KENYATTA UNIVERSITY

SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF HEALTH MANAGEMENT AND INFORMATICS

REVISED CURRICULUM FOR BACHELOR OF SCIENCE IN HEALTH RECORDS AND INFORMATION MANAGEMENT

(BSc HRIM)

August, 2013
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
</tr>
<tr>
<td>AMRO-K</td>
<td>Association of Medical Records of Kenya</td>
</tr>
<tr>
<td>Bsc. HRIM</td>
<td>Bachelor of Science in Health Records and Information Management</td>
</tr>
<tr>
<td>CBHIS</td>
<td>Community-Based Health Information System</td>
</tr>
<tr>
<td>CHANIS</td>
<td>Child Health and Nutritional Information System</td>
</tr>
<tr>
<td>CHIS</td>
<td>Community Health Information System</td>
</tr>
<tr>
<td>COBPAR</td>
<td>Community Based Program Activity Report</td>
</tr>
<tr>
<td>CUE</td>
<td>Commission of University Education</td>
</tr>
<tr>
<td>DHIS</td>
<td>District Health Information System</td>
</tr>
<tr>
<td>DHIS2</td>
<td>District Health Information System version 2</td>
</tr>
<tr>
<td>DHMT</td>
<td>District Health Management Team</td>
</tr>
<tr>
<td>DRG</td>
<td>Diagnosis Related Group</td>
</tr>
<tr>
<td>DRP</td>
<td>Disaster Recovery Plan</td>
</tr>
<tr>
<td>ECH</td>
<td>European Clearing House</td>
</tr>
<tr>
<td>eICD10</td>
<td>Electronic International Classification of Diseases version 10</td>
</tr>
<tr>
<td>EMR</td>
<td>Electronic medical record</td>
</tr>
<tr>
<td>EMR</td>
<td>Electronic Medical Records</td>
</tr>
<tr>
<td>ERP</td>
<td>Enterprise Resource Planning System</td>
</tr>
<tr>
<td>GFATM</td>
<td>Global Fund for HIV/AIDS, TB and Malaria</td>
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<tr>
<td>GIS</td>
<td>Geographical Information System</td>
</tr>
<tr>
<td>GoK</td>
<td>Government of Kenya</td>
</tr>
<tr>
<td>GPS</td>
<td>Global Positioning Systems</td>
</tr>
<tr>
<td>HER</td>
<td>Electronic Health Records</td>
</tr>
<tr>
<td>HIS</td>
<td>Health information system</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immune Virus</td>
</tr>
<tr>
<td>HMIS</td>
<td>Health Management Information System</td>
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<tr>
<td>HMT</td>
<td>Health Management Team</td>
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<tr>
<td>HRI</td>
<td>Health Records and Information</td>
</tr>
<tr>
<td>HRIM</td>
<td>Health Records and Information Management</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
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<tr>
<td>HRIO</td>
<td>Health Records and Information Officer</td>
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<tr>
<td>ICD10</td>
<td>International Classification of Diseases version 10</td>
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<tr>
<td>ICPM</td>
<td>International Classification of Procedure in Medicine</td>
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<tr>
<td>ICT</td>
<td>Information and Communication Technologies</td>
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<tr>
<td>ICT</td>
<td>Information Communication and Technology</td>
</tr>
<tr>
<td>IR</td>
<td>Institutional Review</td>
</tr>
<tr>
<td>IT</td>
<td>Information Technology</td>
</tr>
<tr>
<td>KIHBS</td>
<td>Kenya Integrated Household Budget Survey</td>
</tr>
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<td>KMICS</td>
<td>Kenya Multiple Indicator Cluster Survey</td>
</tr>
<tr>
<td>KU</td>
<td>Kenyatta University</td>
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<td>MFL</td>
<td>Master Facilities List</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>MTEF</td>
<td>Medium Term Expenditure Framework</td>
</tr>
<tr>
<td>NGOs</td>
<td>Non-Governmental Organizations</td>
</tr>
<tr>
<td>NHSSP II</td>
<td>The Second National Health Sector Strategic Plan</td>
</tr>
<tr>
<td>TB</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>TNA</td>
<td>Training needs assessment</td>
</tr>
<tr>
<td>TNA</td>
<td>Training Needs Assessment</td>
</tr>
<tr>
<td>TORs</td>
<td>Terms of References</td>
</tr>
<tr>
<td>TWG</td>
<td>Technical Working Group</td>
</tr>
<tr>
<td>TWG</td>
<td>Technical Working Group</td>
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</table>
Table of Contents
1.0 INTRODUCTION

1.1 Preamble

Education is acknowledged worldwide as a means of empowering people socially, economically and politically. It involves the development of skills and competencies required to efficiently and effectively perform productive tasks necessary for improving the individual’s living standards. It is also acknowledged that quality education is an important factor essential for economic growth and technological development. The Constitution of Kenya 2010 under the Bill of Rights affirms education as a fundamental right to every Kenyan, explaining partly why the Government of Kenya (GoK) embraces free primary education (GoK, 2010a, GoK, 2010b). According to UNESCO, “Higher Education is no longer a luxury; it is essential to national, social and economic development”.

In Kenya, the government in the Kenya Vision 2030 (KV2030) recognizes that the country’s main potential lies on its people, their creativity, and entrepreneurial skills, which are all embedded in education (GoK, 2010a). Indeed the government recognizes that investing in human capital through education and training of all Kenyans is fundamental to the realization of the vision. Specifically, the vision underscores the importance of education in ensuring relevant human and social capital for sustainable development. In the blueprint, the government reiterates that effective use of knowledge is one of the most important factors for creating wealth and improving social welfare leading to international competitiveness.

On training institutions, the government has continued to place special demands to institutions of higher learning to be the leading engine that the economy may rely on to produce adequate levels of middle level technical professionals required to drive the economy towards the attainment of the middle-income country status by 2030. In this regard, the education sector is expected to play a key role by providing the skills required to steer the country to the economic and social goals envisaged in the blueprint. In order to achieve this, the education sector must address the challenge of ensuring that education provided meets high quality standards and is relevant to the needs of the labor market nationally, regionally and globally.
In the health sector, one of the key challenges identified in First Medium Term Plan (MTEF) of Vision 2030 is weak health information systems necessary in facilitating informed decision making. The government further recognizes that the strategies for achieving the health development goals is the establishment of an efficient Health Management Information System (HMIS). Thus, with the current technological developments, a need has arisen to train a higher cadre of professionals who will play a key role in the development/establishment of a functional HMIS that integrates the various existing health institutions in the country with other partners/health providers (NGOs). To this end, the Ministry of Health in collaboration with key stakeholders have identified that the quality of relevant human resources, in this case health records managers/technicians, are critical.

1.2 Rationale
A new and rapidly changing environment challenges today's health care manager. Everyone in the health care system is being asked to do more with less, to make better-informed decisions and to work smarter. Health Information is the “foundation” for better health; it is the “glue” holding the health system together, and is the “oil” keeping the health system running. Health Information has been defined as information about people’s health and how the community, government and non-governmental organizations use the information to plan and provide health care and services.

The demand for good-quality health information is growing – driven in part by the move towards performance-based resource allocation and by significant increases in the resources for health mobilized in recent years, for example through the Global Fund for HIV/AIDS, TB and Malaria (GFATM). In addition there is:

a) an acute shortage of properly trained personnel at degree level in information and communication technology (ICT) with an emphasis on electronic health records and information management to manage health information beyond a medical record.

b) increased demand for proper record keeping with modern technology.
c) a high demand for qualitative and quantitative health information for proper planning, budgeting and decision-making and for inter-sectoral coordination in Community-based health care activities.

d) an overwhelming demand for statistical data and health information for research and training purposes.

Currently, there is an increasing demand for Health Records and Information Management graduates in the public and private sector and in the Information Technology industry. In hospitals, graduates are working as Departmental Managers, in the areas of quality improvement, database management, special projects, clinical classifications, and as research assistants. Graduates are also employed as Health Records and Information consultants, primary care practice managers, and in information system design. Health Records and Information Management is a very transportable degree with excellent job opportunities. The revised curriculum of Bachelor of Science in Health Records and Information Management (Bsc. HRIM) program enables students to focus on health records and information systems.

This program is concerned with health-related information and the management of systems. It prepares individuals to plan, design, and manage systems, processes, and facilities used to collect, store, secure, retrieve, analyze, and transmit medical records and other health information used by clinical professionals and health care organizations. It includes instruction in the principles and basic content of the biomedical and clinical sciences; information technology and applications; data and database management; clinical research methodologies; health information resources and systems; office management; legal requirements; and professional standards.

2.0 VISION, MISSION, OBJECTIVES AND CORE COMPETENCIES
The program has the following as the guiding vision, mission, objectives and core competencies.

2.1 Vision
To be recognized as a leader in health records and information management training, practice, research and advocacy in the region.
2.2 Mission
To develop the skills and qualities needed to fulfill the multifaceted role of a health records and information management practitioner and to develop the attitudes and principles which will encourage continuing growth in a profession that is rapidly expanding in scope and health care industry.

2.3 Program Objectives
The program will be guided by various objectives. These include but not limited to:

i) Develop the ability to respond to the changing informational needs of the healthcare stakeholders

ii) Acquire knowledge of the technologies and equipment affecting the management of health information and to develop the ability to utilize these resources appropriately.

iii) Demonstrate an understanding of the evolution of health records and information management

iv) Acquire knowledge of health records and information management practice and its relationship to other professions.

2.4 Core Competencies
The Bsc. HRIM program identifies various core competencies which the learners who would have successfully completed the program should address. These are outlined in table 2.1 with the respective program units.

Table 2.1: Core Competencies and the Respective Units

<table>
<thead>
<tr>
<th>Sr. no.</th>
<th>Competencies</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Analyze and evaluate health records according to standards established by current law, regulations and accrediting agencies.</td>
<td>PHI 306, PHI 102, PHI 3xx, PHI 201, PHI 311, PHI 205, PHI 206, PHI 308</td>
</tr>
<tr>
<td>02</td>
<td>Compile and utilize various types of administrative and health statistics</td>
<td>PHI 109, PHI 307, PHI 102, PHI 201, PHI 3xx, PHI 311, PHI 108, PHI 213</td>
</tr>
<tr>
<td></td>
<td>Code symptoms, diseases, operations, procedures and other therapies according to recognized classifications systems.</td>
<td>PHI 201, PHI 103, PHI 104, PHI 202, PHI 205</td>
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<tr>
<td>04</td>
<td>Release health information in accordance with professional ethics and in conformity with institutional policy and legal provisions.</td>
<td>PHI 101, PHI 306, PHI 311, PHI 3xx, PHI 201, PHI 100, PHI 205, PHI 206</td>
</tr>
<tr>
<td>05</td>
<td>Maintain and utilize a variety of health record indices, storage and retrieval systems.</td>
<td>PHI 101, PHI 201, PHI 205</td>
</tr>
<tr>
<td>06</td>
<td>Perform patient registration activities.</td>
<td>PHI 101, PHI 307, PHI 201</td>
</tr>
<tr>
<td>07</td>
<td>Demonstrate knowledge of the transcription function within a healthcare organization</td>
<td>PHI 102, PHI 3xx, PHI 201, PHI 311</td>
</tr>
<tr>
<td>08</td>
<td>Use and apply health information technologies</td>
<td>PHI 306, PHI 303, PHI 102, PHI 3xx, PHI 201, PHI 3xx, PHI 311, PHI 105</td>
</tr>
<tr>
<td>09</td>
<td>Complete and verify discharge data abstracts.</td>
<td>PHI 101, PHI 307, PHI 201, PHI 311</td>
</tr>
<tr>
<td>10</td>
<td>Prepare health data information for computer processing, storage and retrieval.</td>
<td>PHI 308, PHI 302, PHI 102, PHI 3xx, PHI 201, PHI 311, PHI 205, PHI 100</td>
</tr>
<tr>
<td>11</td>
<td>Maintain specialized registries.</td>
<td>PHI 101, PHI 109, PHI 201, PHI 100</td>
</tr>
<tr>
<td>12</td>
<td>Abstract and retrieve health information used for evaluating patient care and planning in health care and health related programs.</td>
<td>PHI 102, PHI 3xx, PHI 201, PHI 311, PHI 213, PHI 108</td>
</tr>
<tr>
<td>13</td>
<td>Participate in committee functions relative to health information management and patient information systems.</td>
<td>PHI 101, PHI 302, PHI 102, PHI 3xx, PHI 201, PHI 311, PHI 108</td>
</tr>
<tr>
<td>14</td>
<td>Provide data to health care facility staff in quality management studies, utilization review,</td>
<td>PHI 207, PHI 308, PHI 307, PHI 305, PHI 303, PHI 102, PHI 3xx,</td>
</tr>
<tr>
<td></td>
<td>and risk management, planning and research activities.</td>
<td>PHI 201, PHI 311, PHI 108, PHI 100, PHI 213, PHI 108</td>
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<td>---</td>
<td>------------------------------------------------------</td>
<td>--------------------------------------------------</td>
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<tr>
<td>15</td>
<td>Supervise health information management service activities</td>
<td>PHI 101, PHI 109, PHI 102, PHI 201, PHI 3xx, PHI 311</td>
</tr>
<tr>
<td>16</td>
<td>Communicate and collaborate with internal and external stakeholders</td>
<td>PHI 306, PHI 201, PHI 311, PHI 3xx, PHI 106</td>
</tr>
<tr>
<td>17</td>
<td>Design, integrate, implement, evaluate, and manage health-related information systems.</td>
<td>PHI 307, PHI 101, PHI 109, PHI 302, PHI 201, PHI 3xx, PHI 311, PHI 404</td>
</tr>
<tr>
<td>18</td>
<td>Deliver health information services to a diverse range of stakeholders in a variety of settings.</td>
<td>PHI 101, PHI 102, PHI 201, PHI 3xx, PHI 311, PHI 311, PHI 205, PHI 204</td>
</tr>
<tr>
<td>19</td>
<td>Carry out research in health care</td>
<td>PHI 102, PHI 201, PHI 3xx, PHI 311, PHI 205</td>
</tr>
<tr>
<td>20</td>
<td>Able to scan and respond to work-related stress and demands</td>
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</tr>
</tbody>
</table>

### 2.5 Entry Requirements

In addition to meeting the minimum University requirements, candidates for admission to Bachelor of Science in Health Records and Information Management Degree course shall be required to have obtained:

**Either:**

1) A Kenya Certificate of Secondary Education mean grade of C+ (plus) and above with a combination of:

   a. English or Kiswahili C+
   b. Biology or Biological Sciences C+
   c. Mathematics C+
   d. Physics/Chemistry C+
Or

ii) A Diploma with a Credit pass in Health Records and Information Technology from a recognized institution with at least 2 years relevant post qualification experience. In addition the candidate should have obtained a C (plain) at KCSE Or Division III at EACE.

Credit waiver will be considered for students taking the same program in a recognized institution, subject to approval by the Department.

2.6 Duration and Pattern of Study

2.6.1 The Bachelor of Science in Health Records and Information Management shall extend over a period of 4 (four) academic years.

2.5.2 Each academic year shall consist two semesters for Full-time students and three sessions Part-time students.

2.6.3 The students will take a minimum of 12?? units each academic year

2.6.4 Field Attachment/Practicum

This aims to expose students to actual population health issues and problems. The student will be attached to a relevant health organization for three months, which is expected to give them adequate exposure to the required experience and skills in health information management.

2.7 Examination Regulations

The common University examinations regulations governing Undergraduate Degree programmes shall apply.

2.7.1 Mode of Examinations
All units shall be examined at the end of the semester in which they are taken. The assessment of the students’ work shall be on the basis of percentage (100%) marks. The pass mark in all unit courses shall be 40% of the total marks.

2.7.2 Written Examinations
Examinations shall consist of Continuous Assessment Tests (CATS) which shall contribute 30% and University examinations which shall contribute 70%.

**Examination of practical oriented units**

2.7.3 Projects
Units involving field work such as projects shall be examined as follows:
A Supervisor’s Report after the field course shall constitute 30%. The project proposal shall comprise 20% and the project report 50%.

2.7.4 Attachments
Units involving field work such as attachment shall be examined as follows:
A Supervisor’s Report after the attachment shall constitute 30%. Oral presentation, logbook, field supervisor’s assessment report and University supervision shall constitute 70%.

2.6.5 Grading
Each Unit shall be out of 100. The Mark shall be translated into letter grade as follows:

<table>
<thead>
<tr>
<th>Range of Marks (%)</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>70 and above</td>
<td>A</td>
</tr>
<tr>
<td>60 - 69</td>
<td>B</td>
</tr>
<tr>
<td>50 - 59</td>
<td>C</td>
</tr>
<tr>
<td>40 - 49</td>
<td>D</td>
</tr>
<tr>
<td>39 and below</td>
<td>Fail</td>
</tr>
</tbody>
</table>
2.7 Certification

The degree that will be awarded is the Bachelor of Science in Health Records and Information Management (BSc HRIM). In order to qualify for the award of this degree a candidate must have taken and passed all the units (minimum 48 units departmental units), University Common Units (3), School Common Unit (1).

3.0 CURRICULUM REVIEW

3.1 Background

Introduced in 2008, the Bachelor of Science in Health Records and Information Management (BSc. HRIM) has gone through a full cycle as required by the university and therefore the need for its review. To successfully review the program, Kenyatta University through the department of HRIM is collaborating with AfyaInfo, a 5-year USAID funded project whose mission is to collaboratively support the Ministry of health to establish a unified national health management information system that promotes a culture of information use enabled by robust institutional capabilities. Against this collaboration, Afyainfo is supporting KU in its endeavor to train increased numbers of health workers to effectively articulate data needs, manage and analyze data as well as use the data to support evidence based decision making. A multifaceted and consultative approach was adopted by first undertaking an Institutional review/assessment of the department and other supporting constituents. This was followed by a Training Needs Assessment (TNA) of the graduates and the fourth and third year students. Thereafter a technical working group (TWG) was constituted to steer the process. In the end, a one-week curriculum review workshop was held to review the KU HRIM degree curriculum and address the gaps identified in both the institutional review (IR) and Training needs assessment (TNA) studies. In the whole process benchmarking with international institutions offering similar program was emphasized.

3.2 Purpose of the Workshop

The purpose of the workshop was to address the training gaps in the current KU HRIM training program identified in both the IR and TNA studies.
3.3 Methodology

A team of experts from KU and a broad range of health sector stakeholders including Health NGOs, Faith Based Hospitals, Professional Association of HRIOs, Ministries of Health and Universities in Kenya was convened by AfyaInfo to review and re-design the Health Records and Information Management Curriculum (HRIM) in order to address the felt needs of the Health Sector as identified in both IR and TNA studies. This was also aimed at reviewing the curriculum towards the revised HRIM professional competencies in view of required standards of practice in the labour market –locally, regionally and internationally in line with changes in the working environment.

A multifaceted approach was applied in the review process. First a core team of experts drawn from the academics, Ministry of Health, Professional bodies was constituted to spearhead the process. Based on the TNA and IR studies various gaps were identified and together with the old curriculum, eight thematic areas codenamed clusters were identified. Similarly, the core team developed the terms of references (TORs) which were to guide the process. Thereafter, experts drawn from professional bodies, Ministry of Health, Academics, among others were identified and assigned to the various clusters based on their area(s) of specialization under the leadership of a convener. Before organizing the main workshop, two mini- workshops of one day each were organize between the core team and the expanded group of experts. Whereas the first workshop was specifically for debriefing and building consensus on the TOR, the second workshop was meant to take stock on the progress based on the agreed TOR. Broadly speaking, the groups were categorized as follows:

1. Health Management and Information System
2. Informatics (computer applications, informatics skills, softwares)
3. Statistics
4. Anatomy/physiology/pathology/clinical coding and classification
5. Epidemiology/Demography
6. Management (HSM, Economics, Disaster, Policy)
7. Law and Ethics
8. Behavioral Sciences

During the period of the workshop, members of the eight clusters addressed their respective thematic areas of the HRIM degree programs. They would then make presentations before the larger group of experts for plenary response and feedback on their proposed recommendations on the respective module clusters.

3.4 Workshop Structure and Expert Recommendations

Prior to the workshop, a debriefing meeting between the core team and the conveners of the respective clusters was held to assess the progress by the teams and also agree on the best way to go about the five day review in addressing HRIM curriculum. This was in accordance with the agreed module clusters by group, and in alignment with the TNA, revised HRIM professional competencies in view of required standards of practice in the labour market and the best practice report and relevant Health policy documents. It was agreed that the first day of the workshop be utilized in aligning the proposed curriculum based on the revised requirement by the Commission of University Education (CUE) in terms of the expected learning outcomes, course description and finally the references. The next two days were spend on presentations, plenary and incorporating the suggested changes. The remaining two days were spent on consensus building on the proposed front matters, curriculum mapping and the finalizing on the core competencies. In the end, a number of new topics were included in the curriculum while a few areas were considered redundant and therefore omitted in the new curriculum. The following section provides draft BSc. HRIM curriculum as recommended by the expert groups during the workshop.

4.0 COURSE STRUCTURE

4.1 Introduction

This is organized in terms of the university common units, school common units and finally departmental units organized on the basis of the level or year of study
COURSE STRUCTURE

Common University Units

UCU 100: Communication Skills
UCU 103: Introduction to Critical and Creative Thinking
UCU 104: Entrepreneurship

School Common Unit
HSU 100: Basic Life Support and Emergency Care

Level 100 (Year 1)

Departmental Core Units

PHI 101: Health Records Management Systems
PHI 102: Introduction to Medical Statistics
PHI 103: Human Anatomy and Physiology
PHI 104: Human Pathology and Physiology
PHI 105: Computer Application for Health Information Management I
PHI 106: Human Psychology
PHI 107: Principles of Community Health I
PHI 108: Epidemiology for Health Records and Information Managers I
PHI 109: Fundamentals of Health Records and Information Management
PPH 100: Fundamentals of Demography

Level 200 (Year 2)

Departmental Core Units

PHI 201: Hospital Administrative Statistics
PHI 202: Medical Terminology
PHI 203: Foundations of Health Services Management
PHI 204: Essentials of Medical Sociology and Anthropology
PHI 205: Integrated Disease Surveillance and Response
PHI 206: Ethics and Legal aspects of Health Records and Information Management
PHI 207: Health Care and Patient Data Systems
PHI 209: Analysis and Interpretation of Healthcare Data
PHI 210: Computer Applications for Health Information Management II
PHI 211: Web Design and Management
PHI 213: Epidemiology for Health Records and Information Managers II

Electives

PHI 208: Introduction to Health Education and Promotion
PHI 212: Principles of Community Health II
### Level 300 (Year 3)

**Departmental Core Units**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>PHI 301</td>
<td>Design of Health Information Systems</td>
</tr>
<tr>
<td>PHI 302</td>
<td>Electronic Health Records Management</td>
</tr>
<tr>
<td>PHI 303</td>
<td>Management of Health Information Systems</td>
</tr>
<tr>
<td>PHI 304</td>
<td>Monitoring and Evaluation for Health Managers</td>
</tr>
<tr>
<td>PHI 305</td>
<td>Community-based Health Management Information System</td>
</tr>
<tr>
<td>PHI 306</td>
<td>Health Records and Information Management Profession</td>
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<tr>
<td>PHI 307</td>
<td>Facility-based Health Management Information System</td>
</tr>
<tr>
<td>PHI 308</td>
<td>Healthcare Data, Quality and Technology</td>
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<tr>
<td>PHI 309</td>
<td>Computer Programming</td>
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<tr>
<td>PHI 310</td>
<td>Public Health Informatics</td>
</tr>
<tr>
<td>PHI 311</td>
<td>Research Methods for Health Records and Information Managers</td>
</tr>
<tr>
<td>PHI 312</td>
<td>Health Services Management I</td>
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</table>

**Electives**

<table>
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<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>PHI 313</td>
<td>Applied Epidemiology</td>
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<tr>
<td>PHI 314</td>
<td>Fundamentals of Disaster Management</td>
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### Level 400 (Year 4)

<table>
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<th>Course Title</th>
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<tbody>
<tr>
<td>PHI 401</td>
<td>Health Policy and Planning</td>
</tr>
<tr>
<td>PHI 402</td>
<td>Contemporary Issues in Health Records and Information Management</td>
</tr>
<tr>
<td>PHI 403</td>
<td>Foundations of Health Project Management</td>
</tr>
<tr>
<td>PHI 404</td>
<td>Evaluation in Medical and Health Informatics</td>
</tr>
<tr>
<td>PHI 405</td>
<td>Research Project on Health Records and Information Management (2 units)</td>
</tr>
<tr>
<td>PHI 406</td>
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### 4.2 University Common Units

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</table>
4.3 School Common Unit
HSU 100: Basic Life Support and Emergency Care

4.4.1 Level One
UNIT CODE: PHI 101: HEALTH RECORDS MANAGEMENT SYSTEMS

Expected Learning Outcomes

By the end of this unit the learner should be able to:
1. Distinguish between health, public and other general records
2. Explain the historical background, importance, use and value of health records and their role in socio-economic and public health activities.
3. Describe major functions of Health Records department
4. Describe the administration of statistical returns collection, transmission, compilation and dissemination
5. Demonstrate health information Officer’s characteristics, diligence in performance of duties, responsibilities and accountability.

Course Description

Types of health records: health, public and other records: historical background of health records: organization, importance, use and value and sources. Health records Department major functions: registrations, Filing and tracing systems, bed bureau, waiting list management, coding and indexing procedures, maintenance of indices, Clinic: definition and preparation, Admission and discharge procedures. Statistical returns: bed returns, clinic attendance and morbidity statistics collection, compilation, dissemination and verification. Introduction to ethics and Legal aspects of health records. Information Officer: characteristics, duties and responsibilities.

References
6. McMiller K. (2003), *Being a Medical Records/Health Information Clerk* 3\(^\text{rd}\) edition, Pearson Education,

**PHI 102: MEDICAL STATISTICS FOR HEALTH RECORDS AND INFORMATION MANAGERS I**

**Expected Learning outcomes**

By the end of this unit the learners should be able to

1) Define basic statistical terminologies
2) Explain the role of statistics in health
3) Perform basic statistical operations of descriptive statistics such as measures of central tendency and measures of dispersion.
4) Apply probability theory and probability distributions to perform basic computations
5) Integrate appropriate computer applications e.g. Ms-excel and Ms Access in performing data management and analysis.
6) Appraise the relevance and application of different statistical tools in the management of health information.

**Course Description**

**Introduction to medical statistics: Meaning, terminologies, branches, data types and forms:** Measurement: Properties, scales: **Descriptive statistics:** Frequency distributions, measures of central tendency and dispersion, **Skewness, Kurtosis, and Coefficient of Variation,** Application: Data presentation: **Elementary probability; probability theory, laws of probability, Bayes theory and applications:** Probability distributions; Random variables, **Binomial probability distributions,** normal probability distributions: **Sampling**
distribution; The central limit theorem. Computer applications e.g. Ms Excel and Ms Access:
Role of statistical methods in epidemiology and public health. Ratios, proportions rates;
Population-based rates and measures; Statistical Inference: Hypothesis testing.

References
   Edition 1, Willey and Sons, Blackwell Sciences
   publication?
5)
   University Press, UK

PHI 103: HUMAN ANATOMY AND PHYSIOLOGY

Expected Learning Outcomes
By the end of this course the learner should be able to:
1. Define human anatomy and physiology
2. Describe the major human body systems.
3. Define body systems and list the major organs that are included in each system
4. Describe the Cell Cycle, and where the processes of mitosis and meiosis fit into that
   cycle
5. Describe the embryology processes
6. Discuss the anatomical features and physiology of the different body systems.

Course Description
New Course Introduction: Definition of Anatomy and Physiology and related terms: Human
single cell, body tissues, organs, cavities and regions; mitosis, chromosomal complements:
Embryology process: Anatomy and physiology of: integumentary system, nervous system and special senses, muscular skeletal system, circulatory system, lymphatic system, respiratory systems, digestive system, urinary system, endocrine system, reproductive system

References


PHI 104: HUMAN PATHOLOGY I

Expected Learning Outcomes

By the end of this course the learner should be able to:

1. Demonstrate knowledge of the terminology in pathology

2. Demonstrate basic understanding of diseases and disease patterns and the terms used in identifying disease.

3. Describe the processes of cell injury, adaptation to environmental stress, developmental and genetic factors in disease, neoplastic disturbances and hemodynamic disorders.

Course description
Introduction: definition of terms used pathology, diseases and disease patterns: Cellular adaptations to disease/cell injury and death- hypertrophy, hyperplasia agenesis, aplasia, dysgenesis, hypoplasia, atrophy, involution, metaplasia, degeneration, apotosis, necrosis, calcification, scerlosis: Developmental and Genetic Factors in Disease-Basic of genetics, abnormal fetal development, chromosomal disorder, abnormalities of autosomal chromosomes, abnormalities of sex chromosomes: Immunologic disorders, metabolic, fluid and hemodynamic derangements and deficiencies, Environmental Factors in Disease: physical injury, chemical injury, thermal injury: Neoplasms.

References

ASC 306: Demography and Population Studies

Expected Learning Outcomes

By the end of the unit the student should be able to:
1. Differentiate between formal demography and population studies
2. Identify the major determinants of change in human populations
3. Determine the effects of population change on populations
4. Adjust/standardize mortality/fertility measures for purposes of comparison
5. Measure longevity in human populations

Course Description

Demography: definitions; rates ratios, proportions, importance and uses. Sources: census, registration, surveys. Population: definition, census growth, factors, effects, control and policies.

References

PHI XXX: HUMAN PATHOLOGY II

Expected Learning Outcomes
By the end of this course the learner should be able to:

1. Explain the types and specific features of diseases that can affect the different body systems
2. Describe the various relevant investigations carried out in order to make a diagnosis of a disease

Course Description
Diseases affecting specific organs or systems including: Cardiovascular, Respiratory, Hepatobiliary and Pancreas, Sinonasal and Upper Aerodigestive Tract, Ear, Nose, Throat,

References

PHI XXX: HUMAN PATHOLOGY II

Expected Learning Outcomes

By the end of this course the learner should be able to;
1. Explain the types and specific features of diseases that can affect the different body systems
2. Describe the various relevant investigations carried out in order to make a diagnosis of a disease

Course Description
Diseases affecting specific organs or systems including Cardiovascular, Respiratory, Hepatobiliary and Pancreas, Sinonasal and Upper Aerodigestive Tract - Ear, Nose, Throat, Larynx, Esophagus, Gastrointestinal - Stomach, Small and Large Intestine, Nervous System - Trauma, Infection, Demyelinating Diseases, Degenerative Diseases, Metabolic and Tumor, Urinary System, Obstetrics and Gynecology, Breast Disease and Male Genital System diseases, Musculoskeletal System and Integument diseases

References


SCO 100: Fundamentals of computing

Expected Learning Outcomes:

Upon successful completion of this course the learner will be able to:

1. Identify and select appropriate application software to carry out various computer related tasks
2. Explain purpose of the operating system and using Windows operating System carry out basic file/folder operations
3. Describe the various components of a computer and commonly used terminology in computing
4. Apply application software in health records management

Course Description

Introduction to Computers: Definitions, History and classification of computers; Components of the system unit, input, processing, output, storage devices and peripheral units; Software, System and Application software: Operating systems and Utility programs; Programming languages and Utilities; Number systems; Application Software: Word processors, database management systems, Spreadsheets, PowerPoint; Introduction to internet and world wide web; Computing careers and Certifications.

References


PHI 106 I: HUMAN PSYCHOLOGY I (Revised)

Expected Learning outcomes

By the end of this course the students should be able to:

1. Explain the historical perspectives, concepts of psychology
2. Explain the various personality types and the factors determining these types
3. Discuss the causes, symptoms and ways of handling frustrations, anxiety and conflict
4. Analyze the theories of perception and their effects on human behaviour
5. Analyze the process of socialization and how it affects health

Course Description


References
3. Linda V. Berens, Darion Nardi (1999). The 16 sixteen personality types. Telos publications, Canada

**PHI 106 II: HUMAN PSYCHOLOGY II (New)**

**Expected Learning outcomes**

At the end of this course the learners should be able to:

1. Explain the concept of motivation
2. Discuss the skills in stress management
3. Demonstrate ability to use the counseling skills

**Course Description**

Motivation: definition, theories, factors. Stress: Definition, causes, effect of stress on health, management, and prevention. Counseling: definition, theories and factors, practical application of the theories. Role of the health records and information professional in counseling – peers, patients and other stakeholders. Practical – testing counseling skills

**References**


**PHI 107: PRINCIPLES OF PUBLIC HEALTH**

**Expected Learning Outcomes**

At the end of this course, students should be able to:

1. Identify how social and behavioral interventions affect population health.
2. Explain how policy and law affect population health
3. Identify the roles of public health in addressing health disparities and the needs of vulnerable populations
4. Describe the key concepts and development of public health
5. Critically reflect on health inequalities and inequities with the Kenyan population.
6. Describe the role of individual and environmental level determinants of health on the health and well-being of populations.
7. Describe the basic organization of healthcare and public health systems and the contributions of health professionals

**Course Description**

Evolution and Historical developments of Public health: Elements of Public Health Definitions: Health inequities and inequalities: equity, access, gender and empowerment:

References


PHI 108: EPIDEMIOLOGY FOR HEALTH RECORDS AND INFORMATION MANAGERS I

Expected Learning Outcomes

At the end of this course, students should be able to:

1. Define epidemiology and related terms associated with public health practice
2. Demonstrate an understanding of epidemiology as a discipline, including its purpose and scope and how it contributes to our understanding of health problems
3. Compute, interpret and apply basic measures of morbidity, mortality, associations, and public health impact
4. Critically think about health research, particularly observational research on humans.
Course Description


References


PHI 109: FUNDAMENTALS OF HEALTH RECORDS AND INFORMATION MANAGEMENT

Expected Learning outcomes

By the end of this unit the learner should be able to:
1. Explain principles and procedures used in organization, management and adoption of electronic health records.
2. Explain the creation, storage, retrieval, numbering of file systems procedures and records workflow.
3. Explain hospital statistics quantitative, qualitative data collection forms design and control
4. Describe the management of different storage and retrieval systems for both active and inactive records
5. Describe the role and Use of computer application in data collection and reporting.

Course Description

Introduction into the principles and procedures used in medical record organization: creation, retention, numbering. Filing systems design: procedures, active and inactive storage and retrieval systems. Forms design and control. Data collection system design. Application and use of computer application in data collection: collection, transmission and reporting: The functions and duties of the medical record Manager and relationships with the health care delivery system.

References


**PH XXX MICROBIOLOGY AND PHARMACOLOGY**

**Expected Learning Outcomes**

By the end of this course the learner should be able to;

1. List the pathogenic microorganisms, their general characteristics, classifications, nomenclature and methods of investigations
2. Define pharmacology and related terms
3. Differentiate between chemical, generic, and trade names for drugs
4. Describe medical microbiology, bacterial structure and composition
5. State the normal flora and infective microorganisms of the human body and describe the host parasite relationship
6. Describe the major drug categories and vaccines and their role in combating disease

**Course Description**

Introduction: Medical Microbiology: Bacteriology, Virology, Mycology and Immunology, Historical Foundation; Characteristics of microorganisms: Virus, Bacteria, Fungus, Bacteria: description, nomenclature, classification, Gram stain; Terminology: Definition of normal flora, carriage, etiology, pathogenesis, virulence, Epidemiology: laboratory diagnosis, prevention and control. Definition of pharmacology and related terms; drug categories and their indications, chemical, generic, and trade names for drugs; poisoning.

**References:**


**4.1.2 Level 2 (second year)**
PHI 201: HOSPITAL ADMINISTRATIVE STATISTICS

Expected Learning Outcomes

By the end of the unit, the learner should be able to:

1) Classify the different types of hospital data.
2) Apply Standard operating procedures in patient coding.
3) Identify and Design Hospital data capture forms.
4) Compute basic summary measures (%, rates, proportion, etc) in relation to patient’s categories.
5) Compute basic summary measures (% rates, proportion, etc) in relation to hospital consumables.
6) Use hospital data to measure efficiency and effectiveness for evidence based decision making.

Course Description

Hospital Data; definition, Types, sources, uses and importance: In patient statistics; bed occupancy, Case Fatality, length of stay, turnover intervals, nosocomial infections etc, Causes of Death, Causes of diseases: Out Patient; Daily attendance, disease categories, notifiable diseases: Computer applications in hospital data: Computation of Percentages, Rates and Ratios: Hospital consumables; food requirements and Nonfood Items, cost estimates: Data capture forms; Principles and types of form design: Hospital data and information in decision making: Data collection: direct observation, interviewing techniques; abstraction from published records

References


**PHI 202: MEDICAL TERMINOLOGIES AND NOSOLOGY**

**Expected Learning outcomes:**

At the end of the unit, the learners will be expected to be able to:-

1. Differentiate between root, prefixes and suffixes and explain how they change a word’s meaning
2. Explain protocols for interpreting abbreviations
3. Describe the purpose of disease classification
5. Describe the procedures of coding and indexing, abbreviation, punctuation and other convention, Diagnostic indexing,
6. Demonstrate knowledge on quality in disease classification reports, Statistical presentation

**Introduction:** basic components of medical words, Prefixes, Suffixes, Spelling protocols, Abbreviations, Definitions; disease classification and International classification of procedures in Medicine (ICPM), disease classification: historical development of I.S.C.D. and I.C.P.M., Types of classification of diseases; operations and procedures, abbreviations, conventions, punctuation: primary and secondary diagnosis: Dual Classification; diagnostic index, the uses, methods of storage and retrieval.

**REFERENCES**

**PHI 203: FOUNDATIONS OF HEALTH SERVICES MANAGEMENT** (Suggested to be a level 1 unit)

**Expected learning outcomes**

By the end of the course unit, the learner should be able to:

i) Define various terms in health service management

ii) Explain how the theories, principles, functions, roles, skills and levels of management apply in health care services

iii) Demonstrate an understanding of leadership in health care

iv) Describe health care organization and Organizational Behaviour theories

v) Describe the structure of healthcare system and health sector reforms in Kenya

**Course Description**

Management in health care: definition, theories, principles, concepts, functions; management roles, skills and levels; Problem solving and decision making. Leadership in health care: Definition, principles, types, roles and theories. Health Care Organization: nature and meaning, typology, evolution of organization theory, structure, organizational change and conflict. Organizational Behaviour: definition, importance, challenges and opportunities, individual behavior, group dynamics and interpersonal influence. Structure of health care system and health sector reforms in Kenya

**References**


**PHI 204: SOCIETY, HEALTH AND INFORMATION**

**Expected outcomes:**

By the end of this course, learners are expected to:

1. Explain the basic concepts relating to society, health and information
2. Explain the society health seeking behavior and attitudes
3. Discuss the bio-psycho-social factors of illness experience and sick role
4. Analyze the different health care options in the society
5. Describe the doctor-patient relationship which ensues in the process of consultation
6. Demonstrate ability to critically examine the challenges of health information systems in developing countries

**Course Description**

Definitions: Culture. Lay theories: health, disease and illness. Lay perceptions of illness causality: **Individual, natural, social and supernatural worlds. Health care options:** Popular, traditional, conventional health care systems, Integration of conventional and traditional medicine in health care delivery system. Health seeking attitudes and behaviour: **health belief model, Leventhal’s model of illness cognition.** Bio-psycho-social factors of illness experience and sick role: **gender, socio-economic factors.** Doctor-patient relationship: **types, factors - situational vulnerability and authority.** Health care in developing countries: **socio-cultural barriers in adoption of health information management technology.**

**References**


**PHI 205: INTEGRATED DISEASE SURVEILLANCE AND RESPONSE**

**Expected Learning Outcomes**

By the end of the course, learners will be able to:

1. Outline the historical development of public health surveillance and disease reporting.
2. Acquire knowledge on public health surveillance design, implement and evaluate a system.
3. Describe the role of surveillance in public health; uses of surveillance; essential elements of a surveillance system; types of and sources of surveillance
4. Demonstrate knowledge about the history, structure or surveillance systems at the local, national and international levels
5. Use evidence and research to inform health policies and programs
6. Demonstrate ability to collect, store, retrieve and use accurate and appropriate information on public health issues

**Course Description**


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systems: Surveillance in special situations and populations: humanitarian crisis, public health emergencies, and mass gatherings.

References


PHI 206: LEGAL ASPECTS OF HEALTH RECORDS AND INFORMATION (Revised)

Expected Learning Outcomes

At the end of this unit the learner should be able to:

1. Explain basic legal concepts, theories and principles of law
2. Classify different types of laws
3. Identify elements of contract
4. Explain the theory of legal liabilities
5. Identify the current reporting requirements and compliance with International Standards and GOK instruments
6. Discuss the role of law in relation to health records and information
7. Explain the basic ethics and Legal aspects of health records and information. (security, confidentiality, subpoenas)

8.

Course Description


References


10. Lewis, Marcia and Tamparo, Carol, (2002)*Medical Law, Ethics, and Bioethics for Ambulatory Care*. Philadelphia: F.A. Davis


**PHI 206XXX: ETHICAL ASPECTS OF HEALTH RECORDS AND INFORMATION MANAGEMENT (New)**

**Expected Learning Outcomes**

At the end of this unit the learner should be able to:

1. Explain basic ethical concepts, theories and principles
2. Respond to ethical dilemmas and problems in health care
3. Discuss the role of ethics applicable to health records and information
4. Recognize and apply professional standard code of ethics

**Course Description**

Introduction: basic concepts, ethics, morality, etiquette, sources of morality. Ethical reasoning. Ethical dilemmas. Ethical approaches: Deontologism, Teleologism, Human rights, Egoism and Virtue ethics. Ethical and cultural relativism. Ethical principles: Beneficence, Nonmaleficence,

References

PHI 207: HEALTH CARE AND PATIENT DATA SYSTEMS
Expected Learning Outcomes
By the end of this unit the learner should be able to:

1. Identify the various health care and patient data systems
2. Describe the health care delivery system, players and actors
3. Distinguish between front end applications and back-end applications
4. Integrate the role of accrediting and licensing bodies play in the delivery of health care
5. Integrate the various health care and patient data systems

Course description
Developing patient care information systems (PCISs): process and challenges; organizational issues; Information technologies for (health care) work; practices of developing and evaluating IT applications in health care; political texture process of organizational change; potential roles of IT applications in health care practices; Optimal utilization of IT applications

References
2. Cutler P (1979) *Problem Solving in Clinical Medicine – From Data to Diagnosis*. William & Wilkins, Baltimore, MD

**PHI 3xx: MEDICAL STATISTICS FOR HEALTH RECORDS AND INFORMATION MANAGERS II**

Old title **PHI 209: ANALYSIS AND INTERPRETATION OF HEALTH CARE DATA**

Expected Learning Outcomes
By the end of the unit, the learner should be able to

1) Explain the various sources of health information
2) Categorize data based on the different inferential statistical computation
3) Perform computations of different types of inferential statistics from given data sets
4) Validate and manage statistical computations using relevant statistical packages such as SPSS, Epi Info, PSPP, STATA, SAS, etc

5) Interpret and apply the computed test statistics

6) Appropriately use the computed statistics in health report writing.

Course Description

Sources of health information; routine, non-routine: Categories of data and application; nominal, ordinal, interval, ratio: Sample size estimation; Confidence interval; attachment of confidence, population estimation: Hypothesis testing: T-test, Paired sample t-tests, Chi-Square tests, Fisher exact tests, Mc-Nemar test, Odds ratio and Relative risk, F-test (ANOVA), Correlation analysis, Regression analysis: Other Selected tests; The Sign test, Median test: Tabulation/Analysis plan: Practical’s on statistical packages (SPSS, Epi Info, PSPP, STATA, STATISTICA, R, etc) for data analysis: Interpret and apply computed statistics in health report writing. Methods of quality statistical process control in relation to the management of health information

References


2) Marcello Pagano and Kimberlee Gauvreau's (year??) Principles of Biostatistics, Second Edition

3) Wayne Daniel (Year?) Biostatistics: A Foundation for Analysis in the Health Sciences, 9th Edition


PHI 210: COMPUTER APPLICATIONS FOR HEALTH INFORMATION MANAGEMENT II
Expected Learning Outcomes

Upon successful completion of this course the learner will be able to:

1. Identify basic components of a computer network
2. Identify the new trends in data communication
3. Describe the data communication standards
4. Implement a simple LAN and a WAN that meet a specific set of criteria
5. Demonstrate an understanding of the general functions of network administration
6. Articulate the social impact of the networking technology particularly on issues related to security and privacy.

Course Description

Introduction to Computer networks; evolution of computer networks; types of computer networks; data communication models; analogue and digital data communication; multimedia; Network topologies; Network architecture: protocols, interfaces and Internetworking hardware; the ISO model and concepts of open standards, TCP/IP stack; communication media; telecommunication systems; wireless communication modes; modern network technology; circuit switching versus packet switching, grid and cloud computing; network security; network administration.

References:


PHI 211 WEB DESIGN AND MANAGEMENT

Expected Learning Outcomes

Upon successful completion of this course the learner will be able to:

1. Identify Web site management issues that relate to Web servers
2. Describe the structure of the World Wide Web as interconnected hypertext documents
3. Describe some presentation technologies, such as, Cascading Style Sheets and DHTML.
4. demonstrate an understanding of application of the website in relying health information
5. Develop a management strategy to effectively deal with updates, maintenance, backup
and security of Web sites
6. Administer the functionality of websites with given Web tools and use those tools to
manage and update a site

Course Description

Introduction to Web design environment, principles of web design, planning site layout and
navigation, web applications design, web typography, colors and images, working with CSS;
web authoring tools, web applications on computers and mobile devices: web accessibility,
standards-based coding; flexible web applications using HTML5/XML-based layouts, managing
multimedia authoring; web authoring software; scripting languages; Asynchronous JavaScript
and XML (AJAX); interactive websites with Java scripts and PHP; storage and geo-
location.

References:

   Program”, Prentice, Hall, 0-13-016143-8
   Program”, Prentice, Hall, 2000, 0-13-028417-3 www.w3schools.com
   41097-9.

PHI 212: PRINCIPLES OF COMMUNITY HEALTH

Expected Learning Outcomes

By the end of the course, students will be able to:

1. Identify the conceptual frameworks for community health
2. Identify the role of the health professionals in promotion of health and prevention of
disease.
3. Develop, implement and evaluate the interdisciplinary interventions for their community
   addressing community health issues
4. Describe the nature, philosophy and scope of community health
5. Diagnose current community health problems and issues.
6. Use the "community as client" approach to apply concepts of disease prevention, health promotion, as well as skills and techniques in providing care to the target population.
7. Apply both biostatistical/epidemiological research methods and findings to improve/enhance the delivery health care in the community.

Course Description

Rationale and principles of community health care: Evolution of community health care: Determinants of health: Community diagnosis: Behavioral change and health: Public health strategies: Community Health Strategies: Organization and management of health care services at community, national and international levels: Community health services to special groups: Traditional and complimentary sources of health care services.

References


PHI 213: EPIDEMIOLOGY FOR HEALTH RECORDS AND INFORMATION MANAGERS II

Expected Learning Outcomes

At the end of this course, learners should be able to:

1. Explain the principal characteristics and applications of descriptive and analytical epidemiology.
2. Explain the purpose and characteristics of public health surveillance.
3. Describe sources of data and data collection systems commonly used for public health surveillance.
4. Describe the steps of an outbreak investigation.
5. Describe the major types of epidemiologic research (experimental, cohort, and case-control) and identify the strengths and weaknesses of each.
6. Design, conduct epidemiological studies
7. Demonstrate the use of lifetables in epidemiological measurement
8. Apply epidemiology in healthcare policies

Course Description


References

2. Rothman KJ. Epidemiology, an introduction. Oxford University Press
4.1.3 Level 3 (Third year)

PHI 301: DESIGN OF HEALTHCARE INFORMATION SYSTEMS

Expected Learning Outcomes

Upon successful completion of this course the learner will be able to:

1. Explain the concepts of systems analysis and design
2. Apply the design techniques to model health information systems
3. Design health information system using the data modeling tools
4. Involve users in the development process of health information systems
5. Demonstrate an understanding of the implementation of health information system from a given design

Course Description

The general concept of a system. Natural systems. Components of an information system. Examples of health information systems. The systems life cycle (SDLC). Systems analysis: techniques and tools: fact-finding methods: document searches, interviews, questionnaires, observation. System design techniques: process modeling, data flow diagrams, data modeling: entity relationship diagrams. Object oriented design: UML, HL7, class diagrams; System design, development testing and implementation; importance of user involvement in the development process.

References:


PHI 302: UNIT TITLE: ELECTRONIC HEALTH RECORDS MANAGEMENT

Expected Learning Outcomes

At the end of this course, the learner should be able to:

1. Explain the concept of EMR/EHR in healthcare delivery, the impact of EMR/HER in the health care environment.
2. Identify and implement new EMR/HER trends in the management and processing of health records information
3. Adapt and use EMR/HER for health records and information management.
4. Identify and apply EMR/HER standards, policies, ethics for data quality and control.
5. Collect, collate, analyze, interpret and disseminate health information from EMR systems for evidence based decision making.
6. Formulate and recommend procedures to deal with challenges affecting EMR/HER applications in health records management.

Course Description

Electronic health records management: Definition, use of EMR/HER, benefits standards, functionality, confidentiality, security, impact of the EMR/HER in the healthcare environment, Data Collection, collation, analysis, interpretation, uses ,dissemination of health information from EMR systems, Data for evidence based decision making, Authenticity and reliability of electronic records, Data quality, work flow Legal issues and policies, Storage and preservation: Archiving, Classification and indexing, Retrieval, Processes and procedures for appraisal, Retention and disposal of electronic records, guidelines: Formulation and recommendation procedures, challenges on EMR/HER applications.

References:


PHI 303: MANAGEMENT OF HEALTH INFORMATION SYSTEMS.

Expected Learning Outcomes:

By the end of this unit the learner should be able to:

1. Define Health Information Systems (HIS) and its historical development in Kenya
2. Describe the value and role of HIS in managing public health and socio-economic activities
3. Identify various sources and types of health information
4. Apply the various sources and types of health information in administrative applications in health service delivery.
5. Apply HIS tools to health information
6. Apply biomedical informatics in HIS reports and procedures
7. Demonstrate key HIS attributes in HIS dissemination and knowledge management
8. Demonstrate ability to identify and manage health care information frauds, abuse and risk and quality management

Course Description: no changes


References and course text books
3. Merida L. J., (2007), Information Management for Health Professions, publisher, place of publication etc
5. Richard Gartee, (2011), Health Information Technology and Management publisher, place of publication etc

PHI 304: MONITORING AND EVALUATION FOR HEALTH RECORDS AND INFORMATION MANAGERS

Expected learning outcomes;
By the end of the course, the learner should be able to:

i) Explain the importance of results based management in programs
ii) Explain the purpose of monitoring and evaluation of health care programs
iii) Explain the importance of results based management in programs
iv) Describe various types of evaluation and their importance
v) Outline the key sources of data for monitoring and evaluation of health care programs
vi) Explain the various frameworks used in evaluation
vii) Describe the key components of a Monitoring and Evaluation plan

Course description


References

5. Samuel Otoo, Natalia Agapitova and Joy Behrens(June 2009):The Capacity Development Results Framework, place of publication and publisher?

PHI 305: COMMUNITY-BASED HEALTH MANAGEMENT INFORMATION SYSTEM
Expected Learning Outcomes:

By the end of this unit the learner should be able to:

1. Define Community Based Health Management Information System and sources.
2. Collect and analyse community health data and demonstrate ability to store and disseminate the same
3. Define health indicators for monitoring and evaluating of community health status
4. Identify various stakeholders such as community health workers and the challenges faced in the collection and transmission of community based health data
5. Identify approaches to designing and appraising community based data collection tools (manual and electronic)
6. Demonstrate the ability to develop and use Information Communication Technologies in Community based health information systems

Course Description

Definition and Concepts: community-facility interface: Community data: types, sources, design of data collection tools (Manual and Electronic) and collection methodologies: Analysis/interpretation, data security, storage and dissemination, and feedback: Community units (households) mapping and information flow: Health data indicators collected at community units; coverage; reporting for best-informed action: Role of Community workers in data collection and quality assurance, management and analysis: Strengthening Community-based Health Information System through involvement of stakeholders.

References

3. Daniel S. Blumenthal, Ralph DeClemente, (2004), *Community- Based Health Research: Issues and Methods*: place of publication and publisher?
4. Jane S. Durch, Linda Bailey, Michael Stoto (1997), *Improving Health in the Community: A Role for Performance Monitoring* place of publication and publisher?

**PHI 306: HEALTH RECORDS AND INFORMATION MANAGEMENT PROFESSION**

**Expected Learning Outcomes:**

By the end of this unit the learner should be able to:

1. Explain the development of the HRIM profession, Code of practice and professional ethics.
2. Describe the benefits of membership in a professional association, registration, Certification, Accreditation, and affiliation
3. Explain the impact of information technology on the HRIM profession.
4. Explore the expanding role of the HIM professional; Regulation, Standards, policies and guidelines
5. Outline the organizational structure, delivery of healthcare in hospitals and relationship with other allied health professionals and institutions
6. Synthesis the associated roles of HRIM professionals: Communication role: Promotion of health information use and consultancy services
7. Conceive Career opportunities for health information managers, Continued professional education, job placement and internship

**Course Description**

Development of the HRIM profession: Benefits of membership in a professional association, registration, certification, accreditation and affiliation: The impact of information technology on the HRIM profession: Exploration of the expanding role of the HIM professional, regulation, standards, policies and guidelines: Organizational structure and delivery of healthcare in hospitals and other healthcare agencies: Associated roles of HRIM professionals, Communication: types, channels, factors affecting communication, effective
communication, media of communication, role of communication in health care delivery, promotion of health information and use and consultancy services: Career opportunities, job placement and internship.

References and course text books:


**PHI 307: Facility Based Health Management Information System**

**Expected Learning outcomes**

By the end of this unit the learner should be able to:

1. Define Facility Based Health Management Information System
2. Identify facility data needs and sources guiding Annual Operation Plan (AOP)
3. Identify approaches to designing and appraising facility based data collection tools
4. Identify health indicators for epidemiologic diseases’ monitoring at facility level
5. Demonstrate skills in Data Collection, Analysis, Synthesis, mining and validation of facility health data
6. Demonstrate ability to store and disseminate according to the national data collection guidelines and standards including Master Facility List (MFL)
7. Demonstrate the ability to develop and use ICT in facility based health information management including geocoding, GIS and e-health
8. Describe the sustainability of facility Health information system, capacity building and quality assurance
9. Demonstrate ability to secure facility health information and create a disaster recovery plan (DRP)

Course Description

Definition and Concepts: facility - community interface; facility data sources, collection analysis/interpretation, storage and dissemination: Facility-based information systems development and processes: Role of facility workers in data collection, management and analysis: Ethical issues: Integration of ICT in facility data management: Resources and managerial support

References

4. Ivan P. Fellegi and Jacob Ryten, (2000)A Peer Review of the Swiss Statistical System,

**PHI 308: HEALTH CARE DATA, QUALITY AND TECHNOLOGY**

**Expected Learning Outcomes**

Upon successful completion of this course the learner will be able to:

1. Explain the role of quality healthcare data to stakeholders
2. Demonstrate an understanding of health data
3. Apply quality assurance techniques when handling health data
4. Administer Regulatory agency requirements for quality improvement, utilization management and risk management

**Course Description – No major changes**

**Introduction to health data use and users; overview of the patient record**: data collection standards; basic principles of data collection; methods to ensure data quality; data quality monitoring methods and solutions. Quality Assurance: definition; Quality Assurance in health care; QA policy needed to ensure quality of care; Role of the consumer. Tools for process analysis and management. Regulatory agency requirements for quality improvement, utilization management and risk management.

**References**

**PHI 309: COMPUTER PROGRAMMING**

**Expected Learning Outcomes**

Upon successful completion of this course the learner will be able to:

1. Develop an understanding of the form and structure of the C++ programming language or any other programming language
2. Implement solutions to a variety of programming problems using the C++ programming language, include selection, repetition, functions, manipulate arrays using pointers, handle a variety of structures, and manipulate files
3. Write searching and sorting techniques for health data
4. Create a working computer program (coding, compilation, execution)
5. Demonstrate an understanding of common methods and algorithms used in computer problem solving
6. Express algorithms used in computer problem solving in the C++ language

Course Description

Overview of computer and programming languages; Problem Solving; process, Analyze, Problem Analysis; Algorithm discovery, Algorithm design strategies, Stepwise refinement, Control requirements; C++; Syntax, Semantics, Program Development Process, Data Structures; Logical, Precedence rules, Control Structures, Sequencing; Input and output statements; Assignment statements; Looping; Repetition; Functions: Parameters definition and passing; prototypes; Data Structures; Abstract data types: Records, integers, Strings; Files; Pointers; Searching and Sorting.

References:


PHI 310: PUBLIC HEALTH INFORMATICS

Expected Learning Outcomes

Upon successful completion of this course the learner will be able to:
1. Describe the historical development of today’s Information Technology systems
2. Analyze current healthcare information systems
3. Apply the various tools used in Information Technology
4. Recognize the process/steps of implementing health information systems from idea inception through systematic execution
5. Demonstrate an understanding of application of informatics as used in Public Health including ‘meaningful use” of technology in health care systems
6. Recognize the challenges facing Public Health Informatics and the critical role that informatics experts play in seeking for the possible solutions

Course Description
Introduction to Public Health Informatics; Evolution of Public Health Informatics; Trends in global adoption of health informatics products; Prevailing public health information systems in Kenya; Analysis, design, implementation, and evaluation of public health information systems; Application of health informatics products; New opportunities and emerging trends; Challenges and barriers facing Public Health Informatics; Future direction of informatics; Laboratory / field work section focused on health information systems.

References:


PHI 311: RESEARCH METHODS FOR HEALTH RECORDS AND INFORMATION MANAGERS

Expected Learning Outcomes

At the end of this unit the learners should be able to:

1. Explain the concepts of health research.
2. Critically review literature and apply APA style of referencing
3. Identify the sources, types, and importance of health data.
4. Formulate a research problem, question, objectives and hypotheses.
5. Demonstrate ability to design a study, sample, develop research tools, collect data in a scientific inquiry.
6. Manage and analyze data, discuss and disseminate results.

Course Description

Introduction to health research: Definition of concepts, types, importance: Types of health data and sources: Proposal development: problem identification and problem
statement, development of research questions, hypothesis/objective: Conceptual/Theoretical frameworks: Literature review and referencing. Methodology: study designs in health, sample size determination and Sampling techniques: Data collection methods and tools; data quality control, data analysis, data interpretation, Research ethics, report writing and dissemination of findings.

References
5. Glendale, C. A., Thomas, D. R. and Hodges, I. D. (2010). Designing and managing your research project: Core knowledge for social and health researchers. Los Angeles, Publisher??

PHI 312: HUMAN RESOURCE MANAGEMENT FOR HEALTH RECORDS AND INFORMATION MANAGERS (Suggested to be a Level 2 Unit)

Expected learning outcomes
By the end of the course unit, the learner should be able to:
   i) Define various terminologies used in health services management
   ii) Explain strategies for building a health information management team
   iii) Acquire knowledge on Human resource management responsibilities in health records and information
   iv) Demonstrate an understanding of performance management and motivation
   v) Describe HRM practices in health care services

Course Description
Human resource management: Definitions, concepts, principles and theories. Human resource management responsibilities in health records; Legislative and regulatory requirements for managing employees in a health care organization. **General HRM practices.** Time Management; definition, importance, principles, techniques; Change management; Performance Management and appraisal; concepts and methods. **Motivation and retention strategies in health care management;** Internal and external challenges that face a health service information manager; Strategies for building a health information management team.

**References**


**PHI 313: APPLIED EPIDEMIOLOGY - Elective modified**

**Expected Learning Outcomes**

By the end of the course students will be able to:

1. Discuss current issues and themes in applied Epidemiology and critically assess epidemiological studies in these areas.
2. Explain the contribution of epidemiology to selected major areas of health.
3. Illustrate and understanding of principles and methods in epidemiology

**Course Description**

**Introduction and review of study designs: Observational studies and Experimental Epidemiology: Causation and Confounding:** Non Communicable diseases and

References

PHI 314: PRINCIPLES OF DISASTER MANAGEMENT

Expected learning outcomes

By the end of the course unit, the learner should be able to:

i) Explain the principles of emergency management
ii) Explain the Management of humanitarian assistance.
iii) Describe the principles and concepts of disaster management.
iv) Discuss planning for the National Health Disaster Programme
v) Discuss management of mass fatalities in disasters.
vi) Discuss medico-legal work in disasters

Course Description

References


4.1.4 Level 4 (Fourth year)

PHI 401: HEALTH POLICY AND PLANNING

Expected learning outcomes

By the end of the course unit, the learner should be able to:

1. Define relevant terminologies in health policy and planning
2. Explain the types of policy analysis and planning models/theories
3. Describe policy formulation and implementation process
4. Describe the concepts of policy and health policy and planning and analyze policy design models
5. Describe decision making and needs analysis in relation to policy analysis

Course description

Policy: definition, formulation, implementation, evaluation and constraints; overview of health policy in Kenya; dynamics of policy making process; successful and unsuccessful policy initiatives; context of health policy: historical, political and economic; roles of stakeholders; interest groups and their interrelationships; Policy analysis: methods, policy design models, monitoring and evaluating policy outcomes. Planning: concept, elements, models; health planning process; local interest groups; needs analysis and decision-making.

References


**PHI 402: CONTEMPORARY ISSUES IN HEALTH RECORDS AND INFORMATION MANAGEMENT**

**Expected Learning Outcomes:**

1. Explain the role of HRIM professional in the new health care environment
2. Explain the features of the current HRIM systems
3. Demonstrate an understanding of both local and emerging issues and standards
4. Explain how HR are managed globally
5. Identify emerging information management concepts and career opportunities
6. Adapt new and emerging technologies to HRIM in the local context
7. Discuss the ethical issues about emerging and re-emerging trends and technologies and their implication in HRIM

**Course Description**

An analysis of the expanded role of the Health Information Management professional in the healthcare environment and application of the principles involved. Strategic planning and forecasting, marketing, entrepreneurship, leadership, motivation, consensus building, workforce diversity, change management, work redesign/reengineering, and project management. Problem solving and application of management skills: *Emerging/re-emerging health information*
management concepts and career opportunities: Emerging/re-emerging technologies to health records management (HRM) in the local context

References

1. Dana C. M (2010) *Legal and Ethical Aspects of Health Information Management*, Cengage Learning, Place of publication?

PHI 403: FOUNDATIONS OF HEALTH PROJECT MANAGEMENT

Expected learning outcomes

By the end of the course unit, the learner should be able to:

1. Describe the concepts of health management
2. Describe health project life cycle.
3. Explain the concept of health Project Management Information System
4. Describe health project strategic planning.
5. Discuss health project proposal formulation
6. Describe the project monitoring and evaluation process

Course Description

**References**


**PHI 404: EVALUATION IN MEDICAL AND HEALTH INFORMATICS**

**Expected Learning Outcomes:**

Upon successful completion of this course the learner will be able to:

1. Identify approaches to medical and health informatics evaluation
2. qualitative and quantitative methodologies in evaluation of medical and health informatics
3. Explain the main philosophical and ethical issues involved in conducting and interpreting evaluation studies in medical and health informatics
4. Demonstrate an understanding of how to design, implement and execute an evaluation study in the health informatics domain
5. Discuss the challenges of evaluation in medical and health informatics
6. Apply evaluation methods to own work (e.g. research project).

**Course Description**
Introduction to evaluation; Evaluation in the field of health informatics; Principles, theories and approaches to evaluation in informatics; Anatomy of evaluation studies; Importance of evaluations; Different types of health informatics evaluation studies and objects of study; Evaluation stages/cycle; Evaluation criteria for HIS; Participants/actors and their roles in evaluation; Reporting and publication of evaluation studies; New and emerging evaluation methods; Challenges and barriers facing evaluations studies.

References

PHI 405: RESEARCH PROJECT ON HEALTH INFORMATION MANAGEMENT (2 Units)

Expected Learning Outcomes
By the end of this course it is expected that the learner will be able to:

1. Identify a research problem on a self-chosen subject in the field of health records and information management
2. Carry out research and write a research report
3. Communicate/Disseminate research findings

Course Description
Independent relevant research project. Emphasis is on use of learnt scientific enquiry methods to apply health records and information management theories and practice in research: Proposal development; data collection; data analysis and report writing.

Reference


**PHI 406(PROPOSED)**

**PHI 406: FIELD ATTACHMENT**

**Expected Learning Outcomes**

By the end of this unit the learner should be able to:

1. Participate in administrative, management, and problem-solving activities in the institutional setting,
2. Full-time participation in scheduled field visits;
3. develop insight and understanding of the health care delivery system as related to health records and information management responsibilities and procedures acquire and
4. Demonstrate hands on skills on: ICT/EMR/EHR/DHIS2/MFL/SPSS/EPI INFO and other relevant public health research and bio statistical software packages

**Course Description**

The unit will be divided into two practicum attachments, general health records and information management practical experience (to be taken after appropriate delivery of relevant units have been covered) and acquisition and demonstration of hands on skills by being able to work within a computerized healthcare service delivery environment using:
ICT/EMR/EHR/DHIS2/MFL/SPSS/EPI INFO and other relevant public health research and bio statistical software packages

PHI 407: FUNDAMENTALS OF HEALTHCARE FINANCIAL MANAGEMENT

Expected learning outcomes

By the end of the course unit, the learner should be able to:

1. Discuss the general principles of accounting
2. Explain the roles and functions of a financial manager in health care organizations
3. Describe the different types of health care financing sources
4. Discuss the importance of financial information in health care organizations and its use within the organization
5. Interpret and analyze the commonly used financial statements in healthcare organizations

Course Description

Healthcare Financial Management: General principles of accounting, Concepts, bookkeeping; financial statements, analysis of financial statements. Time value analysis, Cost of capital, Estimating costs, pricing decision and profit analysis, Planning and Budgeting; Types of budgets by time horizon, by focus (cash, operating, sales, capital), and by nature (zero-based, adjustable, fixed), Budgeting process Defense of budgets Control mechanisms in budgets, Differences between budgets in profit and non-profit organizations, Managing financial operations. Working capital management, Ethical issues in health care financial management.

References


**PHI 408: DATABASE CONSTRUCTION AND MANAGEMENT**

**Expected Learning Outcomes**

Upon successful completion of this course the learner will be able to:

1. Demonstrate an understanding of the importance of database design
2. Model health data using a given database language
3. Develop an ability to implement a health database system
4. Perform database administration tasks on health data and information system
5. Maintain database security

**Course Description:**


**References:**


**PHI 409: HEALTH ECONOMICS**
Expected Learning Outcome

By the end of the course unit, the learner should be able to:

i) Describe the basic economics principles and concepts applied to health economics

ii) Distinguish between public and merit goods, health and health care

iii) Identify the various types of costs and revenue

iv) Discuss the various sources of health care financing and their limitations

v) Apply the various methods of economic evaluation in a health care environment

Course Description


References

2. Folland, Sherman et al. (2001), The Economics of Health and Health Care, Prentice Hall: Third Edition


**PHI 410: STRATEGIC MANAGEMENT IN HEALTHCARE SERVICES**

**Expected learning outcomes**

By the end of the course unit, the learner should be able to:

1. Enhance the student’s understanding of strategic requirements of organization.
2. To develop an appreciation of the dynamic and intricate external environment within which an enterprise functions and the need to plan and initiate appropriate responses.
3. To develop an understanding of the intricacies of general management and the role of management in the formulation and implementation of appropriate strategies in a healthcare and other organizations

**Course Description**

Strategic management: Definition, concepts and practices; Strategic planning process. Strategic Analysis: Internal, external and healthcare industry analysis. Strategic Formulation: Vision, mission, values; creating and sustaining competitive advantages, generic strategies. Strategy Implementation: process, **Strategy institutionalization and operationalization** and creating effective organization designs. Strategic review, evaluation and control mechanisms. **Corporate governance: Concepts, importance and principles.**
References


PHI 411: HEALTH SERVICE QUALITY DEVELOPMENT

Expected Learning outcomes

By the end of the course unit, the learner should be able to:

1. Define key concepts and terminologies related to quality management
2. Outline the principles of quality management
3. Explain quality assurance and its application in health care organizations
4. Describe total quality management and its application in health care organizations
5. Describe the models of quality management applicable to health care organizations
6. Outline the process of developing standard operating procedures for health care organizations

Course Description

Concepts and terminologies used in quality management. Principles of quality management, Historical development of quality: quality inspection, quality control, quality assurance, total quality management. Models of quality management: PDCA cycle, cause-
effect model (Ishikawa model). Quality certification Process. Process improvement tools in
health care: process mapping; developing standard operating procedures.

References
1. Kumar and Goel (2004). Hospital administration and management. Deepak publishers,
   India
2. Baker R et al. Randomised controlled trial of reminders to enhance the impact of audit in
general practice on management of patients who use benzodiazepines. Quality in health
care, 1997, 6(1):14-18

PHI 412: RE-ENGINEERING HEALTH CARE USING INFORMATION TECHNOLOGY

Expected Learning Outcomes

Upon successful completion of this course the learner will be able to:
1. Demonstrate an understanding of emerging trends and issues in health information
   system
2. Demonstrate an ability to work with different types of Health Information Systems

Course Description

Geographic information systems (GIS) and Global Positioning Systems (GPS). Utility of GIS in
health mapping. Applications in public health. Telemedicine: concepts, history, infrastructural
requirements, uses, advantages, cost implications and inter-institutional linkages. Potential for
Telemedicine in developing countries. Ethical and legal aspects of telemedicine. M-Health. E-

References:

   for Modern Business Systems” IGI Global, Hershey, Pennsylvania.
   Artech house, Boston – USA
PHI 413: HEALTH NEEDS ASSESSMENT

Expected Learning Outcomes

At the end of this course the learner should be able to:

1. Identify the main sources of information that can inform a HNA and describe the strengths and limitations of each type of data.
2. Explain the rationale of HNA
3. Describe and undertake HNA process by use of the approaches learned.
4. Use HNA in decision making and selecting health care interventions.

Course Description


References


PHI 414: HEALTH DATA AND INFORMATION SYSTEMS SECURITY

Expected Learning Outcomes

Upon successful completion of this course the learner will be able to:
1. Demonstrate an understanding of information system security concepts
2. Apply security concepts to health data and information system
3. Relay health information in conformity to security requirement
4. Facilitate proper disposal of obsolete health data and information
5. Perform continuous auditing of health information systems to ascertain security breaches
6. Participate in dissemination of security requirements to users
7. Conform to the laid down security policies

Course Description


References:


PHI 415 : Health Information Retrieval and Knowledge Management

Expected learning outcomes

- make a difference to the lives of patients/clients and the health care professionals who treat them
- be involved in interpreting and managing health care information
- liaise with health care professionals to identify their computing needs
- develop information systems to support patient records, scheduling, billing and performance improvement
• develop computer systems to support patient monitoring, medical decision-making, medical image processing and medical diagnostics
• apply data mining techniques to discover how different types of patients respond best to different treatments

Course Description

Organization, representation, and access to information; categorization, indexing, and content analysis; data structures for unstructured data; design and maintenance of such databases, indexing and indexes, retrieval and classification schemes; use of codes, formats, and standards; analysis, construction and evaluation of search and navigation techniques; data mining and search engines

References:

APPENDICES

Appendix 1: Members of the Core Team

Dr G. O. Otieno, Head Department of Health Management and Informatics, KU

Dr. M. Keraka, Head Department of Environmental Health, KU

Dr. I. Mwanzo, Head, Department of Community Health, KU

Mrs. Grace Kariuki,

Mrs Jane Kananu, Kenyatta National Hospital

Mr. C. W. Musina, Secretary General, AMRO-Kenya

Ms Rose Nzyoka, DCP – Technical, AfyaInfo

Dr. T. C.Okech, Consultant, USIU-Africa
Appendix 2: Members of the Cluster

### CLUSTERS

#### Members

1. **HMIS/HIMS**
   - a. Rafael Pundo –Afya Info –co-convener
     - Raphael_pundo@afyainfo.org
   - b. Joshua Oiro -Futures Group
     - joiro@futuresgroup.com
   - c. Mr. Wanjala Pepela –MOH
     - wanjala2p@yahoo.com
   - d. Ms Olive Muchene –KNH
     - olivemuchene@gmail.com
   - e. Sam Kanga –I-Tech
     - skanga@itech-kenya.org
   - f. Mr. PWC Musina –Convener
     - pwcmusina@yahoo.com
   - g. Mr. Wanjala Pepela –MOH
     - wanjala2p@yahoo.com
   - h. Steve Odindo  UNITID Fellowship
     - stefanomondi@gmail.com
   - i. Rickie Karooko    KNH
     - rickiekarooko@yahoo.com

2. **Informatics (computer applications, informatics skills, softwares)**
   - a. Mr. Kennedy Siika –KU
     - kensiika2008@yahoo.com
   - b. Ms. Lucy Gitau –KU
     - l.gitau@yahoo.com
   - c. Dr. Manya –MOH
     - ayubmanya@gmail.com
   - d. Mr. Dan Orwa
     - dorwa@uonbi.ac.ke
   - e. Ms Veronica Muthee –I-Tech
     - vmuthee@itech-kenya.org
   - f. Ms Grace Kariuki –Convener
     - gwkariku@yahoo.com
   - g. Lucy Bitok    UON
     - lkivuti@hotmail.com
   - h. Walter Wanyama
     - wwanyama@usiu.ac.ke
   - i. Dr. Ambuso -KU

3. **Statistics**
   - a. Dr. Akunga –KU
     - nyakungaddn@gmail.com
   - b. Dr. Warutere –KU -Convener
     - peterson.warutere@yahoo.com
   - c. Dr. Mark Mudenyoy –KNH
     - Mudenyo@yahoo.com
   - d. Mr. Wellington Mbithi –Afya Info
     - wellington_mbithi@afyainfo.org
e. Dr. Lakati – AMREF  
   Alice.Lakati@Amref.org
f. Mr. Mwangi – KNH  
   mwangijj@gmail.com
g. Mr. Hillary Kipruto – WHO  
   Kiprutoh@KE.AFRO.WHO.INT
h. John Otsola – USIU  
   jotsola@usiu.ac.ke

4. Anatomy/physiology/pathology/clinical coding and classification
   a. Ms Joan Njagi – KU  
      joanngugi@gmail.com
   b. Mr. Josphat Kiongo – KNH  
      josphatkiongo@yahoo.com
c. Dr. Salome Ngata – Afya Info – Convener  
   Salome_ngata@afyainfo.org
d. Mr. Francis Gikunda – MOH  
   mutuambugu@gmail.com
e. Mr. Steve Munene – MOH  
   steve.munene@gmail.com
f. Mwikali Muia-  
   fleurmwix@yahoo.com
g. Dr. Muhoho – KU

5. Epidemiology/Demography
   a. Ms Joyce Kirui – KU  
      joysosion@yahoo.co.uk
   b. Dr. Keraka – KU Convener  
      mnyanchoka2000@yahoo.com
c. Dr. H. Kimani – KU  
   harunkimani@yahoo.com
d. Dr. Muthami – MOH  
   muselu2006@yahoo.com
e. Dr. Oyore J.P – KU  
   jpoyro@yahoo.co.uk
f. Mr. Rodger Kayugira – KMTC  
   Kayugira@yahoo.com
g. Mrs. Beatrice Kithuka – KU  
   nesidaikithuka@gmail.com
h. Mr. Salim Omambia – KMTC  
   omasalim@yahoo.com
i. Dr. Nyamari – KU  
   jackimzw@gmail.com

6. Management (HSM, Economics, Disaster, Policy)
   a. Dr. Andre Yitambe – KU  
      andreyita2000@yahoo.com
   b. Mr. P Kithuka – KU – Convener  
      peterkithuka@yahoo.com
c. Mr. Bosire Douglas – KU  
   dobosire@yahoo.com
d. Dr. Ruth Kitetu – MOH  
   kiteturuth@yahoo.com
e. Ms. Judy Khanyola – MSH
f. Ms. Beatrice Koki –MOH beatricekoki@yahoo.com

g. Gifton Mkaya –KU mkayaton@yahoo.com

h. A. Kiilu -MOH

i. Dr. Mollent Oketch –KMTC

j. Dr. G. Ofafa –KU gaofafa@yahoo.com

k. Dr. Osero oseroj@yahoo.com

l. Leonard Omina –KU

7. Law and Ethics

a. Dr. Andre Yitambe –KU (Convener) andreyita2000@yahoo.com

b. Mr. Stephen Kanyete –MOH kanstev@yahoo.com

c. Mr. Kiminta –KMTC davkimi@yahoo.com

d. Mr. Titus Kolongei –MOH

e. Dr. Makhoha -KU

f. Esther Kiarie esiekiarie@yahoo.com

g. Dr. Gatangi –KU

8. Behavioral Sciences

a. Dr. Mwanzo –KU –Convener mwanzo2001@yahoo.com

b. Mary Muiruri –KU

c. Jackline Nyaberi – KU part-time jnyaberij@gmail.com

d. Jane Kananu –KNH janekananu@yahoo.com

e. Charles Mito –Afya Info charles_mito@afyainfo.org

f. Emily Muraguri emilywambui@ymail.com