-based practices.
C	c1	The student will able to apply the disciplines code of ethics.
	c2	The student will able to demonstrate interpersonal skills of effective listening, negotiating, persuasion and presentation.
	c3	The student will able to perform effectively within a team environment, including leadership, and team building.
D	d1	Student will be able to use media and technology to gather information, record observations in written or electronic form.
	d2	The student will able to apply statistical techniques for implementing the healthcare quality improvement.

Curriculum

Study Plan (Curriculum)

Year	Course Code	Corse Title	Required or Elective	Credit Hours	College or Department
Prep Year					
Preparatory Year 29 Credits	PENG 111	English (1) for Preparatory Year	Required	8	Deanship of Preparatory year
	PMTH 112	Introduction to Mathematics (1)	Required	2	
	PCOM 113	Computer Skills	Required	2	
	PSSC 114	Learning and Communication Skills	Required	2	
	PENG 121	English (2) for Preparatory Year	Required	6	
	PENG 122	English for Medical Specialties	Required	2	
	PCHM 124	Introduction to Chemistry	Required	2	
	PPHS 125	Physics for Health Purposes	Required	2	
	PBIO 126	Biology Science	Required	3	
Semester 1					

2nd Year Semester 1	HIF 231	Basics of Physiology	Required	2	Department
	HIF 232	Fundamentals of Anatomy	Required	2	
	HIF 233	Calculus	Required	3	

Year	Course Code	Corse Title	Required or Elective	Credit Hours	College or Department
17 Credits	HIF 234	Introduction to Public Health Informatics	Required	2	
	HIF 235	Introduction to Hospital System and Organization	Required	2	
	HIF 236	Principles of Nutrition	Required	2	
	CAMS 233	Biostatistics	Required	2	College
	MU1***	MU Elective Course	Elective	2	University
Semester 2					
2nd Year Semester 2 17 Credits	HIF 241	Quality improvement in health care	Required	2	Department
	HIF 242	Healthcare database I	Required	2	
	HIF 243	Epidemiology	Required	2	
	HIF 244	Electronic Health Records	Required	2	
	HIF 245	Applied Mathematics I	Required	3	
	HIF 246	Disease Mapping and Surveillance	Required	2	
	CAMS***	CAMS Elective Course	Elective	2	College
	MU2***	MU Elective Course	Elective	2	University
3rd Year Semester 1					
3rd Year Semester 1 18 Credits	HIF 351	Linear Algebra	Required	3	Department
	HIF 352	Healthcare database II	Required	2	
	HIF 353	Public Health Policy and Society	Required	2	
	HIF 354	Information Technology Governance	Required	2	
	HIF 355	Healthcare billing and coding	Required	2	
	HIF 356	Introduction to computer programing in healthcare	Required	3	

	CAMS***	CAMS Elective Course	Elective	2	College
	MU3***	MU Elective Course	Elective	2	University

3rd Year Semester 2					
3rd Year Semester 2	HIF 361	Medical Analogue Signal Processing	Required	2	Department
	HIF 362	Advanced Medical Analogue Electronics	Required	2	
	HIF 363	Advanced Medical Digital Electronics	Required	2	

Year	Course Code	Corse Title	Required or Elective	Credit Hours	College or Department
18 Credits	HIF 364	Electro Mechanical & Pneumatic Equipment	Required	2	
	HIF 365	Advanced Medical Mechanical Equipment	Required	3	
	HIF 366	Healthcare Informatics	Required	3	
	MU4***	MU Elective Course	Elective	2	University
	MU5***	MU Elective Course	Elective	2	
4th Year Semester 1					
4th Year Semester 1	HIF471	Research Methodology	Required	3	Department
	HIF472	Introduction Project	Required	3	
	HIF473	Hospital Practice II	Required	2	
18 Credits	HIF474	Information System Application development	Required	3	
	HIF475	HIF Elective Course	Required	3	
	HIF47*	Department Elective Course	Required	2	
	MU6***	MU Elective	Elective	2	University
4th Year Semester 2					
4th Year Semester 2	HIF481	Health Information Service Administration	Required	3	Department
	HIF482	Health Economics and Comparative Health System	Required	2	
	HIF483	Hospital Practice II	Required	2	

15 Credits	HIF484	Major Project	Required	3	
	HIF485	Data Security and Human Ethics	Required	3	
	HIF***	HIF Elective Course	Required	2	

MU Elective Course					
During the semester	SALM 101	Introduction to Islamic Culture	Elective	2	The student should study at least ¾
	SALM 102	Islam and Society Development	Elective	2	
	SALM 103	Islamic Economic System	Elective	2	
	SALM 104	Fundamentals of Islamic Politics	Elective	2	
	ARAB 101	Arabic Language Skills	Elective	2	The student should study 1/2
	ARAB 103	Arabic Editing	Elective	2	

Year	Course Code	Corse Title	Required or Elective	Credit Hours	College or Department
	ENG 101	English Language	Elective		The student should study 2 / 7
	SOCI 101	Contemporary Societal Issues	Elective		
	HAF 101	Fundamentals of Health and Physical Fitness	Elective		
	ENT 101	Entrepreneurship	Elective		
	LHR 101	Legislations and Human Rights	Elective		
	FCH 101	Family and Childhood	Elective		
	VOW 101	Voluntary Work	Elective		

CAMS Mandatory Course					
During the semester	CAMS 233	Biostatistics	Mandatory	2	

CAMS Elective Course					
During the semester	CAMS 231	Emergency Care	Elective	2	The student should study 2/ 3
	CAMS 232	Medical Terminology	Elective	2	

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	CAMS 234	Quality of Health Care	Elective	2	
	HIF Elective Course				
During the semester	HIF 476	Image Processing	Elective	2	The student should study 1/ 3
	HIF 477	Clinical decision support system	Elective	2	
	HIF 478	Selected topics in health informatics I	Elective	2	
	HIF 486	Artificial Intelligence	Elective	2	The student should study 1/ 3
	HIF 487	Clinical Trials	Elective	2	
	HIF 488	Selected topics in health informatics II	Elective	2	