

MEDICINE (GENERAL COURSES)

INTRODUCTION

All Medical graduate programs require the study of one or more of the following courses offered by the **Department of Community Medicine and Behavioral Sciences**.

0510-501	Biostatistics and Computer in Medicine	(2)
0510-502	Advanced Biostatistics	(1)
0510-503	Epidemiology	(1)
0510-504	Radiotracer Methodology in Biological Research	(2)
0510-601	Biostatistical Method in Medical Research	(3)
0510-602	Epidemiology of Infectious Diseases	(3)

COURSE DESCRIPTION

0510-501: BIOSTATISTICS AND COMPUTER IN MEDICINE

CR: 2

This is a 2 credit hour faculty-required course intended for students joining the graduate M.Sc. program in the Faculty of Medicine, Kuwait University. The course takes into account the fact that enrolled students belong to various backgrounds and hence it includes a diversity of topics to meet their interest. The course is characterized by the inclusion of statistical methods in epidemiology (relative risk, odds ratio to measure the association between diseases and factors, evaluation of diagnostic tests), determination of size of investigations and power, analysis of variance, and design of controlled randomized clinical trials. It also includes multivariate statistical methods such as multiple linear regression and binary multivariable logistic regression. It focuses on concepts, limitations, validity and assumptions underlying these statistical methods.

The course also provides students with knowledge about hardware and software computer technology in addition to the skills of applying the procedures of the SPSS statistical package, and information about computer uses in medicine

(hospital information system, drug information system and computer-assisted diagnoses).

0510-502: ADVANCED BIOSTATISTICS

CR: 1

Planning of statistical investigation. Controlled comparative studies: Clinical and simple comparative trials, two period cross over design. Analysis of variance. Experimental design. The control of misclassification error. Survivorship tables and life tables. Biological assays: Parallel-line, slope ratio and quantal response. Non-parametric statistics: One-sample run test, Mann-whitney test, Kruskal-Wallis analysis of variance, and Kendall rank correlation.

0510-503: EPIDEMIOLOGY

CR: 1

Scope of epidemiology, basic measures of frequency, sources of morbidity data, direct and indirect standardization. Planning of an epidemiological investigation, survey planning, variability of measurements, validation and problems in validation, measurement of experimental error, population screening and disease control.

**0510-504: RADIOTRACER METHODOLOGY
IN BIOLOGICAL RESEARCH
CR: 2**

This course provides an introduction to the principles and procedures underlying the use of radioactive isotopes in biological research. The material will be presented at a level requiring only elementary mathematics and the principles and procedures will be illustrated with practical examples drawn from actual laboratory work. The course begins with the materials, and detection and measurement of radiation, and progresses to discussions and illustrations of the applications and problems of radiation measurement and experimental design in biology and medicine and methods used for reduction of radiation exposure. Hazards associated with the use of radioactive material will be discussed. Topics which will be given special emphasis include Gamma and Beta counting of biological samples autoradiography, radiochromatography, use in life science and clinical research, and radiation safety measures.

**0510-601: BIOSTATISTICAL
METHODS IN MEDICAL
RESEARCH**

CR: 3 PR: 0510-501 or its equivalent.

The course primarily aims at equipping students with tools of research. This includes univariate statistical methods update, sampling methods and sample size, experimental design, multivariate analysis, logistic regression, survival analysis: clinical trials, statistical methods in epidemiology, analysis of matched data and nonparametric statistics. Mann-Whitney, Wilcoxon paired test, Kruskal-Wallis and Spearman rank correlation.

**0510-602: EPIDEMIOLOGY OF
INFECTIOUS DISEASES
CR: 3**

Concepts and definitions, epidemiological models, causality, epidemic process, indices of health and disease, natural history of infectious diseases, contact patterns, measuring infectivity, methods and techniques for studying an infection in the community, time and place clustering, use of routinely collected data, special surveys, surveillance of infectious diseases, field investigation, analysis of an outbreak, seroepidemiology, the effect of bias, confounding and misclassification on the identification of source/reservoir of infection and mode of transmission, statistical techniques often used in infectious disease epidemiology, mathematical models for epidemics, primary and secondary prevention in the infectious disease epidemiology, epidemiology of vaccination, control, elimination and eradication, epidemiology of emerging infections and epidemiology of specific infectious diseases.

MEDICINE (FACULTY BASED COURSES)

INTRODUCTION

All medicine graduate programs may require from their students to study the following Faculty Based Courses. These courses may be considered compulsory for some programs and electives for the others.

0500-501	Basic Molecular Biology	(1)
0500-502	Basic Immunology	(1)
0500-503	Research Communication I	(1)
0500-504	Research Communication II	(1)

COURSE DESCRIPTION

0500-501: BASIC MOLECULAR BIOLOGY CR: 1

Nucleic acid structure and functions; DNA analysis by agarose gel and DNA sequencing; DNA Replication: Mechanism, Regulation, Differences between prokaryotic and eukaryotic process; DNA damage, repair and mutagenesis, and diseases associated with defective repair; Transcription mechanisms and processing of primary RNA; The genetic code, protein synthesis and regulation; Restriction and modification enzymes and their importance in molecular biology.

0500-502: BASIC IMMUNOLOGY CR: 1

Introduction to immunity, Innate and acquired immunity, Organs and cells of the immune system, the Major Histocompatibility Complex and its role in antigen presentation, Humoral immunity, antibodies and complement, Cell-mediated immune function T cells and macrophages, Cytokines and their roles in immune responses, Transplantation immunology, immunoprophylaxis and immunotherapy, Autoimmunity and autoimmune diseases, Hypersensitivity

500-503: RESEARH COMMUNICATION I CR: 1

The aim of this course is to improve the student's ability to locate and retrieve information in the library, take effective notes, recognize and manipulate biomedical word roots and affixes of classical origin, write scientific English and communicate effectively in seminars. The course has the following components, which are designated to achieve this aim: Library skills, biomedical terminology, basic information structure, processing and seminar skills.

0500-504: RESEARH COMMUNICATION II CR: 1

This course has its emphasis on improving the student's ability to collect and organize relevant information, and then communicate that information effectively for research reporting purposes, whether as a written report or a seminar presentation. The timing of the course is contrived to oblique the student to present his thesis background and methods in a seminar.

Master of Science Child Life
Program code: 0515

INTRODUCTION

The Department of Community Medicine and Behavioral Sciences in the Faculty of Medicine at Kuwait University is proposing a two-year Master of Science degree program in **Child Life**. Research requirements include either thesis or project option. The program will prepare students for a professional career as child life specialists, who are able to work in both hospital and other health-care settings. Graduates of the program will acquire the skills necessary to promote family-centered care and to effectively work with children and their families who are coping with a chronic or terminal illness, surgery, trauma, injuries and disabilities. The program will provide students with a combination of a solid theoretical background and a supervised clinical internship, in addition to introducing students to developing research skills and to administration related competencies. The opportunity to work with hospitalized children and their families in the various public hospitals of Kuwait will allow students to connect theoretical knowledge with real-world child life practice.

According to the University Council decision dated 4/2/2007, Thesis students admitted with effect from September 2007 are exempted from the comprehensive examination.

PROGRAM REQUIREMENTS**40 (40) TOTAL COURSE CREDITS****31 (34) COMPULSORY**

0515-511	Introduction to Child Life Specialty	(2)
0515-512	Child and Adolescent Health and Services	(2)
0515-513	Theories of Child and Adolescent Growth and Development	(3)
0515-515	Child Life Practicum	(3)
0515-516	Child Life and Play Interventions	(2)
0515-517	Child Life Methods and Materials	(2)
0515-519	Family Stress and Resilience	(3)
0515-521	Research Methods and Statistics	(3)
0515-524	Child Life Internship	(6)
0515-593	Project (non-thesis option only)	(3)
2000-501	Scientific Writing and Communication Skills	(3)
2000-503	Ethics and Professionalism	(2)

(6) ELECTIVE COURSES (NON-THESIS OPTION ONLY)

College of Medicine

0510-501	Biostatistics and Computer in Medicine	(2)
0515-523	Death, Dying and Bereavement	(2)
0515-527	Medical Terminology	(2)
0566-595	Research Interviewing, Focus Groups, and Analysis of Qualitative Data	(1)

College of Education

0830-508	Psychology of Personality	(3)
0830-509	Psychological Counseling for Special Needs	(3)
0830-510	Group Counseling and Therapy	(3)
0830-511	Behavior Modification	(3)
0830-530	Individual Counseling	(3)
0830-531	Family and Marital Counseling	(3)
0830-536	Family Issues and Conjugal Problems	(3)

College of Social Sciences

1350-522	Health Psychology	(3)
1350-526	Psychology of Individuals with Specialized Needs	(3)

College of Life Sciences

1820-517	Public Health Nutrition	(3)
1820-518	Nutritional Epidemiology	(3)
1820-519	Maternal and Child Nutrition	(3)
1820-522	Theories of Behavior Changes	(3)

9 COMPULSORY COURSES

0515-597	Thesis	(0)
0515-598	Thesis	(0)
2000-599	Thesis	(9)

COURSE DESCRIPTION**0515-511: INTRODUCTION TO CHILD LIFE SPECIALTY**
CR: 2

The course provides an overview of the profession of child life and outlines the critical philosophies upon which child life programs are based. It discusses the role of the child life specialist in helping children and their families; and explores the ways in which this can be achieved. The course also reviews the development of the field of child life and the current trends in the profession internationally and in Kuwait.

0515-512: CHILD AND ADOLESCENT HEALTH AND SERVICES
CR: 2

This course describes the history and development of Kuwait's healthcare system, including the organizations and agencies serving children and their families. The course aims to equip the candidates with the knowledge and skills that are necessary to evaluate, prioritize and implement child life services in their work settings and make evidence-based decisions. The course will describe the organizational structure and relevant policies and procedures, and how to identify gaps and suggest improvements.

0515-513: THEORIES OF CHILD ADOLESCENT GROWTH AND DEVELOPMENT
CR: 3

Introduction to growth and development of children and adolescents of all ages. Examines normal milestones in areas of growth and development with particular emphasis on cognitive, psychosocial and emotional dimensions. Explores and discusses different needs, interests and common emotional issues of children and adolescent in different stages of development. It also explores the reciprocal influence of the proximal and distal environments on the developing child and adolescent.

0515-515: CHILD LIFE PRACTICUM
CR: 3 PR: 0515-511, 0515-512, 0515-513

The practicum experience is an introduction to the hospital environment as well as first-hand observations of a child life program at work. Students will first be provided with opportunities for applying and relating child life principles and

concepts in typical settings (preschools and schools) followed by hospitals where children are admitted for a variety of medical problems. The child life practicum will provide a basis for comparison of children's behaviors and abilities when well and when they are faced with hospitalization and medical procedures.

0515-516: CHILD LIFE AND PLAY INTERVENTIONS**CR: 2 PR: 0515-511, 0515-512, 0515-513**

Explores and discusses various child life intervention strategies and techniques including play and therapeutic interventions, psychological preparation, emotional support, behavior management, parental participation, group activities and healing environments.

0515-517: CHILD LIFE METHODS AND MATERIALS**CR: 2 PR: 0515-511, 0515-512, 0515-513**

The course explores relationships between child life activities and child development theories, stressing the acquisition of practical skills needed for child life programming. It also focuses on knowledge of research which supports child life practice, developmental assessment, learning process, screening techniques, collaboration and communication with parents and other healthcare professionals, counseling skills and gaining familiarity with the medical terminology.

0515-519: FAMILY STRESS AND RESILIENCE
CR: 3

This course will explore the topic of stress and how we deal with stress (coping) by providing a general theoretical background (definitions, theories, models, strategies, influencing factors, physiology, etc.) as well as a more pronounced focus on the (a) influence of social support, (b) situational factors to consider when employing different coping strategies, and (c) how to promote resilience. A particular emphasis will be placed on factors that influence the dynamics between families and their children in highly stressful clinical situations. The guiding principle behind the course will be to integrate biological, psychological and social perspectives in developing a holistic understanding about how stress can be either relieved or exacerbated, and how to promote a sense of well-being.

0515-521: RESEARCH METHODS AND STATISTICS
CR: 3

This course is designed to provide opportunities for developing specific qualitative and quantitative research skills that will ultimately help the candidates to make evidence-based decisions while implementing, evaluating and monitoring programs related to child life services. The course will also cover methods for searching and citing literature using bibliographical software. Focus will be placed on how to interpret and make sense of numbers and make sound decisions while writing convincing documents.

0515-523: DEATH, DYING AND BEREAVEMENT
CR: 2

The course will explore the psychosocial and spiritual aspects of death and grief and how death is viewed across different cultures. Students will appreciate how the concept of death evolves from the basic understanding of young children to the mature adult understanding of the finality, irreversibility and universality of death. The course will also explore the various needs of dying individuals and the role of child life specialists in this process.

0515-524: CHILD LIFE INTERNSHIP
CR: 6 PR: 0515-515, 0515-516, 0515-517, 0515-519, 0515-521

The student internship experience will involve the completion of 480-hours of supervised clinical training in the public hospitals in Kuwait, and a didactic component. Guided by the Child Life Council's standards of Clinical Practice (2001), students will be required to systematically assess child life issues and problems, the stress vulnerability, and plan, implement and evaluate for specific child life interventions of assigned groups of hospitalized children.

0515-527: MEDICAL TERMINOLOGY
CR: 2

This course covers terminology in the medical sciences, focusing on prefixes, suffixes, word roots and their combining forms by review of each body system. It also emphasizes on word construction, spelling, usage, comprehension, and pronunciation. Special attention will be paid for common disease conditions among children. The students may also gain information regarding anatomy, physiology, symptomatology, pathology, and diagnostic procedures in addition to medical abbreviations.

0515-593: PROJECT (NON-THESIS OPTION)
CR: 3

The student undertakes an independent project on a research topic of theoretical and/or experimental focus under the supervision of a faculty member listed in the supervisory list of the College of Graduate Studies. The objective is to provide the student with an opportunity to integrate and apply the knowledge gained throughout the course of study in a practical problem. The student must document the project in a scientific report following standard research writing guidelines and give a public presentation to the project examination committee.

0515-597: THESIS
CR: 0

0515-598: THESIS
CR: 0

2000-599: THESIS
CR: 9