Department's Manual

Program Title: Health Informatics

Name of Department: Public Health

College of Applied Medical Sciences

Majmaah University, Majmaah, Riyadh KSA

Message from the Head of the Department

The Department of Public Health aims to achieve leadership in the fields of public health by qualifying national competencies to develop health care and support research in applied sciences. The educational process is based on providing theoretical knowledge and practical skills for students to qualify them to work as health specialists and observers in the field of public health and other health fields, and work on raising the quality of life. The rapid development in the science of information technology and medical information management, which is fully related to raising the quality of health care in the community, urged us to establish a health informatics program in order to achieve the department's goals and work to develop it in line with the goals of the Saudi Vision (2030). Health informatics is one of the important disciplines that is based on raising the efficiency and quality of health services through the use of the latest technologies in the field of technology. This field includes many sciences, including medical information management technology and health information analysis, from which a health informatics graduate is able to employ theoretical knowledge and is distinguished in the application of scientific and technical skills in computers and medical information management.

Head of The Department
Dr. Yahya Madkhali

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.

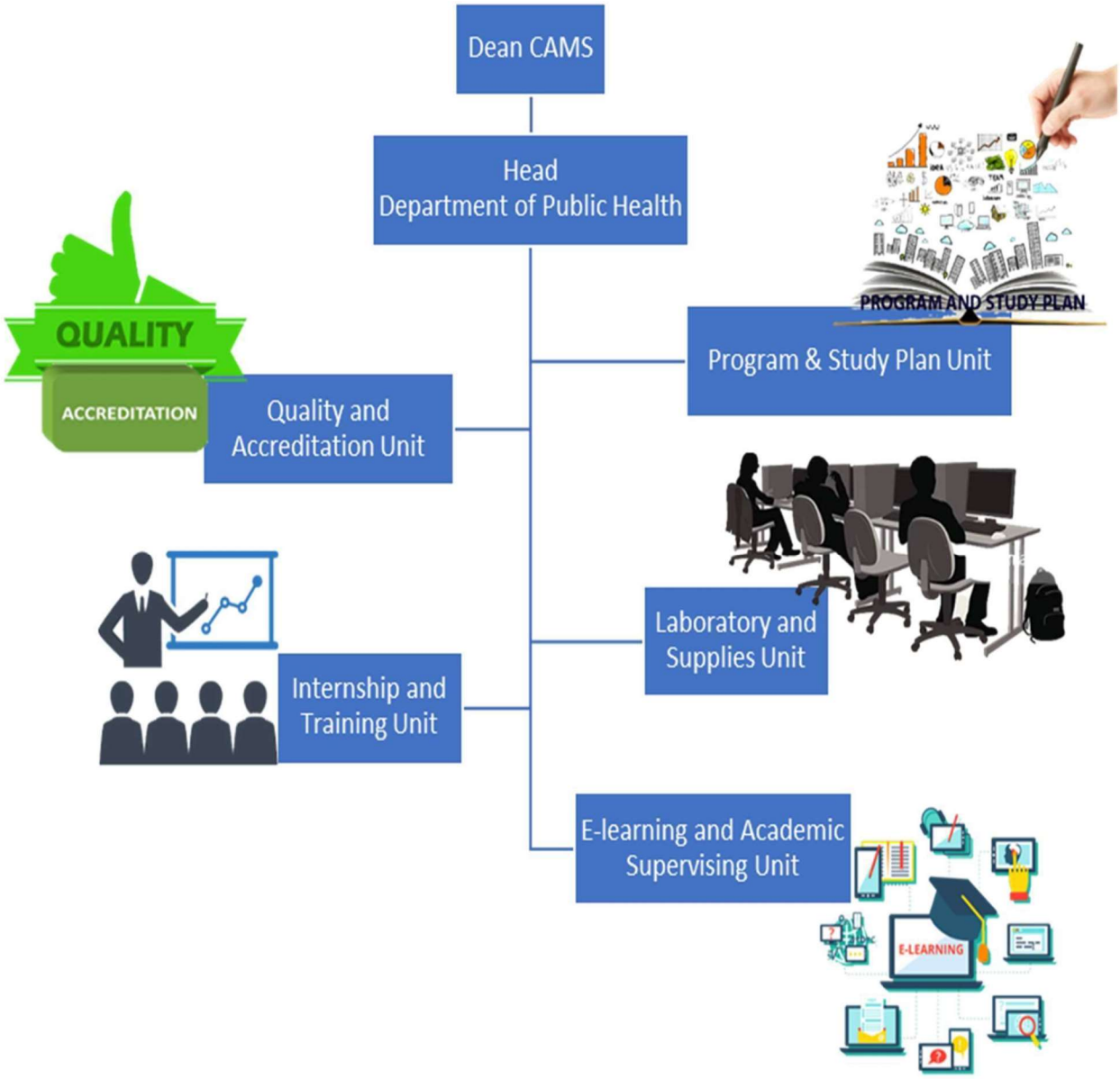
Program Vision:

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

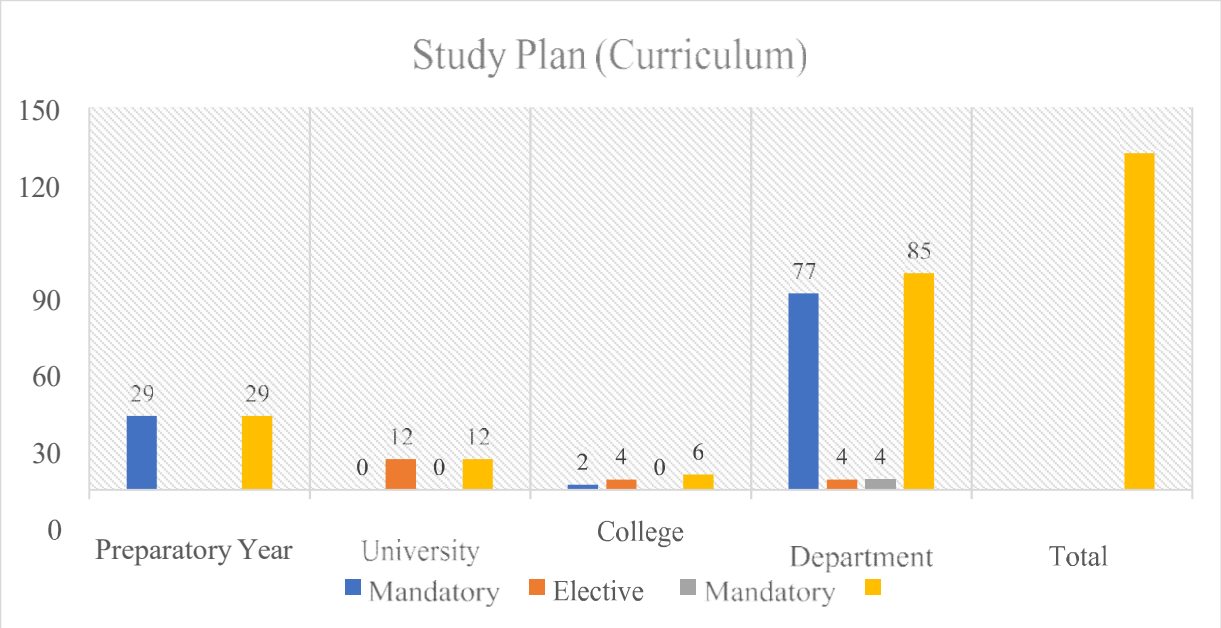
Program Objective:

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



Curriculum


Study Plan (Curriculum)
150
120
90
60
30
0
29
29
0
12
0
12
2
4
0
6
77
4
4
85
Preparatory Year
University
College
Department
Total
Mandatory
Elective
Mandatory

جامعة المجمعة
Majmaah University
كلية العلوم
الطبية التطبيقية

جامعة المجمعة
Majmaah University

Bachelor Program Curriculum

(Three Semesters)

جامعة المجمعة
Majmaah University
كلية العلوم الطبية التطبيقية

Bachelor Program Curriculum

Semester 1 / Level 1								
Course Code	Course Number	Course Title	Credit Hours				Number & Code of Pre-requisite	Name of Prerequisite (Co-Requisite)
			T	P	Tr	CrH		
PENG	111	English (1) For Preparatory year اللغة الإنجليزية 1للسنة التحضيرية	2	6		8	------	------
PMTH	112	Introduction to Mathematics (1) مقدمة في الرياضيات 1	2			2	------	------
Total			4	6	-	10		

جامعة المجمعة
Majmaah University
كلية العلوم الطبية التطبيقية

جامعة المجمعة
Majmaah University

Semester 2 / Level 2								
Course Code	Course Number	Course Title	Credit Hours				Number & Code of Pre-requisite	Name of Prerequisite (Co-Requisite)
			T	P	Tr	CrH		
PENG	121	English (2) For Preparatory year اللغة الإنجليزية 2 للسنة التحضيرية	2	4	-	6	PENG111	------
PCOM	113	Computer Skills مهارات الحاسب الآلي	1	1	-	2	------	------
PSSC	114	Learning and Communication Skills مهارات التعلم و الاتصال	1	1	-	2	------	------
Total			4	6	-	10		

جامعة المجمعة
Majmaah University
كلية العلوم الطبية التطبيقية

جامعة المجمعة
Majmaah University

Semester 3 / Level 3								
Course Code	Course Number	Course Title	Credit Hours				Number & Code of Pre-requisite	Name of Prerequisite (Co-Requisite)
			T	P	Tr	CrH		
PENG	122	English for Medical Specialties اللغة الإنجليزية للتخصصات الصحية	1	1	-	2	------	------
PCHM	124	Introduction to Chemistry مقدمة في الكيمياء	1	1	-	2	------	------
PPHS	125	Physics for Health Purposes فيزياء للأغراض الصحية	1	1	-	2	------	------
PBIO	126	Biology Science علم الأحياء	1	2	-	3	------	------
Total			4	5	-	9		

جامعة المجمعة
Majmaah University
كلية العلوم الطبية التطبيقية

جامعة المجمعة
Majmaah University

Semester 1 / Level 4								
Course Code	Course Number	Course Title	Credit Hours				Number & Code of Pre-requisite	Name of Prerequisite (Co-Requisite)
			T	P	Tr	CrH		
HIF	231	Basic Physiology مبادئ علم وظائف الأعضاء	1	1	-	2	PBIO 126	Biology Science علم الأحياء
HIF	232	Fundamentals to Anatomy أساسيات علم التشريح	1	1	-	2	PBIO 126	Biology Science علم الأحياء
HIF	233	Calculus حساب التفاضل والتكامل	3	-	-	3	PMTH 112	Introduction to Mathematics مقدمة في الرياضيات(1)
HIF	234	Introduction to Public Health Informatics مقدمة في معلوماتية الصحة العامة	2	-	-	2	------	------
MU1	MU***	MU Elective Course مقرر جامعة اختياري	2	-	-	2	------	------
Total			9	2	-	11		

جامعة المجمعة
Majmaah University
كلية العلوم الطبية التطبيقية

جامعة المجمعة
Majmaah University

Semester 2 / Level 5								
Course Code	Course Number	Course Title	Credit Hours				Number & Code of Pre-requisite	Name of Prerequisite (Co-Requisite)
			T	P	Tr	CrH		
HIF	235	Introduction to Hospital System and Organization مقدمة في أنظمة وتنظيم المستشفى	2	-	-	2	------	------
HIF	236	Principles of nutrition مبادئ التغذية	2	-	-	2	------	------
HIF	241	Quality improvement in health care تحسين جودة الرعاية الصحية	2	-	-	2	------	------
HIF	242	Healthcare database I قاعدة بيانات الرعاية الصحية (1)	1	1	-	2	------	------
CAMS	233	Biostatistics الإحصاء الحيوي	2	-	-	2	------	------
MU2	MU***	MU Elective Course مقرر جامعة اختياري	2	-	-	2	------	------
Total			11	1	-	12		

جامعة المجمعة
Majmaah University
كلية العلوم الطبية التطبيقية

جامعة المجمعة
Majmaah University

Semester 3 / Level 6								
Course Code	Course Number	Course Title	Credit Hours				Number & Code of Pre-requisite	Name of Prerequisite (Co-Requisite)
			T	P	Tr	CrH		
HIF	243	Epidemiology علم الوبائيات	2	-	-	2	HIF 234	Introduction to Public health Informatics مقدمة في معلوماتية الصحة العامة
HIF	244	Electronic Health Records السجلات الصحية الإلكترونية	1	1	-	2	HIF 235	Introduction to Hospital System and Organization مقدمة في أنظمة وتنظيم المستشفى
HIF	245	Applied Mathematics الرياضيات التطبيقية	3	-	-	3	HIF 233	Calculus حساب التفاضل والتكامل
HIF	246	Disease Mapping and Surveillance مراقبة وتخطيطانتشار المرض	1	1	-	2	------	------
CAMS	***	College Elective Course مقرر كلية اختياري	2	-	-	2	------	------
Total			9	2	-	11		

جامعة المجمعة
Majmaah University
كلية العلوم الطبية التطبيقية

جامعة المجمعة
Majmaah University

Semester 1 / Level 7								
Course Code	Course Number	Course Title	Credit Hours				Number & Code of Pre-requisite	Name of Prerequisite (Co-Requisite)
			T	P	Tr	CrH		
HIF	351	Linear Algebra الجبر الخطي	3	-	-	3	HIF 245	Applied Mathematics الرياضيات التطبيقية
HIF	353	Public Health Policy and Society سياسة الصحة العامة والمجتمع	2	-	-	2	HIF 235	Introduction to Hospital System and Organization مقدمة في أنظمة وتنظيم المستشفى
HIF	356	Introduction to computer programing in healthcare مقدمة في برمجة الحاسوب في الرعاية الصحية	2	1	-	3	------	------
HIF	361	Survey of Disease and Treatment مسح الأمراض والعلاج	2	-	-	2	HIF 246	Disease Mapping and Surveillance مراقبةوتخطيطانتشار المرض
MU3	MU***	MU Elective Course مقرر جامعة اختياري	2	-	-	2	------	------
Total			11	1	-	12		

جامعة المجمعة
Majmaah University
كلية العلوم الطبية التطبيقية

جامعة المجمعة
Majmaah University

Semester 2 / Level 8								
Course Code	Course Number	Course Title	Credit Hours				Number & Code of Pre-requisite	Name of Prerequisite (Co-Requisite)
			T	P	Tr	CrH		
HIF	352	Healthcare database II قاعدة بيانات الرعاية الصحية(2)	1	1	-	2	HIF 242	Healthcare database I قاعدة بيانات الرعاية الصحية(1)
HIF	354	Information Technology Governance حوكمة تكنولوجيا المعلومات	1	1	-	2	HIF 244	Electronic Health Records السجلات الصحية الإلكترونية
HIF	355	Healthcare billing and coding فواتير الرعاية الصحية والترميز	1	1	-	2	HIF 241	Quality improvement in health care تحسين جودة الرعاية الصحية
HIF	365	Data Transmission and Computer networks شبكات نقل البيانات والحاسب الآلي	2	1	-	3	HIF 356	Introduction to computer programming in healthcare مقدمة في برمجة الحاسوب في الرعاية الصحية
MU4	MU***	MU Elective Course مقرر جامعة اختياري	2	-	-	2	------	------
Total			7	4	-	11		

جامعة المجمعة
Majmaah University
كلية العلوم الطبية التطبيقية

جامعة المجمعة
Majmaah University

Semester 3 / Level 9								
Course Code	Course Number	Course Title	Credit Hours				Number & Code of Pre-requisite	Name of Prerequisite (Co-Requisite)
			T	P	Tr	CrH		
HIF	362	Computer Applications in Hospital تطبيقات الحاسب الآلي في المستشفى	1	1	-	2	HIF 356	Introduction to Computer Programming in Healthcare مقدمة في برمجة الحاسوب في الرعاية الصحية
HIF	363	Discrete Mathematics الرياضيات الرقمية	2	-	-	2	HIF 351	Linear algebra الرياضيات الخطية
HIF	364	Healthcare System Analysis and Design تحليل وتصميم نظم العناية الصحية	1	1	-	2	HIF 355	Healthcare billing and coding فواتير الرعاية الصحية والترميز
HIF	366	Healthcare Informatics معلوماتية الرعاية الصحية	2	1	-	3	HIF 354	Information Technology Governance حوكمة تكنولوجيا المعلومات
MU5	MU***	MU Elective Course مقرر جامعة اختياري	2	-	-	2	------	------
Total			8	3	-	11		

جامعة المجمعة
Majmaah University
كلية العلوم الطبية التطبيقية

جامعة المجمعة
Majmaah University

Semester 1 / Level 10								
Course Code	Course Number	Course Title	Credit Hours				Number & Code of Pre-requisite	Name of Prerequisite (Co-Requisite)
			T	P	Tr	CrH		
HIF	471	Research Methodology مناهج البحث	1	2	-	3	------	------
HIF	472	Minor Project مشروع قصير	-	3	-	3	------	------
HIF	474	Information System Application Development تطبيق وتطوير نظام المعلومات	2	1	-	3	HIF 366	Healthcare Informatics معلوماتية الرعاية الصحية
HIF	475	Data Mining for Healthcare Management التنقيب عن البيانات لإدارة الرعاية الصحية	2	1	-	3	HIF 366	Healthcare Informatics معلوماتية الرعاية الصحية
Total			5	7	-	12		

جامعة المجمعة
Majmaah University
كلية العلوم الطبية التطبيقية

جامعة المجمعة
Majmaah University

Semester 2 / Level 11								
Course Code	Course Number	Course Title	Credit Hours				Number & Code of Pre-requisite	Name of Prerequisite (Co-Requisite)
			T	P	Tr	CrH		
HIF	473	Hospital Practice I الممارسة بالمستشفى (1)	-	-	2	2	------	------
HIF	476 Or 477 Or 478	Image Processing معالجة الصورة Or Clinical decision support system نظام دعم القرار السريري Or Selected topics in health informatics I موضوعات مختارة في المعلوماتية الصحية 1	1	1	-	2	------	------
HIF	482	Health Economics and Comparative Health System الاقتصاد الصحي ونظام الصحة المقارن	2	-	-	2	HIF 474	Information System Application Development تطبيق وتطوير نظام المعلومات
HIF	484	Major Project مشروع التخرج	-	3	-	3	HIF 472	Minor Project مشروع قصير
CAMS	***	College Elective Course مقرر كلية اختياري	2	-	-	2	------	------
Total			5	4	2	11		

جامعة المجمعة
Majmaah University
كلية العلوم الطبية التطبيقية

جامعة المجمعة
Majmaah University

Semester 3 / Level 12								
Course Code	Course Number	Course Title	Credit Hours				Number & Code of Pre-requisite	Name of Prerequisite (Co-Requisite)
			T	P	Tr	CrH		
HIF	481	Health Information Service Administration إدارة خدمة المعلومات الصحية	2	1	-	3	HIF 475	Data Mining for Healthcare Management التنقيب على البيانات لإدارة الرعاية الصحية
HIF	483	Hospital Practice II الممارسة بالمستشفى (2)	-	-	2	2	HIF 473	Hospital Practice I الممارسة بالمستشفى (1)
HIF	485	Data Security and Human Ethics أمن البيانات والأخلاقيات الإنسانية	2	1	-	3	HIF 475	Data Mining for Healthcare Management التنقيب على البيانات لإدارة الرعاية الصحية
HIF	486 Or 487 Or 488	Artificial Intelligence الذكاء الاصطناعي Or Clinical Trials التجارب الاكلينيكية Or Selected topics in health informatics II موضوعات مختارة في المعلوماتية الصحية 2	1	1	-	2	------	------
MU6	MU***	MU Elective Course مقرر جامعة اختياري	2	-	-	2	------	------
Total			7	3	2	12		

جامعة المجمعة
Majmaah University
كلية العلوم الطبية التطبيقية

جامعة المجمعة
Majmaah University

MU Elective Course				
Course Code	**Course Title**	**Required or Elective**	**Credit Hours**	The student should study at least ¾
SALM 101	Introduction to Islamic Culture	Elective	2	
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	
ENG 101	English Language	Elective	2	The student should study 2/7
SOCI 101	Contemporary Societal Issues	Elective	2	
HAF 101	Fundamentals of Health and Physical Fitness	Elective	2	
ENT 101	Entrepreneurship	Elective	2	
LHR 101	Legislations and Human Rights	Elective	2	
FCH 101	Family and Childhood	Elective	2	
VOW 101	Voluntary Work	Elective	2	
CAMS Mandatory Course				
CAMS 233	Biostatistics	Mandatory	2	
CAMS Elective Course				
CAMS 231	Emergency Care	Elective	2	The student should study 2/3
CAMS 232	Medical Terminology	Elective	2	
CAMS 234	The quality of health care	Elective	2	