BACHELOR OF HEALTH SCIENCES

PROGRAMME DESCRIPTION AND REGULATIONS, FMS, UWI, CAVE HILL

PROGRAMME COORDINATOR – DR. ROGER SEALY

OVERVIEW

The Bachelor of Health Sciences programme trains and develops professionals to establish careers in health education and administration. These professionals may occupy roles in the management of healthcare facilities using science and technology to aid in diagnosis, education, forensics and treatment of persons. The following concentration areas are currently offered in the programme:

- Community Health
- Biomedicine, Ethics, Humanities & Society
- Healthcare Administration & Management
- Nutrition and Society
- Environmental Health
- Health Informatics

Potential employers are insurance companies, hospitals, long-term care facilities, public health agencies, outpatient facilities (polyclinics), medical doctors' offices and health related NGOs.

The programme is developed around an integrated core of biomedical disciplines. From these core subjects, students would learn the fundamental concepts of the basic medical sciences and their applications to the health sciences, for a better understanding of the scientific basis of health related problems. Students will also be able to use the knowledge gained from the core subjects as a foundation for more detailed study of each concentration.

Throughout the degree programme, the materials in the core subjects and concentrations will be offered as courses with specific credit values. Three (3) credit courses are offered on a semester basis, while six (6) credit courses including the research project extend over two semesters. The biomedical core courses are compulsory for all students and most of these will be taken in the first to the second year of the programme. Also, during the second year of the programme, students would be introduced to research by completing the Health Science Research course. The programme gives students the flexibility to focus on a specific concentration in the health sciences by selecting courses in level two and three from other faculties along with electives. In addition to the flexible concentration courses and the core courses, each student is required to do three Faculty-assigned foundation courses (value three (3) credits per course).

N.B. Each credit earned is equal to successful completion by examination of course materials covered over a period of 13 hours in one semester.

COURSE DELIVERY

Presentation of the core and concentration courses will be done by one or a combination of the following:

1. Lectures
2. Laboratory exercises
3. Tutorials
4. Seminars
5. Research projects

RATE OF PROGRESS

In any one semester, students must register for courses totaling a minimum of 9 and a maximum of 21 credits.

By the end of the third year, each full-time student is expected to have successfully completed **at least 96 credits**, of which a minimum of 51 credits **must** be in a given concentration. Candidates who satisfy these requirements will be eligible for the award of the degree.

Time limits for completion and enforced withdrawals

1. A candidate taking examinations in either the core or concentration courses will normally be required to withdraw from the programme, if the candidate is carrying a GPA below 2.0 for two consecutive semesters.

2. Candidates shall complete the degree (including the foundation courses) in a minimum of six (6) or a maximum of fourteen (14) semesters.

3. Candidates who do not satisfy the credit requirements for the degree within the maximum time will normally be required to withdraw from the programme. However, if the candidate has exhausted the maximum time limit with a deficit of no more than 6 credits for completion of the degree requirement, the Dean may recommend to Academic Board (after consultation with the Programme Director) an extension of the period of study by one or two semesters.

4. The pass mark for all courses is 50% and the programme will be delivered under the University's current GPA system implemented August 2014.

   Re-admission to the programme after enforced withdrawal

   Candidates, who have had to withdraw from the programme due to academic performance, may re-apply for admission after one year of separation.

   N.B. Transfers from this degree programme to the MB BS programme will not be considered.

SPECIFIC OBJECTIVES

- To provide a pool of graduates that is suitable to undertake research in the cross disciplinary health science fields.
- To provide the graduate with the foundation for further training in research targeted at applied and cross disciplinary health related niche specialties.
- To provide the graduate with the appropriate level of knowledge and expertise to deliver services for health and relevant cross disciplinary investigations.
- To equip graduates to perform quality control services for health related industries.
- To train graduates who can function as scientific officers in health and environmental related agencies.

INFORMATION ABOUT CONCENTRATIONS

Community Health

This concentration is a sub-discipline of Public Health which addresses the study and improvement of the health characteristics of biological communities. The community health concentration introduces the student to concepts of health in the geographical setting by emphasizing the social, psychological, physical, mental, environmental and ethical components of health among inhabitants of communities.

Biomedicine, Ethics, Humanities & Society

This concentration introduces students to the ethical and philosophical views of health in today's society. It starts with a foundation in understanding the history of biomedicine in our society and the ethical issues that can arise in biomedical settings. It will also provide an opportunity for students to reflect on how societal developments have led to specific kinds of ethical concerns, and how different groups in society have been, and continue to be affected by differential treatment in science and medicine.

Healthcare Administration & Management

This concentration provides students with important aspects of the health sciences which would develop their ability to function as effective managers of health care facilities. The core health related courses are complemented by courses in cost and management accounting, microeconomics, human resource management, business law, organisational behaviour and management information systems.

Nutrition and Society

This concentration will appeal to persons who are interested in specialising in nutrition at the graduate level. The nutrition component compliments the core health science related courses and provides students with the basics of human nutrition, nutrition and the life cycle, nutrition education, nutrition and metabolism and nutrition in the treatment and prevention of disease. This concentration also has an infusion of sociology and psychology courses which will provide the important knowledge based aspects of nutrition and its role in modern society.

Environmental Health

This concentration explores environmental issues and its association with and impact on health. The environment and people within that space are mutually connected. Alongside the core health related courses, you will learn about environmental determinants of disease and factors (natural and man-made) which may affect the environment. The concentration will also discuss the modalities for the monitoring and surveillance of environmental hazards.

Health Informatics

This concentration offers the opportunity to undertake a learning experience geared toward the use of health care. The concentration compliments the core health disciplines with courses covering relevant areas in computer science, information science, social sciences and management sciences. It deals with the resources, devices, and methods required to optimise the acquisition, storage, retrieval and use of information in health. These individuals can move on to specialize at the graduate level in Health Information Technology and related areas.

CAREER PATHS AND OPTIONS

Overall, graduates with this degree will have several career options in industry, government and academia.

Community Health

Bachelor of Health Sciences graduates who specialise in Community Health may move on to careers including health promotion, research and also careers addressing health policy implementation in government ministries. These individuals can also specialise at the graduate level in Public Health.

Biomedicine, Ethics, Humanities & Society

Bachelor of Health Sciences graduates who specialise in Biomedicine, Ethics, Humanities and Society may move on to careers including positions in institutional review boards or may pursue careers in health policy; health administration and biomedical research. These individuals can go on to specialise in biomedical ethics at the graduate level.

Healthcare Administration & Management

Bachelor of Health Sciences graduates who specialise in Healthcare Administration & Management may move on to careers managing healthcare facilities such as hospitals, polyclinics and private healthcare institutions. These individuals can also specialise at the graduate level in Business Administration.

Nutrition & Society

Bachelor of Health Sciences graduates who specialise in Nutrition may move on to careers in health promotion and also work along with dieticians and nutritionists in establishing nutrition interventions for managing diseases and for preventative measures. These individuals can also specialise at the graduate level in Nutrition.

Environmental Health

Bachelor of Health Sciences graduates who specialise in Environmental Health can work as environmental officers in government and NGO entities. After the programme individuals can specialise in Public Health and/or Environmental Risk Management.

Health Informatics

Bachelor of Health Science graduates who specialise in Health Informatics can move on to specialize at the graduate level in Health Information Technology and related areas. These persons may consider working in healthcare institutions to establish and maintain information technology systems within the organization to facilitate in patient care.

DURATION OF THE PROGRAMME

Three (3) years of full-time study. Seven (7) years of part-time study.

QUALIFICATIONS FOR ADMISSION

Students seeking admission to the degree programme must fulfill the following normal matriculation requirements:

a) CXC Certificates, General Certificates of Education (GCE)

Holders of the Caribbean Examinations Council (CXC) Certificates and/or Caribbean Secondary Education Certificate (CSEC), General Certificates of Education (GCE), Caribbean Advanced Proficiency Examination (CAPE) (or the approved equivalents in Matriculation Regulation)

- CSEC subjects/ GCE O' level
    - Mathematics, English Language, Biology, Chemistry & Physics
- CAPE/ GCE A' Level (a minimum of two subjects)
    - Biology/Zoology & Chemistry and a non-science subject
- Associate degree, diploma(s) and certificate(s) from other health science programmes at a reputable institution will be also considered for entry.
    - Exemptions with credits may be granted.
    - Relevant work experience may be considered for matriculation.

FOR students writing CAPE, candidates who have passed two 2-unit courses in a particular subject area fall within the two (2) A Level/CAPE subject, matriculation standing. Six (6) Caribbean Advanced Proficiency examinations (CAPE) Units, including the two single-unit courses - Caribbean Studies and Communication Studies are required for normal matriculation;

Faculty Requirements

Candidates must also satisfy ONE (1) of the following requirements (A, B or C):

A. i) GCE O'levels (grades A to C)/CXC/CSEC General Proficiency level (grades 1 & 2 pre 1998; grades 1 to 3 from 1998) in English Language, Mathematics, Biology, Chemistry and Physics

ii) GCE A'Levels / CAPE (2 units per subject): a minimum of two subjects chosen from Chemistry, Biology/ Zoology and a non-science subject

OR

UWI, Preliminary Faculty of Science & Technology Courses (N1): Chemistry & Life Sciences

B. Equivalent qualifications (as determined from transcripts) to those above.

C. Mature students (≥ 21 years) with Associate degrees, diplomas and certificates in health related sciences inclusive of the GCE O' level/CXC/CSEC requirements stated above at A (i) and relevant work experience in a research/medical setting.

Programme Concentrations

Bachelor of Health Sciences (Concentration-Community Health

Level I

Semester 1

HESC1000 Structure & Function 1 - Cells & Tissues
HESC1005 Health Care Systems
HIST2610 Health and Medicine in the Caribbean: A Historical Perspective
PHIL1002 Introduction to Ethics & Applied Ethics

Semester 2

HESC1000 Structure & Function 1 - Cells & Tissues
HESC1005 Health Care Systems
SOCI1002 Introduction to Sociology I
EDSC1200 Introduction to Health Education Pedagogy
PSYC1004 Introduction to Social Psychology

Level II

Semester 1

HESC2000 Structure & Function 2 - Organ Systems
HESC2001 Essential Pathophysiology
HESC1010 Fundamentals of Nutrition
HESC2002 Human Development & Behaviour
MGMT1001 Principles of Management
SOCI3027 Gender and Development

Semester 2

HESC2000 Structure & Function 2 - Organ Systems
HESC2001 Essential Pathophysiology
HESC2003 Health Science Research
PHIL3120 Biomedical Ethics

Level III

Semester 1

HESC3000 Biological Principles of Prevention and Treatment
SOWK3000 Social Work Supervised Research Study or MDSC3900 Practical Research for Health and Medical Students
HESC3005 Statistics for Public Health

Plus 1 elective from

HESC3011 Management of Health Services
HESC3003 Environmental Health
SOCI3037 Social Dimensions of Inequality and Marginalisation
SOWK3031 Biosocial Psychosocial Challenges of HIV/AIDS in the Caribbean
SOCI2022 Social Gerontology
PSYC2012 Development Psychology

Semester 2

HESC3000 Biological Principles of Prevention and Treatment
SOWK3000 Social Work Supervised Research Study or MDSC3900 Practical Research for Health and Medical Students
HESC3010 Technology Applications in Health Care
PSYC2002 Abnormal Psychology
PSYC3003 Community and Environmental Psychology

Plus 1 elective from

SOCI 3013 Caribbean Social Policy
SOCI3033 Drugs & Society
SOCI2028 Violence & Development
SOWK2007 Disability Studies
SOWK3034 Children and Family Services
SOWK4005 Crisis Intervention
MDSC3002 Epidemiology I

Bachelor in Health Sciences Concentration – Humanities/Biomedicine, Ethics and Society

Level I

Semester 1

HESC1000 Structure & Function 1 – Cells & Tissues
HESC1005 Health Care Systems
HIST2610 Health and Medicine in the Caribbean A Historical Perspective
PHIL1002 Introduction to Ethics & Applied Ethics

Semester 2

HESC1000 Structure & Function 1–Cells & Tissues
HESC1005 Health Care Systems
SOCI1002 Introduction to Sociology I

EDSC1200 Introduction to Health Education Pedagogy
PSYC1004 Introduction to Social Psychology

Level II

Semester 1

HESC2000 Structure & Function 2 – Organ Systems
HESC2001 Essential Pathophysiology
HESC1010 Fundamentals of Nutrition
HESC2002 Human Development & Behaviour
SOCI2022 Social Gerontology

Semester 2

HESC2000 Structure & Function 2 – Organ Systems
HESC2001 Essential Pathophysiology
HESC2003 Health Science Research
PHIL3120 Biomedical Ethics
SOCI3027 Gender and Development

Level III

Semester 1

MDSC3000 Biological Principles of Prevention and Treatment
PHIL3099 Research in Philosophy or MDSC 3900 Practical Research for Health and Medical Students
PHIL3500 Philosophy and Gender
PHIL3110 Environmental Ethics

Plus 1 elective from

PHIL2200 Crime and Punishment – Issues in Legal Justice
SOCI3037 Social Dimensions of Inequality and Marginalisation
HIST3030 The Evolution of Social Policy in Barbados
PHIL3510 Philosophy of Sex & Love
SOWK3031 Biosocial Psychosocial Challenges of HIV/AIDS in the Caribbean Barbados

Semester 2

HESC3000 Biological Principles of Prevention and Treatment
PHIL3099 Research in Philosophy or MDSC3900 Practical Research for Health and Medical Students
HIST 3033 Race, Gender and Medicine
MDSC2011 Technology Applications in Healthcare

Plus 1 elective from

PHIL2210 Human Nature and the Good Life in Society

Bachelor of Health Sciences Concentration in Health Care Administration and Management

Level I

Semester 1

HESC1000 Structure & Function 1 – Cells & Tissues
HESC1005 Health Care Systems
HIST2610 Health and Medicine in the Caribbean: A Historical Perspective
ECON1003 Maths for Social Sciences I

Semester 2

HESC1000 Structure & Function 1– Cells & Tissues
HESC1005 Health Care Systems
PHIL3120 Biomedical Ethics
EDSC1200 Introduction to Health Education Pedagogy
PSYC1004 Introduction to Social Psychology

Level II

Semester 1

HESC2000 Structure & Function 2 – Organ Systems
HESC2001 Essential Pathophysiology
HESC1010 Fundamentals of Nutrition
HESC2002 Human Development & Behaviour
MGMT1001 Introduction to Management

Semester 2

HESC2000 Structure & Function 2 – Organ Systems
HESC2001 Essential Pathophysiology
HESC2001 Health Science Research
ACCT1003 Introduction to Cost & Management Accounting
ECON1001 Introduction to Microeconomics

Level III

Semester 1

HESC3000 Biological Principles of Prevention and Treatment
SOWK3000 Social Work Supervised Research Study or MDSC3900 Practical Research for Health and Medical Students
HESC3011 Management of Health Services
MGMT2008 Organisational Behaviour

Plus 1 elective from

MGMT2021 Business Law
MGMT2023 Financial Management

Semester 2

HESC3000 Biological Principles of Prevention and Treatment
SOWK3000 Social Work Supervised Research Study
or MDSC3900 Practical Research for Health and Medical Students
MGMT2006 Management Information Systems I

ECON3057 Health Economics

Plus 1 elective from

MDSC2011 Technology Applications in Healthcare
MKTG2001 Principles of Marketing
MGMT3017 Human Resource Management
MGMT3034 Managerial Communications
SOWK4005 Crisis Intervention
PSYC2012 Development Psychology

Bachelor in Health Sciences Concentration in Nutrition and Society

Level I

Semester 1
HESC1000 Structure & Function 1 – Cells & Tissues
HESC1005 Heath Care Systems
HIST2610 Health and Medicine in the Caribbean: A Historical Perspective
PHIL1002 Introduction to Ethics & Applied Ethics

Semester 2

HESC1000 Structure & Function 1–Cells & Tissues
HESC1005 Health Care Systems
SOCI1002 Introduction to Sociology I
EDSC1200 Introduction to Health Education Pedagogy
PSYC1004 Introduction to Social Psychology

Level II

Semester 1

HESC2000 Structure & Function 2 – Organ Systems
HESC2001 Essential Pathophysiology
HESC1010 Fundamentals of Nutrition
HESC2002 Human Development & Behaviour
SOCI3027 Gender and Development

Semester 2

HESC2000 Structure & Function 2 – Organ Systems
HESC2001 Essential Pathophysiology
HESC2003 Health Science Research
PHIL3120 Biomedical Ethics
HESC3007 Nutrition throughout the Life Cycle

Level III

Semester 1

HESC3000 Biological Principles of Prevention and Treatment
SOWK3000 Social Work Supervised Research Study or MDSC3900 Practical Research for Health and Medical Students
HESC2004 Nutrition for Today
HESC3004 Nutrition and Metabolism

Plus 1 elective from

SOCI3037 Social Dimensions of Inequality and Marginalisation
PSYC2012 Development Psychology

Semester 2

MDSC3000 Biological Principles of Prevention and Treatment
SOWK3000 Social Work Supervised Research Study or MDSC3900 Practical Research for Health and Medical Students
HESC3001 Nutrition Education
HESC3006 Nutrition in the Prevention and Treatment of Disease

Plus 1 elective from

HESC3010 Technology Applications in Healthcare
PSYC3003 Community & Environmental Psychology
SOCI2022 Social Gerontology
SOCI3033 Drugs & Society
SOWK2007 Disability Studies

Bachelor in Health Sciences Concentration in Environmental Health

Semester I

HESC1000 Structure & Function 1 - Cells & Tissues
HESC1005 Health Care Systems
HIST2610 Health and Medicine in the

	Caribbean: A Historical Perspective
BIOL1025	Diversity of Life II
CHEM1125	Introduction to Experimental Chemistry

Semester 2

HESC1000	Structure & Function 1 - Cells & Tissues
HESC1005	Health Care Systems
PSYC1004	Introduction to Social Psychology
EDSC1200	Introduction to Health Education
CHEM1125	Introduction to Experimental Chemistry

Level II

Semester 1

HESC2000	Structure & Function 2 - Organ Systems
HESC2001	Essential Pathophysiology
HESC1010	Fundamentals of Nutrition
HESC2002	Human Development & Behaviour
MICR2252	General Microbiology or equivalent

Semester 2

HESC2000	Structure & Function 2 - Organ Systems
HESC2001	Essential Pathophysiology
HESC2003	Health Science Research
PHIL3120	Biomedical Ethics
CHEM2725	Chemistry of the Environment

Level III

Semester 1

HESC3000	Biological Principles of Prevention and Treatment
HESC3003	Environmental Health
PHIL3110	Environmental Ethics
CHEM3218	Environmental Chemistry and Toxicology
MDSC3900	Practical Research for Medical and Health Sciences

Plus 1 elective

HESC3011	Management of Health Services
HESC3005	Statistics for Public Health

Semester 2

HESC3000	Biological Principles of Prevention and Treatment
MDSC3900	Practical Research for Medical and Health Sciences
MICR3258	Pathogenic Microorganisms or equivalent

Plus 1 elective

LAW3450	Caribbean Environmental Law
MICR3265	Microbiology of Food
HESC3010	Technology Applications in Healthcare
HESC3002	Epidemiology I
PHIL2210	Human Nature and the Good Life in Society
PSYC3003	Community & Environmental Psychology

Bachelor in Health Sciences Concentration – Health Informatics

Level I

Semester 1

HESC1000	Structure & Function 1 – Cells & Tissues
MDSC1006	Health Care Systems
COMP1205	Computing I
COMP1180	Mathematics for Computer Science I
COMP1215	Unix

Semester 2

HESC1000	Structure & Function 1– Cells & Tissues
HESC1005	Health Care Systems
EDSC1200	Introduction to Health Education Pedagogy
PHIL3120	Biomedical Ethics
COMP1210	Computing II

Level II

Semester 1

HESC2000	Structure & Function 2 - Organ Systems
HESC2001	Essential Pathophysiology
HESC1010	Fundamentals of Nutrition
HESC2002	Human Development & Behaviour
COMP2225	Software Engineering

Elective (Not Mandatory)

BIOC2371	Molecular Techniques

Semester 2

HESC2000	Structure & Function 2 - Organ Systems
HESC2001	Essential Pathophysiology
HESC2003	Health Science Research
HESC3010	Technology Applications in Healthcare

COMP3160 Database Management Systems or equivalent

Level III

Semester 1

HESC3000 Biological Principles of Prevention and Treatment
HESC3005 Statistics for Public Health
COMP2611 Data Structures
HESC3008 Health Information Systems

Plus 1 elective
MDSC3008 Management of Health Services
MGMT2023 Financial Management

Level III

Semester 2

HESC3000 Biological Principles of Prevention and Treatment
COMP2232 Object-Oriented Programming Concepts
HESC3008 Health Information Systems
HESC3012 Medical Vocabulary and Classification Systems

Plus 1 elective

MGMT3034 Managerial Communications
MGMT2006 Management Information Systems
BIOC3265 Principles of Bioinformatics

COURSE DESCRIPTIONS

LEVEL 1

COURSE CODE: HESC1000
TITLE: Structure and Function 1 (Cells & Tissues)
CREDITS: 6
SCHEDULE: YEAR 1, Semesters 1 & 2

This course introduces students to a variety of biological concepts and the basic principles of Biochemistry, Genetics, Microbiology, Molecular Biology and Cell Biology in living organisms. Content areas that will be studied include water and acid/base chemistry; DNA replication and assortment; microbial diversity; molecular techniques and tissues. Students will explore the basis of connective tissue disorders and neurological diseases and will use microscopic/histology details to form the foundation or pathological findings of the tissues and to confirm diagnosis. The course will also help in the development of various methods for rehabilitation in cases of neurological and muscular disorders.

COURSE CODE: HESC1005
TITLE: Health Care Systems
CREDITS: 6
SCHEDULE: YEAR 1, Semesters 1 & 2

This course provides students with a fundamental understanding of how local and regional health care systems function while stimulating critical thinking about practical and policy implications. There will also be a focus on understanding the connections between various physical, social and biological factors and health outcomes. Practical examples, applications, issues and exercises requiring critical thinking and effective written presentations will be emphasized by the use of case studies in workshop sessions. Small group self-study sessions are also designed within the course to encourage independent learning among students.

COURSE CODE: HESC1010
TITLE: Fundamentals of Human Nutrition
CREDITS: 3
SCHEDULE: YEAR 2, Semesters 1

This introductory course is designed to provide students with an understanding of the basic principles of human nutrition. Essential nutrients, their properties, function, requirements, interrelatedness and metabolism will be presented via face-to-face and online modalities. Energy balance will also be included. The role of nutrition in the prevention and management of specific diseases (obesity and diabetes) will be explored.

LEVEL II

COURSE CODE:HESC2000
TITLE: Structure and Function 2 (Organ Systems)
CREDITS: 6
SCHEDULE: YEAR 2, Semesters 1 & 2
**Prerequisite: HESC1000 - Structure and Function 1 (Cells & Tissues)*

This course offers a basic examination of the functions of the major organs and organ systems of the human body. Students will explore how the different systems of the body are involved in performing specific tasks and how their functions are integrated. The unique role of each organ and organ system in maintaining health will be examined, and the set-point around which the physiological variables are maintained emphasized. The importance of different physiological

feedback systems in maintaining human body function at rest and under various forms of stress will be discussed. Content areas of study include homeostasis and body composition; the cardiovascular system; the nervous system; endocrine and reproductive physiology; and excretion.

COURSE CODE: HESC2001
TITLE: Essential Pathophysiology
CREDITS: 6
SCHEDULE: YEAR 2, Semester 1& 2
**Prerequisite: HESC1000 - Structure and Function 1 (Cells & Tissues)*
***Co-requisite: HESC2000 - Structure and Function 2 (Organ Systems)*

This course provides an overview of common clinical disorders and the cellular, molecular and environmental mechanisms that govern the pathogenesis and presentation of these diseases. Students will examine the basic concepts and fundamental principles of human disease, namely the general mechanisms of disease pathogenesis, as well as the clinical manifestation of common diseases of the major organ systems, including the cardiovascular, respiratory, gastrointestinal and endocrine systems. An invaluable foundation for further studies will be laid for undergraduate students who are interested in pursuing careers in healthcare fields such as Medicine, Nursing, Pharmaceuticals, Epidemiology and Public Health.

COURSE CODE: HESC2002
TITLE: Human Development and Behaviour
CREDITS: 3
SCHEDULE: YEAR 2, Semester 1

This technology enhanced course presents the fundamentals of human development across the life span. It familiarizes students with the principal mechanisms of behavioural development from embryology through ageing and death. Students will examine the physiological and psychological dynamics that shape human behaviour through independent study, and while working in groups. Content areas that will be addressed include basic embryology; developmental theories; the lifecycle approach to health issues; health for an ageing population; personality theories; applied cognitive psychology; and psychophysiology.

COURSE CODE: HESC2003
TITLE: Health Science Research
CREDITS: 3
SCHEDULE: YEAR 2, Semester 2

This course introduces students to research methodology in health sciences. It will include specific instruction and practical learning experiences covering the literature review, study design and processes for summarising data. Students will also be exposed to techniques for health data acquisition and management. The resulting knowledge and skills that they will acquire will enable them to make evidence-based decisions about healthcare policy and practice. Topics that will be addressed in the course are: principles of epidemiology; statistics for the health sciences; interpretation of the literature; planning a research project; and funding for research. Practical examples, applications, issues and exercises requiring critical thinking and effective written presentations will be emphasized.

COURSE CODE: HESC2004
TITLE: Nutrition for Today
CREDITS: 3
SCHEDULE: YEAR 3, Semester 1
Prerequisite: HESC1010 - Fundamentals of Human Nutrition

This course will expose students to nutrition from a practical perspective. Topical issues and concerns which affect today's nutrition and consequently health will be discussed. Through face-to-face and online modalities, participants will be provided with tools and skills to manage their own nutritional wellbeing. Cultural aspects of food, designing a healthy diet as well as the contribution of physical activity to health and wellness will be explored. Consumer concerns about foods will also be addressed.

COURSE CODE: HESC3010
TITLE: Technology Applications in Health Care
CREDITS: 3
SCHEDULE: YEAR 2, Semester 2

This course will equip healthcare professionals with the knowledge, skill-sets and attitudes necessary for effective participation in the planning, design, management and use of clinical information systems. This course will enable students to conceptualise, plan and build health information infrastructure to support the dynamic changes in health care systems. Students will utilise an Academic Electronic Health Record (EHR) System comprising of a set of computer-based clinical information system applications which includes an electronic health record, to develop their confidence and competence with this type of clinical information technology in the practice of their respective profession. This is a level three (3) course which will be delivered over two (2) semesters. The course will be administered by two (2) hours of lectures and one (1) hour of a tutorial based session per week in both semesters.

LEVEL III

COURSE CODE: HESC3000
TITLE: Biological Principles of Treatment &

Prevention
CREDITS: 6
SCHEDULE: YEAR 3, Semesters 1 & 2
**Prerequisite: HESC2001 - Essential Pathophysiology*

This course examines cellular and molecular concepts in disease treatment and prevention. Students will study important aspects of preventative measures such as immunisation, sterilisation and disinfection. Basic and molecular aspects of drug treatment including pharmacodynamics, pharmacokinetics and drug interactions will also be addressed. The principles of chemotherapy for antibiotics, antineoplastic and immunosuppressant agents and radiotherapy will also be discussed and the theoretical aspects of treatment and prevention will be explored. Additionally, students will be provided with an extensive practical experience that will include pharmacotherapeutic and non-pharamcotherapeutic sessions inclusive of drug action and interactions, antimicrobial screening and susceptibility, cytotoxicity assays and immunoassays.

COURSE CODE: HESC3001
TITLE: Nutrition Education
CREDITS: 3
SCHEDULE: YEAR 3, Semester 2
**Prerequisites:*
HESC1010 - Fundamentals of Human Nutrition
HESC2004 - Nutrition for Today
HESC3007 - Nutrition throughout the Life-Cycle

This technology enhanced course presents the fundamentals of nutrition education from a theoretical and practical perspective. Participants will be exposed to nutrition program planning and evaluation strategies with application to select groups. Communications strategies in both written and oral form will be employed to plan appropriate nutrition messages. Areas of study include nutrition education; behavioural change; national nutrition agenda; and nutrition counselling.

COURSE CODE: HESC3002
TITLE: Epidemiology I
CREDITS: 3
SCHEDULE: YEAR 3, Semester 2

This course on Epidemiology, the core science of Public Health, presents the concepts and tools needed to assess and monitor the health of populations; investigate the causes of different health states; direct interventions to address those causes and to monitor their impact. It will provide students with a solid grounding in epidemiology as applied to Public Health. The course will be delivered by way of interactive lectures followed by laboratory sessions in which students will acquire practical working knowledge with respect to the application and the relevance of the concepts addressed in the lectures. Areas of study include the role and development of epidemiology; principles of screening as public health intervention; analytical epidemiology study designs; experimental and quasi experimental designs; and models of causation.

COURSE CODE: HESC3003
TITLE: Environmental Health
CREDITS: 3
SCHEDULE: YEAR 3, Semester 1

This course exposes students to environment health and its association and impact on health. It is well documented that the environment and people within that space are mutually connected and affect the health of either component. The course will cover environmental determinants of disease and also factors (natural and manmade) which may affect the environment. The course will also discuss the modalities for the monitoring and surveillance of environmental hazards.

COURSE CODE: HESC3004
TITLE: Nutrition and Metabolism
CREDITS: 3
SCHEDULE: YEAR 3, Semester 1
**Prerequisite: HESC1010 - Fundamentals of Human Nutrition*

This course examines how both macronutrients and selected micronutrients are metabolized in the framework of human development with an emphasis of disease prevention. The functional and regulatory roles will be emphasized. Students will work individually and in groups to investigate: the contribution of antioxidants to health and wellbeing; basic concepts in biochemistry and nutrition; and energy systems and physical activity. The metabolism of amino acids, lipids and alcohol will also be examined.

COURSE CODE: HESC3005
TITLE: Statistics for Public Health
CREDITS: 3
SCHEDULE: YEAR 3, Semester 1

Statistics for Public Health provides a broad overview of statistical methods and concepts used in the public health sciences, emphasizing interpretation and concepts rather than calculations or mathematical details. It develops the ability to read the scientific literature to critically evaluate study designs and methods of data analysis, and it introduces basic concepts of statistical inference, including hypothesis testing, p-values, and confidence intervals.
Topics include comparisons of means and proportions; the normal distribution; regression and correlation; concepts of study design, including randomization, sample size, and power considerations; The course draws examples of the use and abuse of statistical methods from the current biomedical literature.

COURSE CODE: HESC3006
TITLE: Nutrition in the Prevention and Treatment of Disease
CREDITS: 3
SCHEDULE: YEAR 3, Semester 2
**Prerequisite: HESC1010 - Fundamentals of Human Nutrition*

This course explores how nutrition can be used as a powerful means to prevent and treat diseases. An evidence -based approach will be utilized to help students study key chronic conditions which significantly affect world-wide populations. Included in these conditions will be heart disease, hypertension, stroke, cancer, diabetes, and bone disease. Disorders of the GI tract and the gut's role in immunity will also be discussed. Integrative therapies and oral supplementation will be described. Group work will feature prominently in this course.

COURSE CODE: HESC3007
TITLE: Nutrition throughout the Lifecycle
CREDITS: 3
SCHEDULE: YEAR 2, Semester 2
**Prerequisite: HESC1010 - Fundamentals of Human Nutrition*

This course is designed to enable the understanding of nutritional needs throughout various stages of the lifecycle. Students will examine nutrition during preconception, pregnancy, lactation, infancy, childhood, adolescents, adulthood and aging. Additionally, challenges that are unique to different populations will be explored. Food security and at risk populations will be addressed and the concept of community nutrition within the context of the Caribbean will be evaluated. The twelve determinants of health will be integrated. The course will be delivered using both face-to-face and online modalities and students will engage in independent study and group work to achieve the learning outcomes.

COURSE CODE: HESC3011
TITLE: Management of Health Services
CREDITS: 3
SCHEDULE: YEAR 3, Semester 1
**Prerequisite: HESC1005 - Health Care Systems*

This course surveys the management functions of healthcare systems. It examines the practical application of management principles to healthcare while demonstrating the differences between healthcare organizations and systems and standard businesses. By discussing and analysing practical scenarios, students will stimulate their critical thinking about the practical day-to-day management of operations, and the task of planning for healthcare in the long-, medium- and short term. There will also be a focus on understanding both up-stream and down-stream implications of decisions implemented within healthcare organizations/systems. Defining, explaining, and applying management principles related to physical flows, quality, human behaviour and evidence based decision-making will be emphasised.

COURSE CODE: MDSC3900
TITLE: Practical Research for Medical & Health Sciences
CREDITS: 3
SCHEDULE: YEAR 3, Semester 1& 2
**Prerequisites:*
HESC2003 - Health Science Research.

This course introduces students to a practical research experience in health sciences. It will include specific instruction and practical learning experiences covering the literature review, study design and processes for summarising data. Students will also be exposed to techniques for health data acquisition and management. The resulting knowledge and skills that they will acquire will enable them to design and execute a simple research study. Topics to be addressed in the course are: Interpretation of statistical techniques; critical appraisal and summary of the literature; planning a research project. At the end students should produce a synopsis including, background, methodology, results and interpretation of the results. Practical examples, applications, issues and exercises requiring critical thinking and effective written presentations will be emphasized.

COURSE CODE: HESC3008
TITLE: Health Information Systems
CREDITS: 6
SCHEDULE: YEAR 3, Semester 1& 2
**Prerequisites: HESC3010 Technology Applications in Health Care*

This course will equip healthcare professionals with the knowledge, skill-sets and attitudes necessary for effective participation in the planning, design, management and use of clinical information systems. This course will enable students to conceptualise, plan and build health information infrastructure to support the dynamic changes in health care systems. Students will utilise an Academic Electronic Health Record (EHR) System comprising of a set of computer-based clinical information system applications which includes an electronic health record, to develop their confidence and competence with this type of clinical information technology in the practice of their respective profession. This is a level three (3) course which will be delivered over two (2) semesters. The course will be administered by two (2) hours of lectures and one (1) hour of a tutorial based session per week in both semesters.

COURSE CODE: HESC3012
TITLE: Medical Vocabularies and

Classification Systems
CREDITS: 3
SCHEDULE: YEAR 3, Semester 2

This course introduces students to standard health care coding terminologies, vocabularies and classification systems used in healthcare delivery and management both locally and internationally. This course will place emphasis on the representation of clinical data through the use of medical vocabularies and clinical classification systems. Students will explore how healthcare vocabulary, terminology, and classification systems are vital for collection and analysis of appropriate encoded health data (manual & electronic). This course will be delivered by (2) hours of lectures and one (1) hour of a tutorial based session per week.