GHANA COLLEGE OF ALLIED HEALTH PROFESSIONALS

{DRAFT}

ASSOCIATE, MEMBERSHIP &
FELLOWSHIP SPECIALIST PROGRAM
IN HEALTH INFORMATION MANAGEMENT

FACULTY/DEPARTMENT OF HEALTH INFORMATION SCIENCE

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Contents

EXECUTIVE SUMMARY

Ghana College of Allied Health Professionals – Health Information Management Specialist Program

The Ghana College of Allied Health Professionals, through its newly established Faculty of Health Information Science, introduces a structured, competency-based specialist training program in Health Information Management (HIM). This initiative seeks to develop a highly skilled workforce capable of advancing health systems and policies in Ghana and beyond.

The program offers three levels of professional progression—Associate Membership (1-2 years), Membership (2–3 years), and Fellowship (3 years)—targeted at registered HIM practitioners with varying academic qualifications and work experience. Each level emphasizes theoretical knowledge, practical experience, and research capability tailored to specific health information sub-specialties, such as e-Health, health data analytics, monitoring and evaluation, medical coding, and health information security.

The training is delivered through a blended learning approach combining didactic sessions, field placements, and online learning, with a strong emphasis on research, leadership, ethics, communication, and mentorship. Core competencies include data management, epidemiology, biostatistics, health informatics, and scientific writing. Participants are expected to engage in project work, dissertation writing, and service delivery activities in collaboration with national health agencies.

Program assessments include log book reviews, dissertation defenses, and portfolio evaluations, ensuring rigorous validation of acquired skills and applied knowledge. By linking academic rigor with practical application, the program aims to enhance the national health workforce and strengthen Ghana's health information systems.

This innovative program positions HIM specialists to lead data-driven public health strategies, contribute to policy development, and support health system transformation across Ghana and the subregion.

INTRODUCTION

The Faculty of Health Information Science was established in 2024 as part of the Ghana College of Allied Health Professionals with the mandate to carry out specialist training and research in the different subspecialists in the health sectors that would provide solutions for national development in Ghana.

The Health Information Management Specialist training program will prepare the health Information Professionals for future leadership roles in the health at national, regional and district levels of the health system. The Health Information Management Specialist Training Programmme (HIMSTP) will be competency-based training through didactic and structured practical experience will develop broad range of knowledge and skills in applied research, professionalism and management, communication in addition to developing skills in their specific discipline of concentration. Specialist will have the opportunity of participating in the core functions of assessment, policy development, and assurance in varied field sites in the country.

Our Vision

Is to build a network of highly skilled health information management specialists and practitioners who will contribute to a healthy society.

Our Mission

Is to contribute to the improvement of the health of the people in Ghana and beyond through the pursuit of excellence in competency-based training in the various disciplines of health information management.

Objectives of the Program

The Health Information Specialist Training Programme seeks to support the delivery of national and global health efforts to increase the skilled health workforce base of Health Information Professionals. To achieve this, the program will:

- To strengthen Health Information Management capacity by developing a cadre of highly skilled health information specialists.
- To develop professionals with effective and strategic leadership skills required for health systems improvement.
- To improve communication and networking of health information managers and researchers in the country.
- To foster values of scholarship, good leadership, a systems-thinking and ethical approach to problem-solving, research and health care practice.

ENTRY REQUIREMENT

Associate Membership Programmes

Duration: 1-2Year

Entry: You Must be a

1. Registered Health Information Management (HIM) practitioner in Good Standing (***AHPC PIN***).
2. Diploma in Health Information Management and its related programs (HND Statistics, Diploma in ICT, Diploma in Biostatistics).
3. Minimum of 3years Post qualification experience

Membership Programmes

Duration: 2 - 3Years

Entry: You Must be a

1. Registered HIM practitioner in Good Standing (***AHPC PIN***).
2. *Associate member with 5years post qualification experience* ***AND/OR***
3. A Degree in Health Information Management and its related programs (BSc. Statistics/ICT/ Biostatistics/Health Informatics). Minimum of 5years post qualification experience.

Fellowship Programmes

Duration: 3-Years

Entry: You Must be a

1. Registered HIM practitioner in Good Standing (***AHPC PIN***).
2. *A member of AHPSC (Membership qualification) with 5years post qualification experience.*
3. MSc in Health Information Management and its related programs (MSc. Statistics/ICT/ Biostatistics/Health Informatics/MPH). Minimum of 2years post qualification experience.
4. And at least one (1) published paper in a recognized scientific journal.

COMPETENCIES AND CORE LEARNING ACTIVITIES

The HIM fellowship program is competency-based, developing a combination of knowledge, skills, and attitude of specialist in health information management practice. All specialists will build critical competencies in the following domains: research process, communication, computer technology, professionalism and management, and teaching and mentoring. The acquisition and mastering of competencies in each domain are facilitated through core learning activities that are integrated into the placement and field experience of the specialists.

The competencies for all residents of the health information sciences faculty are shown below

Research Process

1. Identify and assess actual or potential health information problems
2. Review and synthesize a body of research literature
3. Formulate testable hypotheses that reflect knowledge of the problem and appreciation of research principles
4. Design studies that are consistent with the nature of the problem
5. Conduct studies that are consistent with the developed hypotheses and study design
6. Organize and manage data in a way that permits efficient and accurate analyses
7. Analyze data collected from study using appropriate statistical techniques for the developed hypotheses and study design
8. Interpret and explain the results of study in a manner that is consistent with the data.
9. Recommend logical and practical health information actions that are consistent with the interpretation of the study

Communication

10. Present research findings and other reports orally to scientific audiences and in writing to a peer-reviewed journals

Computer Technology

11. Use computers efficiently and effectively for the research process.

Professionalism

12. Show professional judgment by making decisions and initiating action after a clear and rational consideration of pertinent data and possible consequences
13. Develop own personal learning objectives and evaluate progress to achieving these objectives
14. Work effectively as a member of a health team
15. Assume a leadership role when appropriate

Teaching and Mentoring

16. Train health information professionals
17. Mentor health information professionals

Core Learning Activities

Developing proficiency in competencies will be through the completion of core learning activities which provide services to the Ministry of Health, Ghana Health Services and other agencies. Progress in developing proficiency in the competencies will be ongoing and through partnership with field supervisors and mentors of the college.

Fellowship in HIM

1. Write a dissertation protocol
2. Plan and carry out a protocol-based study or survey to assess a health problem
3. Write scientific papers suitable for publication in peer-reviewed journals
4. Teach on the Membership program of the faculty and/or serve as a mentor for health trainees

5. Participate in the planning and implementation or evaluation of a program, project, or urgent response that addresses a health information problem

6. Participate in health policy development

STRUCTURE OF THE PROGRAM

The Associate membership/Membership/Fellowship program in Health Information Specialties will consist of

a) Didactics-Seminars, presentations, and recommended courses.

b) Health information management practice or Practical Attachment to subspecialty area

1. (Overview-assessment - planning - implementation - evaluation)
2. (Health policy development)

c) Research project leading to the production of a dissertation.

1. (Identify topic and supervisors - literature review - methods and data collection - analysis-write up and presentation).

Sub-Specialty areas:

- Systems administration and management (info security)
- Statistics and Health Data Analytics
- Billing and Medical Coding
- E-Health and Telemedicine
- Medical records management
- Monitoring and Evaluation

TRAINING REQUIREMENT

1. Submit a work plan each year

2. One-year attachment to a subspecialty area

3. Prepare a dissertation proposal

4. Prepare one scientific paper suitable for publication in peer-reviewed journal

5. Take courses in research methods, statistical computing, scientific communication, and leadership and management

6. Teach on the Membership program of the faculty (Fellowship only)
7. Attend monthly seminars organized by the faculty

ASSESSMENT AND EXAMINATIONS

Work Review

Log books and core activity outputs will be reviewed regularly. Reviews will take the form of meetings between faculty staff and residents. During these meetings, the resident will present their activity reports followed by discussions. Written feedback on the work review and assessment of the resident's progress will be provided.

Final assessment and examination include the following:

1. The defense of the dissertation proposal at the end of the first year
2. The examination of the bound copy of residents' work over the two years
3. The defense of the completed dissertation

DISSERTATION PROPOSAL DEFENSE

The Specialist at the end of the first year will prepare a 30-45 minutes presentation of the dissertation proposal and present it before a Dissertation Committee formed by the faculty. The committee members will pose questions and issues for discussion.

A grade of Pass will be based on the presentation of an acceptable proposal and demonstration of a satisfactory level of knowledge on the dissertation subject and related areas. If the dissertation proposal is not approved, the examination is rescheduled.

EXAMINATION OF PORTFOLIO OF WORK AND LOG BOOK

The portfolio of work is examined by a panel that includes external examiners selected from persons with experience in the specialist's area of specialty. The portfolio of work should contain evidence that all the core activities and competencies have been achieved, and should also include a summary of the practical experience gained during the field assignments (log book).

DISSERTATION DEFENSE

A Dissertation Committee will be set up by the faculty. The committee will examine the specialists on the dissertation for approval. The "defense" will be composed of an open presentation by the resident followed by a closed meeting with the dissertation committee. The committee should have a copy of the draft at least four weeks prior to the final defense. The oral defense is held only after all members of the committee have had an adequate opportunity to review a draft of the dissertation. The committee may, at the time of the final oral examination, require alterations and corrections.

SPECIALIST TRAINING LEVELS AND SUBJECT AREAS

Associate Membership (1-2-Years)

1. Introduction to Health Care Systems
2. Introduction to Reproductive and Child Health
3. Introduction to Psychology
4. Fundamentals of Public Health
5. Medical Terminology & First Aid
6. Introduction to Anatomy and Physiology: Theory & Practical
7. Gender and Healthcare
8. Biostatistics I
9. Research Methods I
10. Health Data Management I
11. Occupational Health and Safety I
12. Data Quality Assessment and Improvement I

Membership (2-3Years)

13. Health Management Information Systems
14. Biostatistics II (Advance)
15. Principles and Methods of Epidemiology
16. Occupational Health and Safety II
17. Research Methods II
18. Health Data Management II
19. System Analysis and Design
20. Legal and Ethical Issues in Health Information Mangement
21. Monitoring and Evaluation of Health Program
22. Health Programme Planning and Evaluation
23. Geographic Information Systems I
24. Data Analysis and Presentation

25. Information Technology Application in Health Management
26. Internet and Web Technology Applications for Healthcare (E-Commerce)
27. Electronic Health and Data Systems
28. Database Management
29. Data Warehousing and Mining
30. Data Quality Assessment and Improvement II
31. Clinical Data Classification and Coding
32. Data Structures and programming
33. Grant Proposal writing
34. Project Work / Thesis / Practicum Report.

Fellowship (3-years)

35. Health Policy and planning
36. Health Law and Ethics
37. Principles of Healthcare Financing
38. Management and Leadership in Health
39. Scientific Communication and Report Writing
40. Information Security and Compliance in Health Information Management
41. Data Protection Act 825
42. Project Management in Health
43. Project Work / Thesis / Practicum Report.

SPECIALTY AREAS

Systems Administration and Management (info security)

Statistics and Health Data Analytics

Billing and Medical Coding

E-Health and Telemedicine

Medical records management

Monitoring and Evaluation

COURSE CONTENTS

Associate Membership (2Years)

Introduction to Health Care Systems

Course Description

This course is designed to help the student understand the concept of primary health care, health system in Ghana and acquire knowledge and skills in the control and management of common health problems at the community level and improve maternal and child health care.

Course Objectives

At the end of the course the student would be able to:

1. Discuss changing concepts of primary health care since Alma Ata.
2. State the advantages of preventive care as opposed to curative care.
3. Explain the concept that primary health care is shaped around the life patterns of people.
4. Explain what a health system is and how health systems are organized.
5. Outline the history and the development of the Ghana health system including primary health care.
6. Identify challenges that face Ghana's health system and suggest measures to meet challenges in health systems development.

Course Content

Definition of primary health care, common health problems, maternal and child health care, including family planning, nutrition, immunization, safe water supply, basic sanitation, locally endemic diseases and what can be done to prevent and control them. Treatment of common diseases and injuries. Preventive, promotional, and rehabilitative services for the individual, family and community. Community involvement in the formulation and implementation of health care activities. Discussion on continued dialogue with the community and health care professionals.

The role of primary care in the National health care system. The health systems and public health and national health systems. It will also cover the historical development of Ghana's health system, challenges and strategies for health systems. The course will also discuss Ghana's Primary Health Care System designed to address the pertinent issues of equity and access. The worldwide slogan of Health for All by the year 2000. Problems of implementation of the strategy. Health sector reforms in Ghana. CHPS will also be discussed as the latest strategy for health development especially in the rural areas. Challenges facing implementation of CHPS.

Mode of Delivery

This course will be delivered through a "blended learning approach" using a combination of in-person classroom teaching and the use of the college's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Course Readings

1. Roemer M. I. (1993) Chapter 3: "Health Systems components and their relationship." In *the National Health Systems of the World*. Milton I. Roemer New York; Oxford University Press. Pp 31—82.
2. Agyepong, I. A. (1999). Reforming Health Service Delivery at the district level in Ghana. The perspective of a district medical officer. Health Policy and Planning 14(1) 59-69.
3. Black, N. & Gruen, R. (2008). *Understanding Health Services*. Open University Press, McGraw Hill Education.
4. World Health Report 2008 Primary health care more than ever. WHO
5. World Health Organisation. (2017). *Primary health care systems (PRIMASYS): comprehensive case study from Ghana*. Geneva: WHO
6. World Health Organisation. (2008). *The world health report 2008: primary health care now more than ever*. Geneva: WHO

Introduction to Reproductive and Child Health

Course Description

This course provides an overview of maternal, reproductive and child health in its national and international contexts. The course will take a critical look at motherhood issues, pregnancy outcomes, infant and child health, maternal morbidity and mortality, child growth, development and health maintenance as well as clinical and organisational practice of reproductive health services, the Sustainable Development Goals relevant to health and how they are being implemented in Ghana. Sessions will also include the topics of prevention of sexually transmitted infections, integrated management of childhood illness, under-nutrition in children and perinatal interventions. Sessions will be based around theory and relevant case studies, with ample opportunity for discussion and debate.

Course Objectives

At the end of the course professionals would be able to:

1. Describe the physiological components of reproductive system
2. Critically explain motherhood issues and pregnancy outcomes
3. Identify the critical issues affecting maternal and child health, with focus on Ghana
4. Explain the various Reproductive tract infections affecting mothers and children and their impact on health
5. Develop skills for effective education on management and prevention of maternal and child health problems in Ghana
6. Develop requisite knowledge and skills in planning, implementing, and evaluating evidenced-based programmes to promote good reproductive and child health in Ghana

Course Content

Male and female reproductive systems, physical growth and development, pregnancy, teen parenthood, abortion, cultural issues in reproductive health. Reproductive tract infections, STDs/ATIs and their impact on health, sexual risk taking. Interventions to promote healthy reproductive health. Biological mechanisms that underlie male and female reproductive systems, contraception, infertility. Women‘s Health: A life cycle approach. Genital Tract malignancies,

reproductive aging. Maternal, infant, and child health, emergencies, mortality, risk factors for morbidity. Maternal and child health programmes in Ghana, Social and cultural factors affecting women health, legal, ethical, and environmental factors in maternal and child health are covered. Unsafe abortions, violence against women. SDGs and Women Health. Prenatal care, risk behaviour in pregnancy, breastfeeding, violence, abuse and neglect of women and children, malnutrition, malaria in pregnancy, anaemia, and newborn care programme.

Mode of Delivery

This course will be delivered through a "blended learning approach" using a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Course Readings

1. Jyoti Shankar Singh (2009). Creating a new consensus on population: The politics of reproductive health, reproductive rights, and women's empowerment. 2nd Edition. Routledge
2. Sharon S. Murray and Emily S. McKinney (2013). Foundations of maternal-newborn and women's health nursing, 6th Edition. Saunders
3. Campbell, O. M., Graham, W. J., & Lancet Maternal Survival Series steering group. (2006). Strategies for reducing maternal mortality: getting on with what works. The lancet, 368(9543), 1284-1299.
4. Cairo, Elizabeth (2012). Reproductive Health: The biology, psychology and sociology of sexuality 1st Edition. Kendall Hunt Publishing
5. Beth L. Sundstrom (2015). Reproductive Justice and women's voices: Health communication across the lifespan. Lexington Books
6. Jonathan B. Kotch (2016). Maternal and Child Health: Programmes, Problems, and Policy in Public Health 3rd Edition. ISBN-13: 978-1449611590

Introduction to Psychology

Course Description

Introduction to general psychology as the science of the human mind and behaviour. The course will examine the different models upon which modern psychology has been built, along with such things as the history and origins of psychology, biological aspects of psychology, human development, perception, consciousness, learning, personality theory.

Course Objectives

At the end of the course the professionals would be able to:

1. Demonstrate understanding of the terminology used in psychology
2. Identify research models and relate the findings of research to life situations
3. Demonstrate understanding of the different theoretical approaches to psychology and be able to articulate the different assumptions behind them
4. Apply psychology practically to problems confronting them in society
5. Use psychological techniques to explain various aspects of human cognition and behaviour
6. Demonstrate understanding of the workings of their own consciousness, behaviour, and Interpersonal relationships

Course Content

Introduction to psychology; Basic concepts of symbolic interactionism, Cognitive basis of role making and role taking related to health situations, Establishing horizontal and vertical linkages, Deviance, and identity. Theories of biological foundations of behaviour; Sensation and perception, Basic principles of learning; Information processing; Memory, Language, Intelligence, Personality, social behaviour, mental disorders and therapies; Biology, sensation and perception; States of consciousness; Learning, Memory, Cognition and learning; Intelligence; Motivation and emotion; Psychology of development; Personality theory; Abnormal behaviour; Psychotherapy; Social psychology and non-verbal behaviour; Psychology of love and attraction.

Mode of Delivery

This course will be delivered through a "blended learning approach" using a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Course Readings

1. Tata McGraw (2008). *A brief introduction to Psychology (2nd Ed.) Paperback*. Hill Publishing Limited
2. Coon, D., & Mitterer, J. (2012). *Introduction to Psychology: Gateways to Mind and Behaviour with Concept Maps and Reviews*. Cengage Learning.
3. Atkinson, Hilgard, Nolen-Hoeksema, S., Fredrickson, B. L., Loftus, G. R., & Lutz, C. (2014). *Introduction to psychology*. Cengage Learning EMEA.
4. Ogden, J. (2012). *Health psychology*. UK: McGraw-Hill Education
5. Murray, M. (Ed.). (2014). *Critical health psychology*. Palgrave Macmillan.
6. Weiten, W., & McCann, D. (2013). Psychology: Themes and Variations, 3rd Edition. Upper Saddle River, NJ: Prentice Hall. ISBN 0176545484

Fundamentals of Public Health

Course Description

This course is designed to introduce professionals to the historical perspectives, function and context of public health, community health and health systems, and community diagnosis. It also seeks to highlight on major public health interventions that has improved health and livelihood. The course will also introduce professionals to several sections under the Social and Behavioural aspects of Public Health. Aspects of the course will cover the fundamental concepts of nutrition where emphasis will be placed on how food, nutrition, health, and diet impacts on public health.

Course Objectives

At the end of the course the student would be able to:

1. Discuss the historical perspective of public health
2. Describe the dimensions of public health and public health system
3. Discuss the context and key public health functions

4. Explain the interrelationship between humans and their environment and key features of community diagnosis
5. Explain how food, nutrition, health, and diet, impact on public health and the role of biomolecules (proteins, fats, carbohydrates and micronutrients) in health and disease
6. Apply major public health interventions to improving community/public health

Course content

Definition of public health; the dimensions of public health; preventive medicine; social medicine; community health; and community medicine; three levels of prevention, primary, secondary and tertiary; key public health functions; the inter-relationship between human beings and their total environment; structure of community diagnosis; fundamental concepts of nutrition in relation to public health practice; the role of bio-molecules in relation to health and disease; key public health interventions.

Mode of Delivery

This course will be delivered through a "blended learning approach" using a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Course Readings

1. Lucas A O and H M Gilles 2003 Short textbook of public health for the tropics. 4thEdition. ISBN 0-340-75988-7.
2. Bernard J. Turnock. 2007. Essentials of Public Health. Jones and Bartlett Publishers. ISBN-13: 978-1284069358
3. Jan Kirk Carney 2006. Public Health in Action: Practicing in the Real World. Jones & Bartlett Learning; 1 edition (2006-02-23) (January 1, 1656). ASIN : B01FGN5D66
4. John Walley and John Wright, 2010. Public Health an Action guide to improving Health. Second edition. Oxford University Press. Print ISBN-13: 9780199238934. DOI:10.1093/acprof:oso/9780199238934.001.0001
5. C. Geissler, H. Powers (eds). Human Nutrition. Oxford: Oxford University Press, 2017. 769 pp. ISBN 978-0-19-876802-9

6. Whitnet E & Rolfes SR (11th Edition). Understanding Nutrition. Wadsworth Publishing; 11th edition (April 30, 2007) ISBN-13: 978-0495116691

Medical Terminology & First Aid

Course Description

The medical terminology course is designed to provide a comprehensive entry-level study of medical language for health career learners with little or no previous experience. It discusses word construction and meanings that together characterize medical language. The second part of this course is First aid. The first aid course introduces the basics of emergency first aid treatment. Topics include rescue breathing, CPR, first aid for choking and bleeding, and other first aid procedures. Upon completion, professionals should be able to demonstrate skills in providing emergency care for the sick and injured until medical help can be obtained.

Course Objectives

At the end of this course the student would be able to:

1. Identify medical terms and words by their component parts and recognize and explain word roots, prefixes, and suffixes used in medical language today.
2. Explain medical terms simply by recognizing their component parts
3. Use a medical dictionary, and spell pronounce medical words correctly.
4. Demonstrate first aid skill for Basic Cardiac Life Support with adults, children and infants.
5. Demonstrate proper use of Automated Electronic Defibrillator (AED).
6. Recognize and demonstrate skill in providing basic first aid for the following: choking, bleeding, shock, poisoning, burns, musculoskeletal injuries, heat and cold injuries.

Course content

Medical Terminology: Building Medical Vocabulary – introduction to word parts including roots, suffixes, prefixes, parts of speech, and plural formation. The Integumentary System, The Respiratory System, The Cardiovascular and Hematic Systems, The Digestive System, The Urinary System, The Musculoskeletal System, The Nervous System, The Endocrine System, The Lymphatic System, The Male Reproductive System, The Female Reproductive System, The Sensory System Oncology, Radiology and Nuclear Medicine, Pharmacology and Psychiatry.

First Aid: Action at an Emergency and finding out What's Wrong, Initial Assessment vs Secondary Assessment, CPR, Physical Exam and SAMPLE History, Sudden Illness, Poisoning, Wounds, Water Sterilization Steps, Bleeding, Caring for Shock and Burns victims, Injuries to muscles, bones, and joints, Bites and Stings. Assisting with bronchodilators (inhalers), Heat Related Emergencies, Inline stabilization for head, neck and back injuries, and First Aid Kits.

Practical components of course content:

Medical Terminology Exercises: Professionals will actively practice identifying medical terms and their components through exercises, quizzes, and practical assignments.

Hands-on BCLS and AED Training: Professionals will participate in practical sessions to demonstrate their ability to perform Basic Cardiac Life Support (BCLS) for adults, children, and infants. They will also practice the proper use of Automated External Defibrillators (AEDs).

First Aid Scenarios: Professionals will engage in realistic first aid scenarios, addressing common medical emergencies, such as choking, bleeding, shock, and burns. They will also learn how to respond to injuries involving muscles, bones, joints, and bites and stings.

Simulation Exercises: The course will include simulation exercises to prepare professionals for real-life emergencies and develop their problem-solving skills.

Mode of Delivery

This course will be delivered through a "blended learning approach" using a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Practical sessions which will account for one credit will form an important part of this course. Practical sessions will include first aid care for various emergencies related to the course.

Course Readings

1. Denneril, T. & Davis, P.E. (2005). *Medical Terminology: A Programmed Systems Approach (9th Ed)*. NY: Thomson Delmar Learning
2. Chabner, D-E. (2011). *the Language of Medicine (9th Ed).* Saunders Elsevier
3. Ehrlich, A. & Schroeder, C.L. (2005). *Medical Terminology for Health Professions (5th Ed.).* NY: Thomson Delmar Learning.

4. Simon, R. R., & Brenner, B. E. (Eds.). (2002). *Emergency procedures and techniques*. Lippincott Williams & Wilkins.
5. Eisenburger, P. & Safar, P. (1999). Life supporting first aid training of the public—review and recommendations. *Resuscitation*, *41*(1), 3-18.
6. Das, M., & Elzubeir, M. (2001). First aid and basic life support skills training early in the medical curriculum: curriculum issues, outcomes, and confidence of professionals. *Teaching and learning in medicine*, *13*(4), 240-246.

Introduction to Anatomy and Physiology: Theory & Practical

Course Description

This course is designed to provide a foundation to anatomy as a basic medical science for the understanding of normal body functions and the functional integration of the various body systems. It introduces professionals to the general function and the physiological processes of the human body. It also provides a basis upon which abnormalities of structure and function and clinical management decisions and experiences are built.

Course Objectives

Upon completion this course, professionals would be able to:

1. Describe the basic structure and functions of cells, tissues, organs, and organ systems to practice successfully as a healthcare professional.
2. Describe the nature of a cell and the functions of all the cell organelles as well as the structure of the cell membrane and transport across the cell membrane.
3. Describe the muscle cell, the mechanism of muscle contraction, the function of the cardiovascular system and mechanism of blood clotting.
4. Explain the mechanism of external respiration and general functions of the digestive system
5. Describe metabolic processes and their effects in the body and elements of renal function, the mechanism of urine formation, micturition, water and electrolyte balance
6. Explain the functions of the nervous system including the special senses, discuss the mechanism of hormonal secretion, and function of endocrine glands, male and female reproductive systems.

Course Content

Introduction to Human Anatomy: History of anatomy; Anatomical terminology. The Cell: Structure and Functions including cell membrane and organelles. Vascular System: Structure of blood vessels; Systemic and pulmonary circulation; Lymphatic circulation and lymph nodes. Thoracic Cavity: The thoracic cage; Pleurae and lungs; Heart; Other mediastinal structures, Abdomen, Pelvis and Perineum: Anterior abdominal wall - divisions and surface anatomy; Inguino-scrotal region; Abdominal cavity- mid- and lower GIT; Kidneys, ureters and adrenals; Liver, biliary system and pancreas; Pelvic organs; External female and male genitalia; Perineum.
Introduction to Human Physiology: Definition and general overview of physiology, Cardiovascular physiology: Myocardial electrical activity, electrocardiogram, heart rate and blood pressure, clinical application – hemorrhage, heart failure, shock, Respiratory physiology: Functions, mechanics of respiration, ventilation and perfusion, gas transport across alveolar membrane and in blood, etc.…, clinical application e.g. obstructive and restrictive disorders, Gastrointestinal (GIT) physiology: Functions, movement in the GIT, etc.…, selected disorders of GIT function e.g. ulcers, diarrhoea, vomiting, malabsorption; body fluid compartments, water and electrolyte balance, Renal physiology, Reproductive physiology: Functions of the reproductive system, sex determination and differentiation, physiology of male and female reproductive systems, pregnancy and parturition, clinical application eg principles of contraception etc

Mode of Delivery

This course will be delivered through a "blended learning approach" using a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.
Practical sessions which will account for one credit will form an important part of this course.

Course Readings

1. Tortora, G. J., & Derrickson, B. H. (2011). *Principles of anatomy and physiology*. Wiley.
2. Bourne, G. (Ed.). (2012). *Anatomy and physiology (Vol. 1)*. Elsevier.
3. Colbert BJ, Ankney JJ and Lee K., (2010). *Anatomy & Physiology for Health Professions: An Interactive Journey with Workbook* 2nd Ed Prentice Hall

4. Marieb EN & Hoehn K.N., (2012). *Human Anatomy and Physiology* 9th Ed Pearson Education
5. Guyton & Hall (2015). Textbook of medical Physiology (13th Ed.). W.B. Saunders company Philadelphia pp. 1168
6. Fox, SA. (2002). *Human Physiology, (7th Ed)* McGraw Hill

Gender and Healthcare

Course Description

This course is to define the concepts of gender, gender differences, gender issues and its association with health. This course introduces professionals to the construction of gender and sex and gender as a theoretical concept. It also looks at the historical, international, and domestic perspectives of gender, the social structures that affect the development of individual and society's health, and how gender influences the construction of public health in different societies.

Course Objectives

At the end of the course professionals would be able to:

1. Discuss the concept of gender as a social construct and theoretical concept
2. Identify how gender issues affect the use of health care services
3. describe gender differences in health perceptions and the reporting of symptoms
4. Evaluate the different perspectives of gender and how various social frameworks affect the health and development of individuals and societies
5. Explore the social patterns and socio-cultural factors related to health, disease, and well-being such as discrimination, sexual harassment that affect equity interests
6. Discuss current gender based-health care issues related to reproductive health, sexual health
7. Evaluate the gender sensitivity of Ghana's health care policies.

Course Content

Basic terminologies and principle: Sex, Gender, Gender identities, Sexual orientation, Gender Stereotype etc. Concepts of gender (Norm) and its association with health outcomes. Societal patterns of health, disease, and well-being, and the socio-cultural determinants that affect people's

experiences and expectations of health. Health issues where gender plays an important role: reproductive health, sexual health, health policy, including gender stereotypes, health beliefs and behaviours and the socio-cultural factors that promote inclusion. Gender based violence: FGM, Dowry related violence, Trokosi

Issues of exclusion and discrimination. The role of gender in the improvements to the physical and social environment. Gender integration continuum tool and Gender mainstreaming.

Mode of Delivery

This course will be delivered through a "blended learning approach" using a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, case studies, and peer-to peer learning.

Course Readings

1. Bird, C.E. & Rieker, P.P. (2008). *Gender and Health: The Effects of Constrained Choices and Social Policies.* Cambridge University Press.
2. Doyal, L. (1995). *What Makes Women Sick: Gender and the Political Economy of Health,* Rutgers University Press.
3. Langley, R.L. (2003). *Gender and Health: Sex and Gender Differences in Health and Disease.* Carolina University Press.
4. Norman, ID. Aikins, M., Binka, FN. (2012). Faith Based Organisations: Sexual Harassment and Health in Accra-Tema Metropolis. *Journal of Sexuality and Culture, Vol. 14 (1):* 1-15. DOI 10-1007/s12119-012-9141-6
5. Norman, ID. Aikins, M., Binka, FN. (2012). Traditional and Contrapower Sexual harassment in Public Universities and Professional Training Institutions of Ghana. *International Journal of Academic Research, IJAR, Vol. 4 (2):* 85-95.

Biostatistics I

Course Description

This is an introductory course in statistics designed to provide professionals with the basic concepts of data analysis and statistical computing. Topics covered include basic descriptive measures, measures of association, probability theory, confidence intervals, and hypothesis testing. The main objective is to provide professionals with pragmatic tools for assessing statistical claims and conducting their own statistical analyses.

Course Objectives

At the end of the course professionals would be able to:

1. Demonstrate their understanding of the basics of descriptive statistics by practical application of quantitative reasoning and data visualization
2. Demonstrate their knowledge of the basics of inferential statistics by making valid generalizations from sample data
3. Use Stata and Excel to conduct statistical analysis
4. Recognize pitfalls in using statistical methodology
5. Demonstrate critical attitudes, which are necessary for "life-long learning"
6. appreciate the importance of statistical literacy in today's data driven world.

Course content

Introduction to the role of statistics, how to organize data for analysis, summarizing a data set by using statistical measures of central tendency and variability (ie. histograms, the average, the standard deviation, the normal curve, scatterplots and correlation), and using graphical presentation. Definition of probability, random variables, some common probability distributions (ie. normal, t-test, chi-square), two-way tables, sampling distribution, statistical estimation, confidential intervals. Statistical inference is the art of making valid generalisations from samples. Topics include estimation, measurement error, tests of statistical significance. Much statistical reasoning depends on the theory of probability. Topics include chance models, expected value, standard error, probability histograms, convergence to the normal curve.

Mode of Delivery

This course will be delivered through a "blended learning approach" using a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Practical sessions which will account for one credit will form an important part of this course. Practical sessions will be computer based using secondary data.

Course Readings

1. Daniel, W. W., & Cross, C. L. (2018). Biostatistics: a foundation for analysis in the health sciences. Wiley. ISBN-10: 0199946647.
2. Kirkwood, B. R., & Sterne, J. A. (2010). Essential medical statistics (2nd Ed.). John Wiley & Sons. ISBN: 978-0-865-42871-3.
3. Motulsky, H. (2010). Intuitive Biostatistics: A Nonmathematical Guide to Statistical Thinking. Oxford University Press, USA [ISBN-13: 978-0199946648,
4. Norman, G. R., & Streiner, D. L. (2008). Biostatistics: the bare essentials. PMPH USA. ISBN: 978-1-55009-347-6.
5. Rosner, B. (2010). Fundamentals of Biostatistics (7th Ed.). Cengage Learning. Inc., Kentucky. ISBN: 978-1-305-26892-0.
6. Daniel, W. W., & Cross, C. L. (2018). *Biostatistics: a foundation for analysis in the health sciences*. Wiley. ISBN-10: 0199946647.

Research Methods I

Course Description

This course will provide an opportunity for professionals to establish or advance their understanding of research through critical exploration of research language, ethics, and approaches. The course introduces the language of research, ethical principles and challenges, and the elements of the research process within quantitative, qualitative, and mixed methods approaches. Professionals are introduced to the theory and logic of research, the ethics that guide the research process, and to the range of research methods generally employed in Public Health. Attention will be paid to research design, proposal writing, data collection, and literature review. The goal of this course is preparing student researchers to identify a research problem, write a good proposal, design and collect both quantitative and qualitative research. Professionals will learn how to design questionnaires and collect both qualitative and quantitative data using kobocollect, ODK, Redcap and Qualtrics. The emphasis is on providing practical knowledge of the research process and in preparing professionals to conduct their own basic research projects.

Course Objectives

By the end of the course, professionals would be able to:

1. Define research: explain the types of research and apply research terms/concepts; describe the research process and the principal activities, skills, and ethics associated with the research process.
2. Describe the ethical principles of research, ethical challenges, and approval processes.
3. Describe and compare quantitative, qualitative, and mixed methods approaches to research.
4. Explain types of sampling techniques, data sources and data collection methods, research proposal, identify research problems and choose good research topics
5. Explain types of study design and calculate sample size based on the study designs
6. Critically evaluate qualitative and quantitative research papers in relation to appropriateness of approach, design, and rigor.

7. Develop qualitative and quantitative research proposals, and construct an effective questionnaire that employs several types of survey questions.

8. Conduct a review of the literature and use a reference manager for referencing as part of the empirical process

Course Content

The course will introduce professionals to research and the research process, data collection techniques and instruments, study designs, primary and secondary data collection, designing questionnaires, referencing with reference managers, research ethics and integrity and applying for ethical approval. This course focuses on types of research, problem identification, choosing good research topics, types of study design and sample size calculation. In this course, professionals will develop quantitative/qualitative research proposals, develop data collection instruments, collect data based on the proposal and instruments developed. This course will also focus on reviewing literature on qualitative and quantitative research studies. This course will also cover the principles and methodologies of a few paradigms within qualitative and quantitative research. This course also focuses on the structure or outline of research proposal such as background. statement of research problems, formulation of research questions, objectives and hypotheses, literature review, material and methods.

Mode of Delivery

This course will be delivered through a "blended learning approach" using a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning. Also, the course would be practically implemented where professionals would carry out filed work involving qualitative primary data collection, analysis and reports submission. Practical sessions which will account for one credit will form an important part of this course.

Course Readings

1. Kumar, R. (2019). *Research methodology*: *A step-by-step guide for beginners* (5th ed.). Sage publications. ISBN-10: 1526449900.
2. Polgar, S. & Thomas, S. (2007). *Introduction to Research in the Health Science (5th Ed.).* Churchill & Livingstone. ISBN: 9780443074295.

3. Aveyard, H. (2007). *Doing a Literature Review in Health and Social Care: A Practical Guide*. Open University Press, McGraw-Hill Education.
4. Schutt, R. K. (2012). *Investigating the Social World: The Process and Practice of Research* (7th edition). Sage. ISBN-13: 978-1483350677
5. Neuman, W. & Robson, K. (2018). *Basics of social research qualitative and quantitative approaches (Fourth Canadian ed.)*. Pearson Canada. ISBN 9780134308050
6. Chawla, Deepak & Sondhi, Neena (2011*). Research methodology: Concepts and cases*. Vikas Publishing House Pvt. Ltd. Delhi. ISBN-13: 978-9325982390
7. Rubin, Allen & Babbie, Earl (2009). *Essential Research Methods for Social Work*. Cengage Learning Inc., USA. ISBN-13: 978-1305101685

Health Data Management I

Course Description

This course is designed to equip professionals with skills needed to manage health data from collection, entry, analysis, and basic interpretation. The course will introduce the professionals to the use of data in Health Management and Planning and in Disease Control. It will also focus on generating knowledge from the data collected. Professionals are also expected to learn how to use basic software such as Epi Info, Epidata or Kobo Collect for data collection and processing and Stata, SPSS or R for data Collection, cleaning and analysis.

Course Objectives

At the end of the course the student would be able to:

1. Use basic software for data collection
2. Use statistical software for data cleaning and analysis
3. Create a data entry screen, enter data, and clean the data
4. Organize, analyse, and present health care data.
5. Compute and interpret health care statistics and to prepare health care statistical reports
6. Review the collection of data at the various levels of the health care system.

Course Content

Sources of data, data screen design, entry, collection, organisation, analysis, and presentation of health care data; vital and public health statistics; calculation of health care specific statistics, hospital utilization; mortality rates, autopsy rates, outpatient statistics; preparation of statistical reports; methods of ensuring data quality-accuracy, timeliness, completeness and validity. Extraction of secondary data from Health Database Management Systems such as DHIMS II, LHIMS and registries. Use of basic software such as Epi Info, Epidata or Kobo Collect for data collection and processing and Stata, SPSS or R for data cleaning and analysis.

Mode of Delivery

This course will be delivered through a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning. Practical sessions which will account for one credit will form an important part of this course. Practical sessions will be carried out using computers and laptops.

Course Readings

1. Kirkwood, B. & Sterne, (2001). Essentials of Medical Statistics (2nd ed.). Blackwell Scientific Publications.
2. Horton, L. (2009). Calculating and Reporting Healthcare Statistics (3nd Ed.). AHIMA
3. Schutt, R. K. (2012). Investigating the Social World: The Process and Practice of Research (7th Ed.). Los Angeles: Sage.
4. Rubin, A. & Babbie, E.R. (2009). Essential Research Methods for Social Work. UK: Cengage Learning.
5. Reynolds, R. A., Woods, R., & Baker, J. D. (2007). Handbook of Research on Electronic Surveys and Measurements (pp. 1-418). Hershey, PA: IGI Global. doi:10.4018/978-1-59140-792-8
6. Freeman, J.V., Walters, S.J. & Campbell, M.J. (2008). How to display data. Blackwell Publishing Inc. ISBN 978-1-4051-3974-8.

Occupational Health and Safety I

Course Description

Occupation is a determinant of Health. This course introduces the student to various strategies for ensuring that occupation does not affect the health of workers adversely. It will also introduce professionals to pre-placement screening and occupational lung diseases, as well as the use o f protective clothing at the workplace. Factors known to influence sickness absence, rehabilitation and settlement at the workplace would also be delved into.

Course Objectives

At the end of the course the student would be able to:

1. Identify hazards in the home or workplace which poses danger to themselves and others.
2. Control unsafe or unhealthy hazards and propose methods to eliminate the hazard.
3. Describe the monitoring of occupational diseases.
4. Describe the overview of preplacement screening.
5. Discuss the protection of the worker against sickness, disease, and injury at the workplace.
6. Discuss the management of sickness absence, understand the principles of rehabilitation and resettlement at work

Course Content

Personal Health and Safety: emergency first aid treatment, reaction to accidents and reporting of accidents, Theories of accidents. Stress and Safety; sources of workplace stress. Principles of toxicology; routes of entry into the body of toxic materials, general safety precautions. Pre-placement screening; Occupational lung diseases, silicosis, asbestos -related diseases, occupational asthma, and byssinosis; health monitoring and investigation of a hazard; use of protective clothing; sickness absence, measuring absence, basic statistics and misconceptions, factors known to influence sickness absence; rehabilitation and settlement at work.

Mode of Delivery

This course will be delivered through a “blended learning approach” using a combination of in-person classroom teaching and the use of the school’s online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Field practice will form an integral part of this course. It will account for one credit of the course. Professionals with support of faculty, will carry out occupational health and safety activities by visiting various workplaces in the Hohoe Municipality. The purpose will be to understand the role of occupational health and safety in determining work productivity.

Course Readings

1. Goetsch, D.L. (2014). *Occupational Safety and Health for Technologists, Engineers, and Managers (8th Ed.).* Prentice Hall.ISBN-13: 978-0133484175
2. Frame, D.J. (2003). *Managing Risk in Organisations: A Guide for Managers (1st Ed.*). Jossey-Bass. ISBN-13: 978-0787965181
3. Friis, R.H. (2015). *Occupational Health and Safety for the 21St Century (1 Pap/Psc Edition).* Jones & Bartlett Learning.ISBN-13: 978-1284046038
4. Geller, S.E. (2000). *The Psychology of Safety Handbook (2nd Ed.).* CRC Press. ISBN-13: 978-1566705400
5. Schneid, T.D. (2008). *Corporate Safety Compliance: OSHA, Ethics, and the Law (Occupational Safety & Health Guide Series) (1st Ed.).* CRC PressISBN-13: 978-1420066470.
6. Patankar, M.S., Brown, J.P. & Treadwell, M.D. (2005). *Safety Ethics: Cases from Aviation, Healthcare and Occupational and Environmental Health.* Ashgate Publishing Limited.

Data Quality Assessment and Improvement I

Objectives:

i. Professionals would be introduced to the basic principles of data quality.
ii. Professionals would be introduced to data quality techniques.
iii. Professionals would be introduced to practical/hands-on data quality techniques.
iv. Professionals would be introduced to data quality assessment tools.

Content: Overview of Data Quality Assessment, Data Quality Problems, Data Quality Assessment and Improvement Methods, Data Quality Methods, Classification of Data Quality Assessment Methods.

Mode of Delivery: Didactic teaching and Problem-based Learning (PBL)

Reading Materials:

- Woodall, P., Oberhofer, M. & Borek, A. (2014). *A Classification of Data Quality Assessment and Improvement*. International Journal of Information Quality.
- Joshi, M., Ransom, E., Nash, D. & Ransom, S. (2014). *The Healthcare Quality Book: Vision, Strategy and Tools*. Health Administration Press. USA.
- UNDP. (2009). *Handbook on Planning, Monitoring and Evaluating for Development Results.* UNDP.

Membership (2-3Years)

Health Management Information Systems

Course Description

The course will describe the basic principles of a health information system and its application to the management of health systems. This course also prepares the student to apply computer technology to the management of individuals, groups, or organisations in the roles of healthcare practitioner, administrator, educator, and researcher. Emphasis is on becoming knowledgeable and competent with available resources useful in client care and educational settings. The student also develops additional skills in using a variety of software applications through the completion of assignments.

Course Objectives

At the end of the course, professionals would be able to:

1. Explain the steps in developing health management information systems.
2. Describe the various health management information systems used at the district, regional, and national levels.
3. Describe the importance of health management information systems to quality service delivery.
4. Examine social, ethical, and legal issues involved in computerized procedures related to health care delivery and educational process.
5. Evaluate data management and computer applications used in health care research, clinical practice, health administration, and public health.
6. Explore the impact of Internet technology on the delivery of healthcare and public health services.

Course Content

The course will aim at introducing professionals to the general concepts of health management information systems, description of various health management information systems used at all levels of the health system and their linkage, introduction to Informatics overview of the Internet and Health, e-Health and e-Health Strategies in Ghana, the Internet and Intellectual Property, E-Commerce Applications in Public Health, Privacy, Security, & Confidentiality of Public Health

Websites, Overview of Web Technologies, Web 2.0, and Mobile Health, HTML Programming and Static Website Design & Development, ASP Programming and Data-driven Website Design & Development, Informatics in Patient Care Settings, Informatics in Health Care Research, Theoretical Issues for Health Care Informatics, Informatics in Health Care Education, Informatics in Patient Care Settings.

Mode of Delivery

This course will be delivered through a "blended learning approach" using a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Practical sessions which will account for one credit will form an important part of this course. Practical sessions will be computer based using secondary data and periodic field visits to the information services department of hospitals.

Course Readings

1. Magnuson, J. A. & Paul Fu Jr. (2014). *Public Health Informatics and Information Systems (2nd Ed.)*. Springer. ISBN-13: 978-1447142362
2. Shortliffe, E.H. & Cimino, J.J. (2014). *Biomedical Informatics: Computer Applications in Health Care and Biomedicine (Health Informatics) (4th Ed.).* Springer. ISBN-13: 978-1447144731.
3. Wager, K.A., Lee, F.W. & Glaser, J.P. (2013). *Health Care Information Systems: A Practical Approach for Health Care Management (3rd Ed.).* Jossey-Bass. ISBN-13: 978-1118173534
4. Joos, I., Nelson, R. & Smith, M.J. (2013). *Introduction To Computers For Healthcare Professionals Paperback – Unabridged, (6th Ed.).* ISBN-13: 978-1284030266.
5. Robbins, J.N. (2012). *Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics Paperback (4th Ed.)* ISBN-13: 978-1449319274.
6. Wager, K.A., Lee, F.W. & Glaser, J.P. (2013). *Health Care Information Systems: A Practical Approach for Health Care Management Paperback*. Edition: 3rd. ISBN-13: 978-1118173534.

Biostatistics II (Advance)

Course Description

This course introduces professionals to fundamental concepts and methods of biostatistics as applied predominantly to public health problems. The course will focus on data analysis using statistical packages, interpretation, concepts and applications. Topics include descriptive statistics; vital statistics; sampling; estimation and significance testing; sample size and power; statistical issues in policy development. Examples of statistical methods will be drawn from public health practice. Use of statistical packages such as SPSS, STATA and EPIINFO will be introduced.

Course Objective

At the end of the course the student will be able to:

1. Demonstrate the roles biostatistics serves in the discipline of public health.
2. Distinguish between categorical variables without order, categorical variables with order and continuous variables.
3. Interpret graphical and descriptive techniques commonly used to summarize public health data.
4. Describe basic concepts of probability
5. Apply common statistical methods for estimation and inference and use them appropriately according to underlying assumptions and type of study design.
6. Construct and interpret confidence intervals around means and proportions.
7. Differentiate between the research, null and alternative hypotheses.
8. Construct one and two-sided hypotheses.
9. Identify type I and type II errors, significance level, p value and power.
10. Determine the sample size needed for one- and two-sample tests on means.
11. Perform and interpret one-sample, two-sample, and paired t tests on means.
12. Perform and interpret the normal theory of two-sample test of proportions.
13. Perform and interpret chi square tests of independence.
14. Interpret the results of statistical analyses to provide evidence within the context of public health, health care, biomedical, clinical, and population-based studies and research.

15. Develop basic skills for utilizing statistical computing software for performing data analyses.

Course Contents

This course will cover basic concepts, population and samples, data analysis and presentation, elementary statistical methods, tabulation, chart and diagram preparations, measures of central tendency and dispersion, sampling techniques, probability and proportions, Estimation and hypothesis testing, chi square tests of independence. Measures for developing health statistical indicators: morbidity and mortality statistics. Use of latest statistical computer software for data analysis: SPSS; EPIINFO; STATA.

Principles and Methods of Epidemiology

Course Description

Epidemiology is often described as the basic science of public health as it combines knowledge in biology, clinical medicine, social sciences and ecology to describe, understand, and utilize disease patterns, so as to improve population health. At its core lies the measurement of the prevalence and incidence of risk factors and outcomes. Other uses of epidemiology include preventing and controlling of diseases in populations and guiding health and health-care policy and planning. Given its importance, this course, which serves as a foundation for subsequent courses in epidemiology and quantitative methods epidemiology to public health professionals will seek to describe the basic concepts of epidemiology, historical events in epidemiology, measures of disease frequency and its use to improve the health of populations.

Course Objectives

At the end of the course the student would be able to:

1. Explain the basic concepts and methods of epidemiology and explain the use of epidemiology in public health practice.
2. Discuss development of epidemiology and discuss important historical events in epidemiology and public health and given an important name or condition, be able to describe--in writing-- the event regarding the historical figure, context, and period.
3. Identify the key sources of data for epidemiologic purposes.

4. Describe a public health problem in terms of magnitude by person, time and place.
5. Differentiate and apply the various epidemiological study designs in research.
6. Calculate basic epidemiology measures and draw appropriate inferences from epidemiologic data.

Course Content

Introduction to Epidemiology: Definition and objectives of epidemiology, historical development of epidemiology, key components of epidemiology, epidemiology and public health, measures of disease frequency, rates, organize disease frequency data into a two-by-two table and ratios. Sources of data for epidemiological purposes.

Descriptive epidemiology: Describe and provide examples of the three main elements of descriptive epidemiology; persons, place and time; briefly describe sporadic, disease cluster, endemic, epidemic and pandemic of a disease; and discuss the scientific and administrative uses of descriptive epidemiology

Epidemiologic study designs: Distinguish between experimental and observational studies, describe the key characteristics of case reports ecological studies, cross-sectional, case-control, cohort and experimental studies; determine the factors that determine when a particular design is indicated.

Mode of Delivery

This course will be delivered through a "blended learning approach" using a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Practical sessions which will account for one credit will form an important part of this course. Practical sessions will include field trips to communities to collect data that will be used for measures of disease frequencies and other epidemiological methods related to the course.

Course Readings

1. Bonita, R., Beaglehole, R. & Kjellstrom, T. (2006). Basic epidemiology (2nd Ed.). WHO. ISBN 92 4 154707 3 (NLM classification: WA 105)
2. Basic Statistics and Epidemiology: A Practical Guide, ed.4 by Antony Stewart Publisher. CRC Press 2018 ISBN 9781315360768.

3. Last, J.M. (2001). A Dictionary of Epidemiology (3rd Ed.). New York: Oxford University Press. ISBN 978–0–19–997672–0
4. Gordis, L. (2008). Epidemiology (4thEd.). W.B. Saunders Company. ISBN: 9780323552295, publication date: 2019
5. Rothman, K. J. 2012. Epidemiology: An Introduction. Oxford: Oxford University Press. ISBN 978–0–19–975455–7
6. Gerstman, B. B. (2013). Epidemiology kept simple: an introduction to traditional and modern epidemiology. John Wiley & Sons. ISBN 978-1-4443-3608-5 (pbk.)

Occupational Health and Safety II

Course Description

Occupation is a determinant of Health. This course introduces the student to various strategies for ensuring that occupation does not affect the health of workers adversely. It will also introduce professionals to pre-placement screening and occupational lung diseases, as well as the use o f protective clothing at the workplace. Factors known to influence sickness absence, rehabilitation and settlement at the workplace would also be delved into.

Course Objectives

At the end of the course the student would be able to:

7. Identify hazards in the home or workplace which poses danger to themselves and others.
8. Control unsafe or unhealthy hazards and propose methods to eliminate the hazard.
9. Describe the monitoring of occupational diseases.
10. Describe the overview of preplacement screening.
11. Discuss the protection of the worker against sickness, disease, and injury at the workplace.
12. Discuss the management of sickness absence, understand the principles of rehabilitation and resettlement at work

Course Content

Personal Health and Safety: emergency first aid treatment, reaction to accidents and reporting of accidents, Theories of accidents. Stress and Safety; sources of workplace stress. Principles of toxicology; routes of entry into the body of toxic materials, general safety precautions. Pre-placement screening; Occupational lung diseases, silicosis, asbestos -related diseases,

occupational asthma, and byssinosis; health monitoring and investigation of a hazard; use of protective clothing; sickness absence, measuring absence, basic statistics and misconceptions, factors known to influence sickness absence; rehabilitation and settlement at work.

Mode of Delivery

This course will be delivered through a "blended learning approach" using a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Field practice will form an integral part of this course. It will account for one credit of the course. Professionals with support of faculty, will carry out occupational health and safety activities by visiting various workplaces in the Hohoe Municipality. The purpose will be to understand the role of occupational health and safety in determining work productivity.

Course Readings

1. Goetsch, D.L. (2014). *Occupational Safety and Health for Technologists, Engineers, and Managers (8th Ed.).* Prentice Hall.ISBN-13: 978-0133484175
2. Frame, D.J. (2003). *Managing Risk in Organisations: A Guide for Managers (1st Ed.*). Jossey-Bass. ISBN-13: 978-0787965181
3. Friis, R.H. (2015). *Occupational Health and Safety for the 21St Century (1 Pap/Psc Edition).* Jones & Bartlett Learning.ISBN-13: 978-1284046038
4. Geller, S.E. (2000). *The Psychology of Safety Handbook (2nd Ed.).* CRC Press. ISBN-13: 978-1566705400
5. Schneid, T.D. (2008). *Corporate Safety Compliance: OSHA, Ethics, and the Law (Occupational Safety & Health Guide Series) (1st Ed.).* CRC PressISBN-13: 978-1420066470.
6. Patankar, M.S., Brown, J.P. & Treadwell, M.D. (2005). *Safety Ethics: Cases from Aviation, Healthcare and Occupational and Environmental Health.* Ashgate Publishing Limited.

Research Methods II

Course Description

This course focuses on data collection, analysis, report writing, and planning for implementation of recommendations. The course has two parts, part one is devoted to the finalisation of data processing and to data analysis using **STATA**. The second part concentrates on report writing, drafting of recommendations, and presentation and discussion of the main findings and recommendations arising from the studies. Professionals shall collect data on the research proposal developed in Research Methods II, analyse and write report.

Course Objectives

By the end of the course, professionals would be able to:

1. Identify types of variables and define the basic concepts and procedures required for data analysis and interpretation.
2. Perform descriptive and inferential analysis using the health data collected for the research project which you developed in research methods I, interpret and draw conclusions related to the objectives of your study.
3. Write a clear and concise research report and a summary of the major recommendations for each of the different parties interested in the results.
4. Present the major findings and the recommendations of your study to policy-makers managers and to the subjects of your research together with them to finalise the recommendations.
5. Prepare a plan of action for the dissemination, communication and utilisation of the findings and (if required) make recommendations for additional research.
6. Demonstrate proficient use of statistical packages such as STATA, SPSS. R

Course Content

The course will equip professionals with skills to analyse data using STATA, SPSS. R, and write report. Professionals will also acquire knowledge and skills in dissemination, communication and utilisation of research findings. This course focuses on introduction to STATA, data management, descriptive analysis (summarize and describe quantitative and qualitative variables) and inferential analysis (analysis of categorical, continuous and count outcome variables)

Mode of Delivery

This course will be delivered through a "blended learning approach" using a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning

Practical sessions which will account for two credits will form an important part of this course. Practical sessions will include the use of statistical packages such as STATA, R, and SPSS for analysing health data.

Course Readings

1. Kirkwood, B.R. & Sterne, J.A.C. (2003). *Essential medical practice (2nd Ed.).* USA: Blackwell publishing.
2. Polgar, S. & Thomas, S. (2007). *Introduction to research in the health science (5th Ed.).* Churchill & Livingstone. 9780443074295
3. McNeil, D. (1996). *Epidemiological Research Methods.* NY: John Willey and Sons.
4. Reynolds, R. A., Woods, R., & Baker, J. D. (2007). *Handbook of Research on Electronic Surveys and Measurements* (pp. 1-418). Hershey, PA: IGI Global. doi:10.4018/978-1-59140-792-8
5. Munroe, B. (2004). *Statistical methods for health care research (5th Ed.).* Lippincott Williams and Wilkins. ISBN: 0781748402.
6. Kirkwood, B. R., & Sterne, J. A. (2010). *Essential medical statistics* (2nd Ed.). John Wiley & Sons [ISBN: 978-0-865-42871-3]

Health Data Management II

Course Description

This course is designed to equip professionals with skills needed to manage health data from collection, entry, analysis, and basic interpretation. The course will introduce the professionals to the use of data in Health Management and Planning and in Disease Control. It will also focus on generating knowledge from the data collected. Professionals are also expected to learn how to use basic software such as Epi Info, Epidata or Kobo Collect for data collection and processing and Stata, SPSS or R for data cleaning and analysis.

Course Objectives

At the end of the course the student would be able to:

1. Use basic software for data collection
2. Use statistical software for data cleaning and analysis
3. Create a data entry screen, enter data, and clean the data
4. Organize, analyse, and present health care data.
5. Compute and interpret health care statistics and to prepare health care statistical reports
6. Review the collection of data at the various levels of the health care system.

Course Content

Sources of data, data screen design, entry, collection, organisation, analysis, and presentation of health care data; vital and public health statistics; calculation of health care specific statistics, hospital utilization; mortality rates, autopsy rates, outpatient statistics; preparation of statistical reports; methods of ensuring data quality-accuracy, timeliness, completeness and validity. Extraction of secondary data from Health Database Management Systems such as DHIMS II, LHIMS and registries. Use of basic software such as Epi Info, Epidata or Kobo Collect for data collection and processing and Stata, SPSS or R for data cleaning and analysis.

Mode of Delivery

This course will be delivered through a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning. Practical sessions

which will account for one credit will form an important part of this course. Practical sessions will be carried out using computers and laptops.

Course Readings

1. Kirkwood, B. & Sterne, (2001). Essentials of Medical Statistics (2nd ed.). Blackwell Scientific Publications.
2. Horton, L. (2009). Calculating and Reporting Healthcare Statistics (3nd Ed.). AHIMA
3. Schutt, R. K. (2012). Investigating the Social World: The Process and Practice of Research (7th Ed.). Los Angeles: Sage.
4. Rubin, A. & Babbie, E.R. (2009). Essential Research Methods for Social Work. UK: Cengage Learning.
5. Reynolds, R. A., Woods, R., & Baker, J. D. (2007). Handbook of Research on Electronic Surveys and Measurements (pp. 1-418). Hershey, PA: IGI Global. doi:10.4018/978-1-59140-792-8
6. Freeman, J.V., Walters, S.J. & Campbell, M.J. (2008). How to display data. Blackwell Publishing Inc. ISBN 978-1-4051-3974-8.

System Analysis and Design

Course Description

The course covers the development of information systems and their software components. Whilst the course introduces professionals to the whole systems development process, it focuses on the elicitation and initial modelling of information systems requirements that enable the identification of information problems and the subsequent analysis and modelling of an efficient solution to those problems.

The approach follows the object-oriented programming (OOP) methods expressed by the Unified Process software development life cycle. The course addresses the complete methodology of the Unified Process, including its methodological deliverables and models and tools. It critically examines the issues and professional responsibilities that need to be considered at different phases in the development of information systems for an organisation, including the impact of the systems on intended users and the maintenance of quality.

Professionals gain experience in requirements elicitation and modelling systems analysis and feasibility estimation within a Health Information System context. They also gain practical experience in the use of OOP concepts and would be introduced to an OOP language such as C#, Java, etc

This course introduces the process and methodology for systems analysis and design. Professionals will be able to learn the process of systems development, the traditional structural approach and modern object-oriented approach for systems analysis and design, systems development strategy and new trends of systems development. The course will teach professionals the basic concepts in designing systems to capture and manage health information data. It includes expanded coverage of data flow diagrams, data dictionary, and process specifications

Course Objectives

At the end of the course the student would be able to:

1. Explain systems definition, theory and concepts.
2. Analyse systems.
3. Describe systems relationships.
4. Describe applications and management of systems.
5. Explore software development models and when and how to apply them

6. Demonstrate a good knowledge of the systems development lifecycle and its applications in the real world

Course Content

The course will include the following: Basic definition-systems, systems analysis, information system, General overview of systems development, systems theory and relevance to information system, systems life cycle (SLDC)-preliminary investigation, the analysis phase, the design phase, development stage, implementation, systems evaluation. System design tool-systems flow charts, physical design, logical design, architectural design

Mode of Delivery

This course will be delivered through a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Practical sessions which will account for one credit will form an important part of this course. Practical sessions will include computer-based analysis using secondary and periodic visits to health facilities.

Course Readings

1. O'Leary, L.I. & O'Leary, T.J. (2004). Computing Today. Boston: McGraw P. , ISBN-13: 9780072943290
2. Checkland, P. & Poulter, J. (2006). Learning for Action: a short definitive account of soft systems methodology and its use for practitioner, teachers and professionals. John Wiley. ISBN: 978-0-470-02554-3
3. Rowley, J. (1990). The basic of systems analysis and design for information managers. London: Clive Bingley Ltd. ISBN 085157453X.
4. Hutchinson, S.E. & Sawyer, S.C. (1994). Computers and Information System. Burr Ridge III: Irwin ISSN: 0968-5227
5. Whitten, J., et al.: System Analysis and Design methods. 6th Edition. Boston: McGraw Hill ISBN-13: 978-0072474176, ISBN-10: 0072474173
6. Dennis, Wixom & Roth. Systems Analysis and Design 6th Edition John Wiley ISBN-13: 9781118897843, 9781119138259

Legal and Ethical Issues in Health Information Management

Course Description

This course covers concepts and principles of law found in the healthcare field. The course focuses on legal issues regarding health information, including confidentiality, release of health information, consent forms, liability of healthcare providers, concepts and methods of risk management in the healthcare field, and other current medical/legal issues. This course also focuses on the types of healthcare data that professionals need to be aware, complexities of security and privacy within healthcare, and issues related to compliance and reporting. The risks associated with security breaches, ransomware and phishing will be discussed and about some of the key laws and regulations specific to healthcare and the importance of compliance as well as the purpose of quality measures.

Course objectives

Upon completion of the course, professionals would be able to:

1. Demonstrate an understanding of Data Protection Act in Ghana and HIPAA regulations
2. Demonstrate an understanding of privacy, security, confidentiality, legal policies and procedures, and ethical issues
3. Demonstrate an understanding of legal principles impacting Health Information Technology
4. Demonstrate an understanding of patent, copyright, and trademark
5. Identify the role of the health information professional in legal healthcare compliance.
6. Explain the general rule regarding ownership of medical records information
7. Describe different types of security breaches in healthcare including phishing and ransomware.

Course content

Historical perspective, introduction to law, tort law, criminal aspects of healthcare, contracts and antitrust, civil procedure and trial practice, corporate structure and liability, medical staff, health information and the law, liability for healthcare professionals, information management and healthcare records, patient consent, legal reporting requirements, patient rights and responsibilities, acquired immune deficiency syndrome, healthcare ethics, professional liability,

insurance, managed care and organisational restructuring, tort reform and risk reductio, patient safety and zero tolerance

Mode of Delivery

This course will be delivered through a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Course reading

1. McWay D.C. 2020. Legal and Ethical Aspects of Health Information Management, ISBN-13: 978-1285867380, ISBN-10: 1285867386,
2. Ghana Health Service (GHS). 2009. Legal and Policy Framework for Health Information and Health Data Reporting
3. Health Insurance Portability and Accountability Act of 1996, ISBN-10 078814, : ISBN-13: 978-0788140167
4. Dana C. McWay, Legal and Ethical Aspects of Health Information Management, *The health information management series*, Delmar Cengage Learning, 2009, ISBN-10: 1435499859
5. Dana C. McWay, Legal Aspects of Health Information Management, Delmar Publishers, 1997 - Business & Economics, ISBN-10: 0766825205

Legal and Policy Framework for Health Information and Health Data Reporting, March 2008, Ministry of Health Matrix Network

Monitoring and Evaluation of Health Program

Course Description

This course is to introduce professionals to developing and using various tools for monitoring and evaluating health services programmes. Professionals are expected to use a comprehensive framework to derive indicators from routine health services data from various settings.

Course Objectives

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

1. discuss the difference between monitoring and evaluation.
2. describe the comprehensive evaluation framework
3. review examples of how monitoring data are collected and analyzed
4. discuss how a comprehensive evaluation plan is developed

Course Content

Overview of evaluation, Formative evaluation research, project monitoring-process evaluation; evaluation-effectiveness evaluation, framework for evaluation-inputs, outputs, outcome and impact, programme indicators, data collection methods, types of analysis, key elements of evaluation plan, scope of the evaluation, methodological approach, implementation plan, dissemination and utilization of results, community –Based participatory research, culture considerations in evaluation.

Course Readings

1. CDC (2014). Saving Mothers, Giving Life: Monitoring and Evaluation Overview, Phase 1 Report. Atlanta, GA: Centers for Disease Control and Prevention (CDC), US Dept of Health and Human Services; 2014.
2. Harkeness, G.A. & DeMarco, R.F. (2012). Community and Public Health Nursing Evidence for Practice. Woltes Kluwer, Lippincott Williams and Wilkins.
3. Webber, R. (2005). Communicable Disease Epidemiology and Control A global perspective (2nd Ed.). UK: Gabi Publishing.
4. Neale, J. (2009). Research Methods for health and social care. UK: Palgrave McMillan.
5. UNICEF (2008). Bridging the gap: The role of monitoring and evaluation in evidence-based policy making. Geneva, Switzerland: UNICEF Regional Office.
7. McNeil, D. (1996). Epidemiological Research Methods. John Wiley & Sons.

Health Programme Planning and Evaluation

Course Description

Careful planning and evaluation of public health programmes are essential competencies for public health professionals. Programme planning and evaluation is a deliberate approach in which public health professionals: Identify a health problem, develop goals and objectives to address the health problem, develop a set of key activities/strategies to reach a set of desired improvements, establish a means to measure the attainment of the desired improvements. Through this course professionals will gain a basic understanding of how to implement public health programmes and evaluate their effectiveness.

Course objectives

By the end of this course, professionals would be able to:

1. Define concepts and frameworks related to health programme planning and evaluation.
2. Develop an understanding of the processes involved in planning and evaluating public health programmes.
3. Apply skills to organize, design, and evaluate an effective health programme intervention.
4. Articulate a theoretical perspective of the health programme planning and evaluation process.
5. Develop an effective programme and evaluation plan for a health programme intervention in both clinical and public health settings.
8. Demonstrate tools and techniques used to promote team development and to diagnose and respond to conflict.

Course Content

Overview of public health programme planning, health programme evaluation, programme planning issues, introduction to team development, the context of programme planning, tools and techniques in working with teams in an online learning environment, addressing common issues in team development, using programme theory frameworks, developing programme goals and objectives, Logic models, implementation of and budgeting for a programme plan, Monitoring a programme plan, sustainability of a programme plan, introduction to and rationale for programme

evaluation, Utility of qualitative and quantitative evaluations, developing a mixed methods evaluation plan, communicating your programme and evaluation plans with others.

Mode of Delivery

This course will be delivered through a "blended learning approach" using a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Course readings

1. Karen M. Perrin (2020). Principles of Planning, Evaluation, and Research for Health Care Programmes (2nd Edition). [ISBN-13: 978-1284203912]
2. Issel, L.M. (2014). Health Programme Planning and Evaluation: A Practical, Systematic Approach for Community Health. (4th [ISBN-13: 978-1284112115]
3. Brownson, Ross C, EA Baker, TL Leet, KN Gillespie. (2003) Evidence-Based Public Health. Oxford University Press.
4. Hodges, Bonni C, DM Videto. (2005) Assessment and Planning in Health Programmes. Jones and Bartlett Press. [ISBN-13: 978-0763790097]
5. Muriel J. Harris (2016). Evaluating Public and Community Health Programmes (2nd Edition) [ISBN-13: 978-1119151050]
6. Beaufort B. Longest Jr. (2014). Health Programme Management: From Development Through Evaluation (Jossey-Bass Public Health) 2nd Edition [ISBN-13: 978-1118834701].

Geographic Information Systems I

Course Description

Geographic Information System (GIS) is a computer-based tool designed to capture, store, manipulate, analyse, manage, and present all types of geographical data. The course focuses on the application of information science and technology to public health practice and research.

Course Objectives

At the end of the course the student would be able to:

1. Explain what Geographical information systems are and its components.
2. Explain the history and uses of GIS in Public health, epidemiology investigations, diseases surveillance and outbreak investigation
3. Describe spatial/geographic data and types of maps
4. Explain coordinate systems and geocoding
5. Develop cartographic and data visualization skills
6. Develop analytical and critical thinking skills to analyze geospatial data, interpret results, and formulate solutions to spatial problems
7. Develop technical proficiency in using GIS software (ArcGIS or QGIS.)

Course Content

Definition of geographical information system; spatial data; database management; data input and editing; data analysis; data editing; data quality issues; GIS project editing and management, use of GISs in surveillance and monitoring vector-borne diseases, environmental health, children, and pedestrian

Mode of Delivery

This course will be delivered through a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Practical sessions which will account for one credit will form an important part of this course. Practical sessions will include the use of computers and fieldtrips to practice the use of GIS in surveillance of diseases and environment.

Course Readings

1. Longley, P.A., Goodchild, M.F., Maguire, D.J. & Rhind, D.W. (2011). Geographical Information System and Science, 3rd Edition. John Wiley and Sons. ISBN-13: 978-1118676950
2. Burrough, P.A. & McDonnell, R.A. (1998). Principles of geographical information systems. Oxford University Press. ISBN-13: 978-0198742845
3. Melnick, A.L. (2002). Introduction to geographic information systems in public health. Jones & Bartlett Publishers. ISBN-13: 978-0834218789
4. Gorr, W.L. & Kurland, K.S. (2016). GIS tutorial Basic Workbook. ESRI Press ISBN-13: 978-1589482593
5. Kang-tsung, Chang (2013). Introduction to Geographic Information Systems with Data Set CD-ROM. 7th Ed. McGraw-Hill Education. ISBN-13: 978-1259929649

Data Analysis and Presentation

Course Description

The course will focus on the design and management of the Ghana Ministry of Health, Health Management Information System and the outputs that can be generated to improve the health of Ghanaians.

Course Objectives

At the end of the course professionals would be able to:

1. Describe the Live Wave Health Information Management System (LHIMS) of the Ghana Health Service
2. Describe and generate basic outputs of the LHIMS
3. Document the quality of the data including completeness of reporting.
4. Provide feedback to the institutions generating the basic data
5. Present the data for the District Health Management Team
6. Inspect, clean, transform, and model data with the goal of discovering useful information, informing conclusions, and supporting decision-making.

Course Content

Review of the database structure, LHIMS, coding system, the basic indicators and their definition, analysis of defined dataset from the LHIMS, generate basic indicators and presentation of data for management of the health system at National, Regional and District levels.

Mode of Delivery

This course will be delivered through a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning. Practical sessions which will account for one credit will form an important part of this course. Practical sessions will be computer-based using secondary data and periodic visits to health facilities.

Course Readings

1. MacFarland, T.W. (2014). Introduction to Data Analysis and Graphical Presentation in Biostatistics with R: Statistics in the Large. Springer. ISBN-13: 978-3319025315
2. Willis, Jackie (2004). Data Analysis and Presentation Skills: An Introduction for the Life and Medical Sciences. Wiley. ISBN-13: 978-0470852743

3. Green, S.B. & Salkind, N.J. (2013). Using SPSS for Windows and Macintosh (7th Edition). Pearson.ISBN-13: 978-0205958603
4. Smith, J. (1999). Health Management Information System: A handbook for decision makers. Oxford University, Press.
5. Draft Ghana Health Information System: Sub-National Health Information System Assessment – Regional Level Review and Assessment Report (December 2006).
6. WHO (2004). Developing Health Management Information Systems. A Practical Guide for Developing Countries.

Information Technology Application in Health Management

Course Description

The course will focus on the role of information technology (mobile and e-health) in improving access, timely and quality data for decision –making in public health

Course Objectives

At the end of the course the student would be able to:

1. Define information technology, its impact on health information
2. Review the role of information technology in health service delivery
3. Explain the basic elements of the informatics infrastructure components to support knowledge management (controlled medical terminology, information models, artifacts for decision support);
4. Explain mHealth and its relationship to eHealth and ICT
5. Discuss telemedicine and its application in healthcare
6. Critically analyse both the opportunities and the pitfalls that emerge when working with mobile technology to improve public health outcomes

Course Content

Managerial-oriented approach to the use of IT in organisations to improve quality and productivity. Case studies highlight new technology and applications, including fuzzy logic, neural computing, and hypermedia, problems many district team's encounter.

Mode of Delivery

This course will be delivered through a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning. Practical sessions which will account for one credit will form an important part of this course. Practical sessions will include computer-based analysis using secondary and periodic visits to health facilities.

Course Readings

1. Hassey A, Gerrett D, Wilson A.A (2001) survey of validity and utility of electronic patient records in a general practice. BMJ; 322:1401-5
2. Chin HL, Krall MA. (1998) Successful implementation of a computer-based system in Kaiser Permanente Northwest: strategy and experience. Effective Clinical Care Practice; 1:51-60
3. Souther E. (2001). Implementation of the electronic medical record: the team approach. Computers in Nursing; 19:47-55
4. Rodrigues J.P.C. (2009). Health Information Systems: Concepts, Methodologies, Tools, and Applications. Jones and Bartlett., ISBN-13: 978-1605669885, ISBN-10: 1605669881
5. WHO (2004). Developing Health Management Information Systems: A Practical Guide for Developing Countries. Retrieved from, http://www.wpro.who.int/publications/docs/Health_manage.pdf?ua=1
6. Glaser J.P, Salzberg C. (2011). The Strategic Application of Information Technology in Health Care Oraganisations. ISNB: 0470639415, 9780470639412

Internet and Web Technology Applications for Healthcare (E-Commerce)

Course Description

This course teaches professionals how to design and publish Web sites. In this course, professionals will work with popular production tools such as Microsoft Expression Web, and Adobe Dreamweaver and Flash. Student will study design and development technologies such as Cascading Style Sheets (CSS), Extensible Markup Language (XML), JavaScript, Java applets, Dynamic HTML, plug-ins, multimedia and databases. Student will also explore the extensibility of design tools, incompatibility issues surrounding these tools, and the functionality of current Web browser. Professionals will be introduced to the effective building of online presence and the ethical use of Social Media (Twitter, YouTube, LinkedIn, Facebook, Instagram, TikTok, etc.) and its integrations with a focus on Cyberbullying, fake news, sexting, cyber fraud, etc. Website Design using Rapid Application Development tools as well as basic multimedia editing skills, touch-typing skills using industry-standard software (Mavis Beacon, ATI, etc.) as well as the effective utilization of the web as a learning platform will be introduced to the professionals.

Professionals will work in interdisciplinary teams to design an innovative solution to a current or future health care problem. Professionals' proposed solutions will draw upon understanding of tools and principles acquired. This course also prepares the student to apply computer technology to the management of individuals, groups, or organisations in the roles of healthcare practitioner, administrator, educator, and researcher. The student also develops additional skills in using a variety of software applications through completion of assignments.

Course Objectives

Upon completion of the course, professionals would be able to

1. Build a basic website
2. Touch type using the English alphanumeric keys on the QWERTY keyboard
3. Understand basic Internet and computer networking technologies
4. Design and develop static and data-driven websites.
5. Use Cascading Style Sheets (CSS), Extensible Markup Language (XML), JavaScript, Java applets, Dynamic HTML and programming language Interrelate selected theories that influence informatics in health care.

6. Examine social, ethical, and legal issues involved in computerized procedures related to health care delivery and educational process.

7. Explore the impact of Internet technology on the delivery of healthcare and public health services.

Course Content

This course covers new technologies and traditional strategies involving the Web designer job role. Throughout this course, you will learn how Web sites are developed as managed projects, relate Web site development to

business goals, and apply guidelines for user accessibility to Web site development. The course teaches professionals to manage the Web site development process. The course also covers topics such as: Introduction to Informatics , Overview of the Internet of things and Health, Health Information-Seeking Behaviour, Health Education, E-Health and eHealth Strategies in Ghana, Evaluation of Public Health Websites, The Internet and Intellectual Property, E-Commerce Applications in Public Health, Privacy, Security, & Confidentiality of Public Health Websites, Overview of Web Technologies, Web 2.0, and Mobile Health, Cascading Style Sheets (CSS), Extensible Markup Language (XML), JavaScript, Java applets, HTML Programming and Static Website Design & Development, ASP Programming and Data-driven Website Design & Development, Informatics in Patient Care Settings, Informatics in Health Care Research, Theoretical Issues for Health Care Informatics, Informatics in Health Care Education, Informatics in Patient Care Settings.

Mode of Delivery

This course will be delivered through a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Practical sessions which will account for one credit will form an important part of this course. Practical sessions will include computer-based analysis using secondary and periodic visits to health facilities.

Course Readings

1. Joos, I., Nelson, R. & Smith, M.J. (2013). Introduction To Computers For Healthcare Professionals Paperback – Unabridged, (6th Ed.). ISBN-13: 978-1284030266.
2. Robbins, J.N. (2012). Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics Paperback (4th Ed.) ISBN-13: 978-1449319274 ISBN-10: 1449319270.
3. Wager, K.A., Lee, F.W. & Glaser, J.P. (2013). Health Care Information Systems: A Practical Approach for Health Care Management Paperback. ISBN-13: 978-1118173534. Edition: 3rd.
4. Musen, M.A. & vanBemmel, J. (Eds) (2002). Handbook of Medical Informatics Paperback
5. Degoulet, P., Fieschi, M. & Phister, B. (1999). Introduction to Clinical Informatics (Health Informatics) Hardcover. ISBN-13: 978-3790820010.
6. Teresa Walsh (2005). Introducing ICT Paperback ISBN 9780717137565

Electronic Health and Data Systems

Course Description

The course examines the emerging technology of the Electronic Health Record through conceptual theory and hands-on application needed to work in today's medical office. The course will introduce professionals to the Electronic Health Record, discuss established standards and protocols for electronic health records, establish proficiency in creating patient charts through online exercises, identify clinical tools needed to create and maintain records. Electronic Health Records (EHRs) are application systems that automate the activities of healthcare clinicians including physicians, nurses, physician assistants, and healthcare administrative staff. This course will focus on real-world use and deployment of EHRs through readings and case studies

Course Objectives

At the end of the course the student would be able to;

1. Explain the history of the medical records system and their uses
2. Define the concept of electronic health record use in health care and the benefits of using electronic health records
3. Discuss the data quality issues to be addressed when using electronic health records and understand the need for standards in coding and exchanging medical data
4. Explain the significance of privacy preservation and security risks in the context of electronic health records and the issues with health data anonymization and the advantages of using an electronic system for reporting public health data
5. Maximize IT knowledge to drive the implementation of EHRs within the health system
6. Explain data warehousing and data mining in the context of health data

Course Content

The course provides professionals with the skills needed to effectively implement an electronic health record system and the strategies required to ensure ongoing benefit realization post implementation. Professionals will also explore topics related to extensions of the EHR including telemedicine, patient-centered technologies, and population management. You will learn the definition of electronic health record, difference between electronic health record and electronic medical record; structure of electronic health records, context of use of electronic health records, functions of an electronic health record, informed consent and electronic health records;

standardization of electronic health records; implementing security and access control for an electronic health record, access to electronic health records, security infrastructure and archives for electronic archives and electronic health records; secondary uses of electronic health records, medico-legal purposes, quality management, education research, policy development/health service management, health statistics analysis and trend analysis. Evolution and the development of the health record; the context of health records management; the principles and practices of health records management; appraisal; storage and access issues; confidentiality and security issues; organisation and management of health records service: patient identification and registration procedures, indexes and registers, filing and retrieval systems, admission and discharge procedures.

Mode of Delivery

This course will be delivered through a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Practical sessions which will account for one credit will form an important part of this course. Practical sessions will include computer-based analysis using secondary and periodic visits to health facilities.

Course Readings

1. Agrawal, R. & Johnson, C. (2007). Securing electronic health records without impeding the flow of information. International journal of Medical Informatics ;76:471-479
2. France, F.H., Beguin, C., van Breguel R, Piret C. 2000. Long term preservation of electronic health records. Recommendations in a large teaching hospital in Belgium. Stud Health Technol Inform. 77:632-6
3. Barrows, R.C. & Clayton, P.D. (1996). Privacy, confidentiality, and electronic medical records. J Am Med Inform Assoc; 3:139-148
4. Henry, S.B., Morris, J.A. & Holzemer, W.L. (1997). Using structured text and templates to capture health status outcomes in the electronic health record. Jt Comm J Qual Improv; 23:667-77

5. Physicians, patients, and the electronic health record: An ethnographic analysis. Annals of Family Medicine. Inc 2006; 124-131
6. B Benjamin 1977 Medical Records, London, William Heinemann Medical

Database Management System

Course description

This course will concentrate on the principles, design, implementation and applications of modern database management systems. This course provides a managerial understanding and approach to the technical subject of database management. The course will illustrate the important role that database systems play in an organisation and provide you with a background to understand the subject, and a foundation upon which to build your management decisions. The course will also focus on the principles of developing a data base system and its application in capturing health data accurately and timely.

Course Objectives

Upon completion of the course, professionals would be able to:

1. Explain the different issues involved in the design and implementation of a database system.
2. Define the elements of a health database
3. Study the physical and logical database designs, database modeling, relational, hierarchical, and network model
4. Use data manipulation language to query, update, and manage a database
5. Develop an understanding of essential DBMS concepts such as: database security, integrity, concurrency, distributed database, and intelligent database, Client/Server (Database Server), Data Warehousing.
6. Design and build a simple database system and demonstrate competence with the fundamental tasks involved with modelling, designing, and implementing a DBMS

Course content

This course covers the fundamentals of database design and management. Topics include the principles and methodologies of database design, database application development, normalization, referential integrity, security, relational database models, and database languages, database concepts such as database files, types, records field, advantages and disadvantages of DBMS, types of database organisation, features of data-query, report data dictionary, utilities systems recovery, database application development; overview of storage and indexing; database profession, new developments in database management, data service delivery, diagnosis, health information management and administration, ethics of using databases, health database systems, features of application software, developing databases for health systems. Principles are applied by performing written assignments and a project using an SQL database system.

Mode of Delivery

This course will be delivered through a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Practical sessions which will account for two credits will form an important part of this course.

Course Readings

1. Proctor S.J. & Taylor, P.R.A. (2000). A practical guide to continuous population-based data collection (PACE): a processing facilitating uniformity of care and research practice. QJM; 93:67-73
2. Helman, P. (1994). The Science of Database Management. Irwin: Burr Ridge.
3. Hoffer, J.A., Prescott, M.B. & McFadden, F.R. (2007). Modern Database Management (8th Ed). Prentice Hall.
4. Rob, P & Coronel, C. (2001). Database Systems: Design, Implementation, & Management, (5th Ed). Cengage Learning.
5. Post, G.V. (1998). Database Management Systems - Designing & Building Business Applications. Irwin Professional Publishing.
6. Philip J. Pratt and Mary Z. Last (2014). Concepts of Database Management 8th Edition. Course Technology. ISBN-13: 978-1285427102

7. Leiner, F. et al. (2003). Medical Data Management: A Practical Guide. NY: Springer Veriag Inc

Data Warehousing and Mining

Objectives:

i. To examine the concept of the data warehouse and its effectiveness in supporting strategic decision making.
ii. To examine data mining techniques and its application.
iii. To introduce professionals to data mining models and its benefits.

Content: Address the process of creating data warehouse/data-mart solutions from the identification of the enterprise informational and analytical needs to produce health business intelligence by extracting information from the data warehouse by using data-mining methods and models.

Mode of Delivery: Didactic teaching, Practicals and Problem-based Learning (PBL)

Reading Materials:

1. Han, J. & Kamber, M (2006). *Data Mining: Concepts and Techniques*. Boston, USA: Diane Cerra

2. Tan, J. (2009). *Medical Informatics: Concepts, Methodologies, Tools and Applications.* New York, USA: Medical Information Science Reference. USA.

3. Shortlife, E. H., & Cimino, J. J. (2006). *Biomedical Informatics: Computer Applications in Healthcare and Biomedicine* (3rd ed.). New York, USA: Springer.

Data Quality Assessment and Improvement II

Objectives:

1. Professionals would be introduced to the basic principles of data quality.
2. Professionals would be introduced to data quality techniques.
3. Professionals would be introduced to practical/hands-on data quality techniques.
4. Professionals would be introduced to data quality assessment tools.

Content

Overview of Data Quality Assessment, Data Quality Problems, Data Quality Assessment and Improvement Methods, Data Quality Methods, Classification of Data Quality Assessment Methods.

Mode of Delivery

Didactic teaching and Problem-based Learning (PBL)

Reading Materials:

1. Woodall, P., Oberhofer, M. & Borek, A. (2014). *A Classification of Data Quality Assessment and Improvement*. International Journal of Information Quality.
2. Joshi, M., Ransom, E., Nash, D. & Ransom, S. (2014). *The Healthcare Quality Book: Vision, Strategy and Tools*. Health Administration Press. USA.
3. UNDP. (2009). *Handbook on Planning, Monitoring and Evaluating for Development Results.* UNDP.

DATABASE STRUCTURES AND MANAGEMENT SYSTEMS

Objectives:

i. To analyse and design databases to support computer-based information systems.
ii. Develop and implement relational database management systems using SQL.
iii. To use database query language to request for data.

Content

Topics include: data modelling techniques such as entity-relationship modelling, extended entity-relationship modelling, database constraints, database normalisation techniques, and basic and advanced features of database query language SQL, etc.

Mode of Delivery

Didactic teaching and Problem-based Learning (PBL)

Reading Materials:

1. Post, G. (2005). *Database Management Systems*. New York, USA: McGraw-Hill.
2. LaTour, K. M. & Eichenwald S. (2009). *Health Information: Concept, Principles and Practice*. (3rd ed.). AHIMA Publications. USA.
3. Post, G.V. (2003). *Database Management Systems*. McGraw-Hill. USA.

Clinical Data Classification and Coding

Course Description

The course will focus on the use of Classification and coding in the clinical practice and in the collection and collation of health data. The focus will also be on the applications of the coding systems for data retrieval and analysis and also for billing patients.

Course Objectives

At the end of the course the student would be able to:

1. Explore historical development and the relevance of diseases classification
2. Describe the current system of disease classification
3. Apply the concept of the current diseases' classification in coding diseases and health related problems
4. Develop skills in clinical classification of diseases and procedures using the International statistical classification of diseases and health related problems (ICD 11)
5. Review the general principles and guidelines for the development of disease registry
6. Explain the role of disease registry in health care delivery and research

Course Content

History and development of disease classification, the structure and conventions of the International Classification of Diseases and Related Health Problems; tenth Revision, Basic coding principles, retrieval of relevant information from health records for the classification of diseases and procedures in medicine, Structure and applications of internal classification of health interventions; structure and application of the international classification of diseases for oncology (ICD-O); General principles and guidelines for the development of disease registry; Role of disease registry in health care delivery and research; specific development and implementation of registry system for non-communicable diseases such as cancers, development of communication and presentation skills

Mode of Delivery

This course will be delivered through a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, case studies, and peer-to peer learning.

Practical sessions which will account for one credit will form an important part of this course. Practical sessions will include computer-based analysis using secondary data and periodic visits to health facilities.

Course Readings

1. Fritz, et al (2008). International Classification of Diseases for Oncology, ICD-O.A. Geneva: WHO. ISBN: 9789241547666
2. World Health Organisation (2008). International Statistical Classification of Diseases and related Health Problems (ICD-10) Vol.1 (10^{th} Ed.). Geneva WHO library Cataloguing. ISBN: 9241547669, 9789241547666
3. Jensen, O.M. et al (1991). Cancer Registration: Principles and methods. Lyon France: International Agency for Research on Cancer. ISBN: 9283211952, 9789283211952
4. Giammangelo, Kathy (2015). Healthcare Code Sets, Clinical Terminologies, and Classification Systems. American Health Information Management Association.
5. Pradeep K. S et al (2013). Electronic Health Record: Standards, Coding Systems, Frameworks, and Infrastructures. New Jersey: John Wiley & Sons, Inc. ISBN: 9781118281345, 9781118479612

6. Sittig D.F. (2013). Electronic Health Records, 1st Edition. ISBN-13: 978-1774633113

PROGRAMMING AND SOFTWARE DEVELOPMENT

Objectives:

i. The course explores the examination of the role of each in the software development process.
ii. The course would examine the various software development processes.
iii. The course would introduce professionals to object-oriented programming.

Content

The course introduces professionals to object-oriented programming paradigm, object-oriented systems analysis and design, fundamental data structures, and n-tier software design. The course would introduce professionals to Python and Java.

Mode of Delivery

Didactic teaching, Practicals and Problem-based Learning (PBL)

Reading Materials:

1. Guttag, J. V. (2013). *Introduction to Computer Programming using Python.* Cambridge: The MIT Press. USA
2. Lutz, M. (2013). *Learning Python.* 5th Ed. O'Reilly.
3. Sommerville, I. (2004). *Software Engineering*. Edinburgh, Britain: Pearson Education Limited.
4. Laitinen, K. (2004). *An Introduction to Programming*. Trafford Publishing Company. USA.
5. Felleisen, M., Findler, R.B., & Flalt, M. (2001). *How to Design Programs: An Introduction to Programming and Computing*. Cambridge: The MIT Press.
6. Java, The Complete Reference. USA.

Grant writing Skills for Clinical and Health Research

Course Overview:

This course provides practical instruction in the grant writing process, with a specific focus on National Institutes of Health (NIH) procedures. It provides the professionals with experience in writing a full grant application and in reviewing others' grant applications.

Program Outcomes

The purpose of this course is to provide professionals with guidance for and practical experience in writing a NIH-style grant application. Professionals will write major components of an F31 or K-series career development award that will be submitted within the year. As such, this course provides professionals with key skills to successfully navigate the grant writing process—an essential part of seeking and receiving research funding for many career paths.

Course Objectives and/or Goals

Upon successful completion of the course, professionals should be able to:

1. Discuss the National Institutes of Health funding structure, grant types, and application criteria.
2. Understand and correctly prepare a NIH grant application.
3. Seek and respond to a Request for Proposal (F31 or K award). An application to other granting mechanisms must be approved from course instructor prior to submission.

Instructional Methods

The class will utilize interactive and didactic teaching styles using Zoom as the main communication platform (online, synchronous). Some class assignments will have a "mock" aspect. The "mock" aspect will provide professionals an opportunity to participate both as an applicant and a reviewer. This will involve both critiquing and having work critiqued. The work to be critiqued will be examined by both the instructor(s) and the student reviewer. Please submit your assignments before the class period through the e-learning course website. The feedback will be graded, as will your revised version of each assignment. This interactive style of learning demands that each participant actively prepares for class participation, and commits to the peer

review process, an essential element of academic and scholarly life. Professionals are expected to take the review process seriously as it an important learning objective of this class.

Reading Resource

http://grants.nih.gov/grants/oer.htm

http://grants.nih.gov/training/extramural.htm

https://grants.nih.gov/grants/guide/pa-files/PA-21- 051.html

http://grants.nih.gov/grants/how-to-applyapplication-guide.htm

http://public.csr.nih.gov/aboutcsr/Pages/default.aspx

1. Project Work / Thesis / Practicum Report {Details to be determined later}

FELLOWSHIP (2years)

Health Policy and Planning

Course Description

This course is designed to provide professionals an overview of the policy process and the role of public policy in various aspects of public health including nutrition, disease control, environmental health, health promotion, health information and public health nursing. It will provide professionals the opportunity to discuss issues relating to public health policy and to equip them with the basic understanding of how issues get unto the policy agenda.

Course Objectives

At the end of the course the student should be able:

1. Define what constitutes policy, public policy and health policy
2. Describe the key health policy issues and debates that public health must address
3. Describe the policy framework
4. Understand policy agenda setting, power and the policy process
5. Identify the concepts and methods for promoting appropriate policies in the various aspects of public health
6. Describe the principles involved in health policy advocacy and the role of various actors
7. Undertake a table-top exercise to assess policies related to aspects of public health regarding their content, context and process

Course Content

Definition of public policy and health policy; environmental context of health reform; the policy framework; policy agenda setting and how issues get unto the policy agenda; power and the policy process; the role of actors and stakeholder analysis; use of modern tools in policy making; grassroots participation in policy; policy implementation and evaluation; the role of research in public health policy; specific public health-related policies.

Course Readings

1. Kent Buse, Nicholas Mays & Gill Walt (2005). Making Health Policy. Understanding Public Health. Open University Press, McGraw-Hill Education (ISBN-10:0 335 21839 3)
2. Sabatier, P.A. (2007). Theories of the Policy Process. Second Edition. Westview Press (ISBN-13:978-0-8133-4359-4
3. Birkland, T.A. (2005). An introduction to the Policy Process. Theories, Concepts and models of Public Policy Making. Second Edition. M.E. Sharpe; Armonk, New York.
4. Thomas Bodenheimer & Kevin Grumbach (2012). Understanding Health Policy, Sixth Edition 6th Edition. McGraw Hill Education. ISBN-13: 978-0071770521
5. Teitelbaum, J.B. & Wilensky, S.E. (2012). Essentials of Health Policy And Law (Essential Public Health). Jones and Bartlett.ISBN-13: 978-1449653309

Health Law and Ethics

Course Description

This course is designed to enable professionals develop competencies for identifying ethical issues and ethical problem solving and reviewing of complex matters they may confront in public health.

Course Objectives

At the end of the course the student will be able to:

- Draw a distinction between public health ethics and medical ethics.
- Discuss different schools of thought in ethics
- Identify and evaluate ethical questions in public health
- Discuss the role of ethics in public health programme delivery

Course Content

This would cover areas such as ethics, morality, moral philosophy, moral fitness test, right, virtue, etiquette, obligation, responsibility, normative ethics, non-normative ethics, cultural relativism, professional ethics, and values in public health vis-à-vis ethical analysis and decision making. Public Health ethics and pandemic power, participation and disparities, as well as research with human subjects would be investigated by looking at informed consent, beneficence, non-malfeasances, autonomy, justice, equity, choice, utility, exemptions and exceptions, and equal

protection. Additionally, Culture, and Cultural Relativism, Scepticism, Applied Ethics and Scepticism, Ethics and Law would be considered.

Course Readings

1. Thomas, J.C., Sage, M., Dillenberg, J. & Guillory, V.J. (2002). A code of ethics for public health. Am J Public Health; 92:1057-9
2. Golloglyl, L. & Momen, H. (2006). Ethical dilemmas in scientific publication; pitfalls and solutions for editors. Rev Saude Publica 40:24-9
3. Freda, M.C. & Learney, H. (2005). Ethical issues faced by nursing editors. West J Nurs Res 27:487-99
4. Norman, I. D., Aikins, M., Binka, F. N. (2011). The Medico-legal Prerequisite for Initiating Quarantine and Isolation practices in Public Health Emergency Management in Hospitals in Ghana. Ghana Medical Journal, December, 2011, Vol. 45 (4):1-8
5. Norman, I. D., Aikins, M., Binka, F. N. (2011). Ethics and Electronic health records and the physician-patient relationship. Ghana Medical Journal, September, Vol. 43 (3): 115-125
6. Norman, I. D., Aikins, M., Banyubala, D., Edwin, A., Binka, F. N. 2012. The Constitutional Mandate for Judge-made-Law and Judicial Activism: A Case Study of the matter of Elizabeth Vaah v. Lister Hospital and Fertility Centre. The Open Ethics Journal, 6, 1-7.

Principles of Healthcare Financing

Objectives:

i. The course would introduce professionals to the principles of healthcare finance, sources of healthcare revenue, expenses, insurance and budgeting.
ii. To introduce professionals to applications of microeconomic theory to analyse the behaviour of health and healthcare markets.
iii. The course would introduce professionals to methods of collecting to fund healthcare provision.

Content: The course explores the various ways of financing healthcare focussing on the budgeting, insurance, sponsorships and other methods of collecting fees to fund healthcare provision. Supply and demand of healthcare services, private health insurance markets, government provision of healthcare services and health insurance, and healthcare policy.

Mode of Delivery

Didactic teaching and Problem-based Learning (PBL)

Reading Materials

1. Zelman, W. N., McCue, M. J., & Glick, N. D. (2009). *Financial Management of Health Care Organisations: An Introduction to Fundamental Tools, Concepts and Application*. New York: Jossey-Bass. 3rd Ed.
2. Gapenski, L. C. & Pink, G. H. (2006). *Understanding Healthcare Financial Management*. Health administration Press. Chicago. 5th Ed.
3. Berger, S. (2008). *Fundamentals of Health Care Financial Management.* New York: Jossey-Bass. 3rd Ed.
4. Phelps, C. (2009). *Health Economics* (4th ed.). New York: Prentice Hall.
5. Martinez-Giralt, X. (2010). *Principles of Health Economics for Non-Economist.* Centre for the study of Organizations and Decisions in Economics (CODE). University of Barcelona. Spain.
6. Andargie, G. (2008). *Introduction to Health Economics.* Ethiopia Public Health Initiative in collaboration with The Carter Centre and University of Gondar

Management and Leadership in Health

Course Description

This course will provide the professionals the opportunity to acquire knowledge and understanding of leadership and management theories and concepts. The functions of management, its principles and applications will also be discussed from both theoretical and practical perspectives. The course will also further professionals' knowledge and skills on leadership theoretical concepts and models.

Course Objectives

By the end of the course, the student would be able to:

1. Examine leadership and management theories and its principles.
2. Discuss the functions of management and skills required to effectively lead and manage.
3. Identify the challenges and prospects for leading and managing in the health care market.
4. Discuss effective management skills required to lead effectively in the health care sector.
5. Appraise how management principles and functions influence health care systems performance.
6. Apply concepts in health care leadership skills to problem solving in public health.

Course Content

Concepts in leadership and management; leadership theories; principles of management; management functions; applications of management theories; health care leadership skills

Mode of Delivery

This course will be delivered through a "blended learning approach" using a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Course Readings

1. Burke, RE., & Friedman, LH (2010). *Essentials of Management and Leadership in Public Health (Essential Public Health).* ISBN-13: 978-0763742911
2. Gopee, N., & Galloway, JO (2017). *Leadership and Management in Healthcare* (*Third Edition)* [ISBN-13: 978-1473965027]
3. Stephen Walston (2017). *Organisational Behaviour and Theory in Healthcare: Leadership Perspectives and Management Applications (1st Edition).* ISBN-13: 978-1567938418
4. Buchbinder, SB., Shanks, NH., & Buchbinder, D (2013). *Cases in Health Care Management (1st Edition)*. ISBN-13: 978-1449674298
5. Barr, J., & Dowding, L (2019). *Leadership in Health Care (Fourth Edition)*.ISBN-13: 978-1526459404
6. Sharon, BB., & Shanks, NH (2016). *Introduction to Health Care Management (3rd Edition).* ISBN-13: 978-1284081015

Scientific Communication and Report Writing

Course Description

Communication is essential in public health and this course seeks to impart the skills to do so appropriately. It outlines the concept of scientific communication and discusses the process of publishing an article. Scientists and public health scientist are increasingly evaluated by their ability to transmit their ideas and findings. The goal is to develop competencies in effective oral and written communication of scientific research using various techniques and to diverse audiences, including peers and lay audiences. It outlines the concept of scientific communication and discusses the process of publishing an article.

Course Objectives

By the end of the course the student would be able to:

1. Understand the scope of scientific communication
2. Understand what a scientific paper and be able to describe its components
3. Discuss how to communicate scientific information to the public
4. To determine the approach most likely to be effective for such an audience
5. Understand the process for submitting articles to peer-reviewed journals
6. Distinguish between data, information and messages

Course Content

Definition of scientific communication; writing a scientific paper; when to begin writing; preparing the text, abstract preparation, introduction, materials and methods, results, discussion, acknowledgments, citation of references; Identification of target audiences. Scientific writing; articles, perspectives, review articles, editorial, executive summaries, books. The ethics in scientific publishing and the whole publishing process, conference communications, oral presentation, poster presentation, scientific style. Responsibilities of authorship and co-authorship and intellectual property rights, including patent. Dissemination of research findings.

Mode of Delivery

This course will be delivered through a “blended learning approach” using a combination of in-person classroom teaching and the use of the school’s online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Course Readings

1. Matthews, Janice, and Robert Matthews. Successful Scientific Writing (2014). 4th ed. Available Online. Cambridge University Press. ISBN: 9781107587915 DOI:https://doi.org/10.1017/CBO9781107587915
2. Day, R.A. & Gastel, B. (2011). *How to write and publish a scientific paper*. (7th ed). Cambridge University Press ISBN-13: 978-0313391972
3. Hancock, E. (2003). *Ideas into words: mastering the craft of science writing*. Johns Hopkins University Press, Baltimore ISBN-13: 978-0801873300
4. Katz, M.J. (2009). *From Research to Manuscript: A Guide to Scientific Writing, 2nd ed.* Springer.ISBN-13: 978-1402094668
5. Cargill, M. & O'Connor, P. (2013). *Writing Scientific Research Articles: Strategy and Steps (2nd Edition).* Wiley-Blackwell.ISBN-13: 978-1118570708
6. Hofmann, A. (2013). *Scientific Writing and Communication: Papers, Proposals, and Presentations 2nd Edition.* Oxford University Press.ISBN-13: 978-0199947560

Information Security and Compliance in Health Information Management

Objective:

i. This course introduces professionals to information security and compliance for health information.
ii. The course introduces professionals to methods used in securing health/medical information.
iii. The course introduces professionals to security management models, risk assessment and protection mechanisms.

Content

Framework of healthcare information security management, including security principles, policies and procedures, security management models, risk assessment, and protection mechanisms; healthcare regulations and compliance with focuses on the legislative systems, policies, and legal environment of healthcare in Ghana and the existing health information laws, regulations, and

standards; (4) professionalism in health information management.

Mode of Delivery

Didactic teaching and Problem-based Learning (PBL)

Reading Material

1. Whitman, M. (2011). *Principles of Information Security.* 4th Ed. Course Technology. USA.
2. Peltier, T. Peltier, J. & Blackley, J. *Information Security Fundamentals.* (2005). Auchbach Publications.

Data Protection Act 843

Course Description

The Data Protection Act, 2012 (Act 843) sets out the rules and principles governing the collection, use, disclosure and care for your personal data or information by a data controller or processor. It recognizes a person's right (data subject rights) to protect their data or information by mandating a data controller or processor to process (collect, use, disclose, erase, etc) such personal data or information in accordance with the individual's rights. The Act also established the Data Protection Commission as an independent statutory body to ensure and enforce compliance.

Course Objectives

- Application of principles of data protection
- Regulations of data protection
- The roles of the data producer

Course Content

All the content of the act.

Mode of Delivery

This course will be delivered through a "blended learning approach" using a combination of in-person classroom teaching and the use of the school's online learning management system.

Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Course Readings

https://www.dataprotection.org.gh/data-protection/data-protection-acts-2012

Project Management in Health

This course has been designed to expose professionals to fundamental project management concepts and behavioral skills needed to successfully launch, lead, and realize benefits from projects in organizations. The course will look at how successful project managers skillfully manage their resources, schedules, risks, and scope to produce a desired outcome. The course will help professionals explore project management with a practical, hands-on approach through case studies and class exercises. The course will examine the project management life cycle, defining project parameters, matrix management challenges, effective project management tools and techniques, and the role of a project manager.

Course Description

Core concepts of project management based on processes of initiating, planning, executing, controlling, and closing projects. Topics include project proposals, project selection, scope definition, CPM and PERT scheduling, budgeting, control techniques, and project manager skills.

Course Objectives

By the end of this course, professionals should be able to: • Discuss effective project management practices and skills and how projects should be properly managed. • Describe the different phases of the project life cycle and plan appropriate activities for each phase of the project life cycle. • Develop and evaluate Work Breakdown Structures (WBS). • Understand how project budgets are developed within an organization and know how to prepare and revise budgets and cost estimates. • Identify network techniques that are commonly used to project scheduling and be able to calculate and evaluate critical paths and dates on network diagrams.

• Estimate and assign resources to project activities and know how to level resources and address resource problems by prioritizing project activities. • Develop a comprehensive project plan, including baselines and subsidiary plans

Course Content

This course covers the basics of project management, including the process of initiation, planning, execution, control, and closeout that all projects share. It also covers effective project management tools, techniques, and skills, and the roles and responsibilities of project managers. Topics will include:

- The Project Life Cycle (Phases)
- Scope Planning
- Work Breakdown Structures
- Project Planning
- Budgeting Projects
- Establishing Project Schedules
- Network Diagrams
- Resource Allocation
- Procurement Planning
- Quality Planning
- Communication Planning
- Risk Management Planning
- Project Implementation
- Project Management Skills
- Project Evaluations

Mode of Delivery

This course will be delivered through a "blended learning approach" using a combination of in-person classroom teaching and the use of the school's online learning management system. Teaching methods will include didactics, discussions, group work, individual assignments, and peer-to peer learning.

Course Readings

Portny, S. E., Mantel, S. J., Meredith, J. R., Shafer, S. M., Sutton, M. M., and Kramer, B. E. (2008). Wiley Pathways Project Management, 1st ed. John Wiley and Sons. ISBN 978-0-470- 11124-6.

Project Work / Thesis / Practicum Report

Course Description

The purpose of this course is for professionals to understand the everyday activities that impact health information and to bring professionals closer to understanding the health system of Ghana. The course is based on the philosophy of 'learning while doing'. Professionals will learn health information management on the job, the reasoning process that indicates when they have sufficient data on which to make health decisions. Professionals are required to complete a field placement during which the professional works closely with a mentor on a health information project.

Course Content

Design, implement or evaluate a health information system. Conduct or participate substantively in a field investigation of a potentially serious public health problem that requires a rapid public health response. Use health information system to identify health problems requiring investigation. Develop, conduct and interpret a health systems and data analysis of a new or existing data set. Develop and carry out an epidemiological study or survey to assess a health problem of public health importance. Respond appropriately to written or oral health information management inquiries from the public, health professionals, NGOs, researchers among other stakeholders to manage a public health project.

Course Readings

1. Hunting K. L. & Gleason B. L (2011). Essential Case Studies In Public Health: Putting Public Health into Practice (Essential Public Health). Jones and Batlett. USA.
2. Ulin, P. R., Robinson, E. T., & Tolley, E. E. (2012). Qualitative methods in public health: a field guide for applied research. John Wiley & Sons.
3. Haverkos, H. W. (2009). Outbreak Investigations around the World: Case Studies in Infectious Disease Field Epidemiology. Emerging infectious diseases, 15(11), 1882.
4. German, R. R., Lee, L. M., Horan, J. M., Milstein, R., Pertowski, C., & Waller, M. (2001). Updated guidelines for evaluating public health surveillance systems. MMWR Recomm Rep, 50(1-35).

Teaching Staff

No.	Name	Sex	Highest Qualification/Year obtained & place	Status	Position	Area of Specialization
1	Dr Jonathan Kissi	Male	PhD, 2020 Jiangsu University, China			Health Information Management Systems Health Informatics
2	Dr. Nathan Kumasenu Mensah	Male	PhD, 2016 University of Heidelberg, Germany			Medical Informatics
3	Prof. Emmanuel Kusi Acheampong	Male	PhD, 2017 Open University, Malaysia			Health Information Management Systems / Health Informatics
4	Dr. Livingston Asem	Male	PhD, 2021 University of Ghana, Ghana			Health Information Health Policy Program Monitoring & Evaluation
5	Dr. Wisdom Kwame Takramah	Male	PhD, 2022 University of Ghana, Ghana			Health Information Biostatistics
6	Dr. Isaiah Agorignya	Male	PhD, 2020 University of Basel, Switzerland			Biostatistics Health Policy Program Monitoring & Evaluation
7	Mrs. Eva Frimpomaa	Female	MSc. Health Informatics, 2011 University of Ghana, Ghana			Health Information Biostatistics
8	Mrs. Esther Kabange	Female	MTech. Health Statistics, 2020 Kumasi Technical University, Ghana			Health Information Biostatistics
TECHNICAL STAFF						
Administrative Staff						**Contact Numbers**
1	Mr. Delali Ahedor	Male	MSc. Policy, Planning Monitoring & Evaluation, 2024 Kwame Nkrumah University of Science & Technology, Ghana			0208824314
2	Mr. Emmanuel	Male	BPH. Health Information, 2023 University of Health & Allied Sciences-Ho, Ghana.			0205940787

	Kwabena Fumador					
3	Mr. Adam Anas	Male	MPH Catholic University – Fiapre, Ghana			0248859976