

# **1- Doctoral Degree in Public Health and Public Health Sciences (Majoring Epidemiology)**

*Students should fulfill a total of 44 credit hours:*

**1- Compulsory courses: 14 credit hours.**

1501801, 1501802, 1501803, 1501804, 1501805

**2- Elective courses: 6 credit hours – with at least 2 credit hours in the specialty.**

1501806, 1501807, 1501808, 1501809, 1501810, 1502801, 1502802, 1502809

**3- Thesis: 24 credit hours. 1501899**

**1- Compulsory Courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1501801	Epidemiologic Research Methods (II) طرق البحث الوبائية (II)	3			3	
1501802	Epidemiologic Base for Health Planning الأسس الوبائية للتخطيط الصحي	3			3	
1501803	Epidemiology of Immunization وبائية التمنيع	3			3	
1501804	Critical Reading in Epidemiology قراءات نقدية في الوبائيات	3			3	
1501805	Epidemiology of Physical Activity وبائية النشاط البدني	2			2	
<b>Total</b>		<b>14</b>			<b>14</b>	

**2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1501806	Epidemiologic Models النماذج الوبائية	2		2		
1501807	Epidemiology of Aging وبائية الشيخوخة	2		2		
1501808	Epidemiology of Child Abuse وبائيات سوء معاملة الأطفال	2		2		
1501809	Clinical Epidemiology الوبائيات الإكلينيكية	2		2		
1501810	Molecular Epidemiology الوبائيات الجزيئية	2			2	
1502810	Non linear Regression Models نماذج الانحدار غير الخطي	2	2		3	
1502802	Analysis of Multivariate Data تحليل البيانات متعددة المتغيرات	2	2		3	
1502809	Statistical Methods for Epidemiology الطرق الإحصائية في مجال الوبائيات	1	2		2	

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## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1501801	3	Epidemiologic Research Methods (II)	
Use quantitative techniques to evaluate screening tests, selection of the most plausible inferences from different studies, intervention studies, sources of bias in different epidemiologic studies and their control, different sources of confounders and methods of their control and effect modifier versus confounders.			

Code	Credit Hours	Course Title	Prerequisites
1501802	3	Epidemiologic Base for Health Planning	
The role of epidemiology in health planning, analyzing a community's health problems and prioritizing health concerns, determination of magnitude of the problems in terms of mortality, morbidity and disability, existing hazards to health or precursors of disease, population characteristics related to disease and its precursors, information uses, obtaining information, identification of appropriate units for intervention, program plan components and examples of current health program plans.			

Code	Credit Hours	Course Title	Prerequisites
1501803	3	Epidemiology of Immunization	
Vaccine development (phases and clinical trials), cold chain, field evaluation of vaccine efficacy, monitoring national immunization system, epidemiologic surveillance of vaccine preventable diseases and surveillance of adverse events following immunization.			

Code	Credit Hours	Course Title	Prerequisites
1501804	3	Critical Reading in Epidemiology	
Evidence based literature, Background and validity of the topic, Objective and study questions, Ethical consideration, Methodology, Analysis and presentation, Relevant outcome, Interpretation, Conclusions, Applicability of the recommendations, Conflict of interest			

Code	Credit Hours	Course Title	Prerequisites
1501805	2	Epidemiology of Physical Activity	
Recognition the current epidemiological evidence pertaining to physical activity and health, description of the epidemiological evidence underpinning current health recommendations for physical activity, physical activity and disease mortality, physical activity and risk factors, physical activity and chronic diseases, physical activity and cancer, physical activity and the immune system, physical activity and special concerns, hazards of physical activity and adopting and maintaining a physically active lifestyle.			

Code	Credit Hours	Course Title	Prerequisites
1501806	2	Epidemiologic Models	
Description of the features of different epidemiological models, selection and application of the suitable epidemiological models for problems of public health importance, types of epidemiological models, some forms of mathematical epidemiological models and uses and limitations of epidemiological models.			

Code	Credit Hours	Course Title	Prerequisites
1501807	2	Epidemiology of Aging	
Spectrum of chronic diseases and their functional deficits, epidemiology of selected chronic illness in the elderly, epidemiologic research applied to major health problems in elderly and strategies for prevention and control.			

Code	Credit Hours	Course Title	Prerequisites
1501808	2	Epidemiology of Child Abuse	
Definitions of child abuse and neglect, history of emergence of child abuse and neglect, theoretical perspectives to explain child abuse and neglect, physical and sexual abuse and its evaluation, psychological abuse and neglect, signs and symptoms, causes and results, investigating child abuse, STDs in sexually abused child, consequences of child abuse and neglect, preventing child abuse, Guide for intervention in child neglect and interventions and prevention efforts.			

Code	Credit Hours	Course Title	Prerequisites
1501809	2	Clinical Epidemiology	
Understand the principles and methods of clinical epidemiology as a science underpinning clinical practice, statement of the research questions, sample size determination, randomization, the placebo effect and blinding, ethical issues concerning clinical trials, evaluation of clinical trials, analysis of results, guidelines for reporting of clinical trials: the CONSORT statement, therapeutic versus preventive trials, clinical decision making.			

Code	Credit Hours	Course Title	Prerequisites
1501810	2	Molecular Epidemiology	
The course focuses on the contribution of potential genetic and environmental risk factors, identified at the molecular level, to the aetiology, distribution and prevention of disease within families and across populations. The course covers Descriptive and analytical studies to evaluate molecular biomarkers of disease, epigenetics, host/environment interactions in disease, the development of prevention strategies for the control of communicable diseases through molecular diagnosis and the prevention of non-communicable diseases and genetic disorders by assessing risk and identifying susceptible individuals through genetic screening.			

Code	Credit Hours	Course Title	Prerequisites
1502810	3	Non Linear Regression Models	
This course allows the students to deal with: Reducing non-linear expressions to linear ones by means of suitable transformations. - Some frequently occurring mathematical models- Comparing two (nested) mathematical models.			

Code	Credit Hours	Course Title	Prerequisites
1502802	3	Analysis of Multivariate Data	
This course allows the students to deal with advanced multivariate analysis such as discriminate analysis, factor analysis and cluster analysis.			

Code	Credit Hours	Course Title	Prerequisites
1502809	2	Statistical Methods for Epidemiology	
This course covers study design and intermediate-level data analysis techniques for handling confounding in epidemiologic studies. Confounding is carefully defined and distinguished from interaction. Course content covers stratification and multivariable techniques for controlling confounding in both matched and independent sample study designs, including analysis of covariance, logistic regression, and proportional hazards models.			

## **2- Doctoral Degree in Public Health and Public Health Sciences (Majoring Biostatistics)**

*Students should fulfill a total of 44 credit hours:*

**1. Compulsory courses: 14 credit hours**

1502801, 1502802, 1502803, 1502804, 1502805, 1502806

**2. Elective courses: 6 credit hours**

1502807, 1502808, 1502809, 1502810, 1502811, 1502812, 1502813, 1502814, 1502815

**3. Thesis: 24 credit hours 1502899**

**1- Compulsory Courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1502801	Design and Statistical Analysis of Experiment التصميم والتحليل الإحصائي للتجارب	1	2		2	
1502802	Analysis of Multivariate Data تحليل البيانات متعددة المتغيرات	2	2		3	
1502803	Statistics in Quality of Health Care الطرق الإحصائية لمراقبة جودة الرعاية الصحية	1	2		2	
1502804	Critical Readings in Biostatistics قراءات نقدية في الإحصاءات الحيوية	2			2	
1502805	Survival Analysis تحليل البقاء	1	2		2	
1502806	Meta Analysis تحليل ميتا	2	2		3	
<b>Total</b>		<b>9</b>	<b>10</b>		<b>14</b>	

**2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1502807	Geographic Information Systems (GIS) نظم المعلومات الجغرافية	2	2		3	
1502808	Database II قواعد البيانات	1	2		2	Database I
1502809	Statistical Methods for Epidemiology الطرق الإحصائية في مجال الوبائيات	1	2		2	
1502810	Non Linear Regression Models نماذج الانحدار غير الخطي	2	2		3	
1502811	Statistics Methods in Genetics الطرق الإحصائية في مجال الوراثة	2	2		3	
1502812	Application of Statistics in Public Health Studies تطبيق الإحصاء في بحوث الصحة العامة	1	2		2	Applied statistics 1502707
1502813	Operational Research بحوث العمليات	2	2		3	
1502814	Updates in Biostatistics الحديث في الإحصاءات الحيوية	2			2	
1502815	Analysis of Data Using SPSS Software SPSS التحليل الإحصائي للبيانات باستخدام برنامج	1	2		2	1502812 or 1502707

شرط: اجتياز 1502707 أو 1502812

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## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1502801	2	Design and statistical analysis of Experiment	
Contents of this course: Clinical trial introduction, phases and types. Randomization methods. Blinding. Statistical analyses of clinical trials ( one way ANOVA, two ways ANOVA, repeated measures ANOVA, MANOVA, ANCOVA)			

Code	Credit Hours	Course Title	Prerequisites
1502802	3	Analysis of Multivariate Data	
This course allows the students to deal with advanced multivariate analysis such as discriminate analysis, factor analysis and cluster analysis.			

Code	Credit Hours	Course Title	Prerequisites
1502803	2	Statistics In Quality Of Health Care	
This course is designed to teach students how to analyze data and interpret the results. By the end of the course the student should know the meaning of quality, the concept of statistical process control, how to do a control chart and the types of variations. Applying research methods and statistical techniques to transform data into effective informational display and reports to support a quality improvement program, Apply different statistical process control tools and Identify opportunities of improvement in quality of health care using statistics			

Code	Credit Hours	Course Title	Prerequisites
1502804	2	Critical Readings in Biostatistics	
This course is aimed as increasing the student’s awareness of recurrent and emerging public health and statistics issues as reported in public health, statistics and medical journals. A secondary objective is to develop a study mastery of fundamental statistical concepts and to gain a better understanding of the methodological issues learned in other courses.			

Code	Credit Hours	Course Title	Prerequisites
1502805	2	Survival Analysis	
Life table analysis, Kaplan Meier survival curve estimator, Log rank test, Breslow test, Tarone-Ware, Modeling survival – Cox regression model, Presentation of results, Computer programs illustrating survival analysis.			

Code	Credit Hours	Course Title	Prerequisites
1502806	3	Meta-analysis	
This course covers meta-analysis, the quantitative synthesis of research findings where each relevant study gleaned from literature. The students will learn to plan, conduct, and report and evaluate meta-analysis.			

Code	Credit Hours	Course Title	Prerequisites
1502807	3	Geographic Information System	
This course is designed to introduce the students to principles and practices of GIS. It gives students a detailed understanding of the concepts behind GIS through lectures and practical assignments. It includes manipulation and management of data with its primary and secondary sources, analysis of remotely sensed data and integration of remote sensing with GIS, GIS programming and customizing the Graphics User Interface (GUI), understanding database (Relational database). It also includes practical training on applications of GIS and the widely used GIS software packages.			

Code	Credit Hours	Course Title	Prerequisites
1502808	2	Database II	
This course is designed to introduce the student to the basic knowledge of organization of the mass of available raw data into one logical collection then use software to sift through this collection to extract meaning. By the end of the course students should be able to extract data from existing systems, transform, clean and load it into the data warehouse, select appropriate data analysis technique(s) for a given situation and select variables to be included in a multidimensional database.			

Code	Credit Hours	Course Title	Prerequisites
1502809	2	Statistical Methods for Epidemiology	
This course covers study design and intermediate-level data analysis techniques for handling confounding in epidemiologic studies. Confounding is carefully defined and distinguished from interaction. Course content covers stratification and multivariable techniques for controlling confounding in both matched and independent sample study designs, including analysis of covariance, logistic regression, and proportional hazards models.			

Code	Credit Hours	Course Title	Prerequisites
1502810	3	Non Linear Regression Models	
This course allows the students to deal with: Reducing non-linear expressions to linear ones by means of suitable transformations. - Some frequently occurring mathematical models- Comparing two (nested) mathematical models.			

Code	Credit Hours	Course Title	Prerequisites
1502811	3	Statistics in Genetics	
It introduces probabilistic and statistical methods in analyzing genetic data arising from human and animal studies, gene mapping, molecular genetics, and DNA sequencing. Topics include basic concepts in human genetics, sampling design in human genetics, gene frequency estimation, Hardy-Weinberg equilibrium, linkage disequilibrium, association and transmission disequilibrium test studies, linkage and pedigree analysis, classical segregation analysis and ascertainment, polygenic models, complex segregation analysis, and DNA sequence data analysis.			

Code	Credit Hours	Course Title	Prerequisites
1502812	2	Application of statistics in Public Health	
This course help students to revise different basic tests of hypothesis, then develop an understanding of advanced multivariate statistics and the techniques that could be used for complicated problems dealing with multiple variables.			

Code	Credit Hours	Course Title	Prerequisites
1502813	3	Operational Research	
To provide the student with knowledge of and experience in the use of several commonly used operation research techniques to aid in decision making. By the end of the course students will be able to apply linear programming to formulate and solve problems, apply concepts of numeral spanning techniques, maximal flow technique, and shortest route technique to solve network problems. They will also gain knowledge of application of project management methods such as PERT and understand its usefulness and limitations, apply concepts of queering system to solve problems and use the computer to solve OR problem.			

Code	Credit Hours	Course Title	Prerequisites
1502814	2	Updates in Biostatistics	
This course is designed to cover special topics in theory and methods of Biostatistics that are not covered in regular courses. The topics will depend on the research interest of the instructor and the students. It provides students practice in the analysis and presentation of data from actual multivariable studies. Students will present, defend and discuss the methods used. Students will develop and integrate the knowledge, skills, and attitudes necessary to master biostatistical analysis.			

Code	Credit Hours	Course Title	Prerequisites
1502815	2	Analysis of Data Using SPSS Software	
Installing SPSS software package, revision of Data definition and access, Data management and modifications. Different tests of hypotheses performed on SPSS (Bivariate and multivariate analyses)			



### **3- Doctoral Degree in Public Health and Public Health Sciences** **(Majoring Parasitology and Medical Entomology)**

*Students should fulfill a total of 44 credit hours:*

**1- Compulsory courses: 14 credit hours.**

1503(1)801, 1503(1)802, 1503(1)803, 1503(1)804, 1503(1)805, 1503(1)806.

**2- Elective courses: 6 credit hours** – with at least 2 credit hours in the specialty.

1503(1)807, 1503(1)808, 1503(1)809, 1503(1)810, 1503(1)811, 1503(1)812,  
1503(1)813, 1501806, 1501809, 1502801, 1502802, 1502810, 1502812.

**3. Thesis: 24 credit hours** 1503(1)899

**1- Compulsory Courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1503(1)801	Molecular Biology of Parasitic Infections البيولوجيا الجزيئية للإصابات الطفيلية	1	2		2	
1503(1)802	Integrated Control of Parasitic Infections and Disease Vectors التحكم المتكامل في الإصابة بالطفيليات وفي ناقل المرض	2			2	
1503(1)803	Total Quality Management of Parasitology Laboratory الإدارة الكلية لمعمل الطفيليات	1	2		2	
1503(1)804	Epidemiological Aspects of Laboratory Parasitic Investigation الجوانب الوبائية للتحقيق المعمل في الطفيليات	1	2		2	
1503(1)805	Critical Appraisal of Parasitic Research النقد التقييمي للبحث في مجال الطفيليات	4			4	
1503(1)8086	Parasite Biology and Immunogenetics بيولوجية الطفيليات والجينات والمناعة	2			2	
<b>Total</b>		<b>11</b>	<b>6</b>		<b>14</b>	

## **2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1503(1)807	Sanitary Parasitology الطفيليات والاصحاح				2	
1503(1)808	Vector Biology and Vector Parasite Interaction بيولوجية ناقل المرض وتفاعلاته مع الطفيليات				2	
1503(1)809	Molecular Entomology علم الحشرات الجزيئي				2	
1503(1)810	Nutrition related chronic Parasitic Diseases. الأمراض الطفيلية المزمنة المرتبطة بالتغذية				2	
1503(1)811	Malariology الملاريا				2	
1503(1)812*	Anti-parasitic Chemotherapy عقاقير ضد الطفيليات	1			1	
1503(1)813*	Clinical Infectious Parasitic Diseases أمراض الاصابات الطفيلية الاكلينيكية	1			1	
1503(1)814	Schistosomiasis البلهارسيا				2	
1501806	Epidemiologic Models النماذج الوبائية	2		2		
1501809	Clinical Epidemiology الوبائيات الإكلينيكية	2		2		
1502801	Non linear Regression Models نماذج الانحدار غير الخطي	2	2		3	
1502802	Analysis of Multivariate Data تحليل البيانات متعددة المتغيرات	2	2		3	
1502810	Meta Analysis تحليل ميتا	2	2		3	
1502812	Applied Multivariate Analysis التحليل الاحصائي للمتغيرات المتعددة	1	2		2	Applied statistics 1502707

\* Physicians

## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1503(1)801	2	Molecular Biology of Parasitic Infections	
<p>The course is to provide with grounding in molecular biology. It describe the structure and biochemistry of nucleic acids and protein, the principles of DNA replication, transcription and translation, the main principles of methods for analysis of DNA, such as hybridization, restriction analysis and DNA sequencing. Applications of molecular biology, including the use of bioinformatics and genomics in the field of medical parasitology and entomology as antigenic variation in African trypanosomiasis and malaria, genetic and genome approach to analysis of Leishmania virulence. In addition, medical applications as drug resistance in parasites and medical implications of molecular parasitology.</p>			

Code	Credit Hours	Course Title	Prerequisites
1503(1)802	2	Integrated Control of Parasitic Infections and Disease Vectors	
Principles of interventions against parasitic diseases. (a) The life cycle and characteristics of major infectious parasitic disease agents according to their principal transmission routes, namely: respiratory parasitic infections; contact diseases; water-borne; food-borne; soil-transmitted helminthiasis, sexually transmitted; blood-borne; congenital and perinatal; arthropod vector-borne parasitic infections. (b) The principal intervention strategies used to combat such infectious parasitic diseases, namely: case management, vaccination, treatment and chemoprophylaxis and the many means of preventing exposure, from individual protection to environmental management. (c) Analysis of factors contributing to the success or failure of systems of control and intervention strategies will be considered including: fundamental scientific difficulties with implementation procedures, managing people and resources; contextual problems associated with finance and interagency relationships; social and political issues.			

Code	Credit Hours	Course Title	Prerequisites
1503(1)803	2	Total Quality Management of Parasitology Laboratory	
Principles and concepts of total laboratory quality management, quality planning. The organization and staffing of parasitology laboratory, personnel specifications, job descriptions, training records and employee appraisals. Control of test results and Standard Operating Procedures (SOP) and laboratory accrediting agencies.			

Code	Credit Hours	Course Title	Prerequisites
1503(1)804	2	Epidemiological Aspects of Laboratory Parasitic Investigation.	
Disease investigation requires the integration of epidemiological and laboratory skills. How to identify relevant laboratory support of parasitic disease investigations, interpret test results arising from laboratory techniques and epidemiological investigations. The importance of the choice of case definition and the use of appropriate laboratory tests for parasitic disease surveillance to support diagnostic criteria where necessary; understanding of the importance of test sensitivity/specificity and how sensitivity/specificity can differ depending on the circumstances in which the tests are applied: e.g. to groups rather than individuals, for pooled testing or for screening compared to specific diagnosis; and apply the epidemiological principles to the review of literature which incorporates laboratory tests.			

Code	Credit Hours	Course Title	Prerequisites
1503(1)805	4	Critical Appraisal of Parasitic Research	
Critical appraisal tools for qualitative, quantitative, mixed research and systematic reviews, EBM resources, systematic thinking in reading research papers, appraisal checklists, appropriateness of study designs, sources of evidence, validity of study results and statistical significance of results. Research paper in the field of parasitology & Medical Entomology will be presented; the presentation will introduce the background to the research and will describe the method and key findings. The student will then evaluate the research methods and discuss the implications of the study for public health significance.			

Code	Credit Hours	Course Title	Prerequisites
1503(1)806	2	Parasite Biology and Immunogenetics	
Different factors affecting life cycle in the human host, intermediate host, vector or environment. Molecular basis of parasite structure that affects its activity regarding invasion of host and multiplication. Mechanisms of evasion of immune response and moieties that elicit immune response with parasitic antigen. Genetic control and individual ability to respond to an antigen. Current methods for preventing human disease and research development.			

Code	Credit Hours	Course Title	Prerequisites
1503(1)807	2	Sanitary Parasitology	
The factors influencing the fate of helminth eggs; occurrence and removal of helminth eggs from raw wastewater and sludge; helminth eggs as indicator in wastewater and sludge; methods for detection and enumeration of helminth eggs in wastewater and sludge; determination of helminth eggs viability; monitoring and surveillance of the reclaimed waste water and sludge for agriculture use; and the health aspects for use of reclaimed wastewater in agriculture and aquaculture.			

Code	Credit Hours	Course Title	Prerequisites
1503(1)808	2	Vector Biology and Vector Parasite Interaction	
The key aspects of insect vector behavior, vector ecology and vector-parasite interactions relevant to the epidemiology and control of vector-borne diseases. A range of practical entomological techniques and tools used in research on vector competence and ecology; demonstration the ability to critically evaluate the relevant scientific literature; and the skills required to design a research project related to vector biology or competence.			

Code	Credit Hours	Course Title	Prerequisites
1503(1)809	2	Molecular Entomology	
The molecular biology of insects and a specific focus on aspects relating to the transmission of insect-borne diseases. Also provides an introduction to insect physiology, developmental biology, genomics and molecular evolution and ecology. It also provides background information on essential methodologies used in molecular entomological research and discusses the importance of molecular entomology for the development of disease control strategies. Focusing on insects' role in disease transmission focus on the mosquito vector of malaria Anopheles.			

Code	Credit Hours	Course Title	Prerequisites
1503(1)810	2	Nutrition Related Chronic Parasitic Diseases	
In-depth knowledge of the current evidence relating nutrition to common chronic parasitic diseases and to assess the policy options for addressing these diseases. To develop skills of critique and interpretation through the specific perspective of nutritional epidemiology and its implication for study design. The course covers the understanding of the relationship between nutrition and chronic parasitic diseases and the likely mechanisms involved; and evaluate strategies to prevent nutrition-related chronic parasitic diseases and the evidence-base required to implement policy.			

Code	Credit Hours	Course Title	Prerequisites
1503(1)811	2	Malariology	
The course is related to malaria as a major public health problem. Emphasizes the biology of malaria parasites and the difference between the various species of Plasmodium affecting humans, factors affecting their transmission by anopheline vectors. Topics include host-parasite vector relationships, clinical manifestations, diagnostics, parasite biology, vector biology, epidemiology, host immunity, risk factors associated with infection, human behavior, chemotherapy of complicated and non-complicated cases, drug resistance, anti-vector measures, vaccine development and policy issues.			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1503(1)812</b>	<b>1</b>	<b>Anti-parasitic Chemotherapy</b>	<b>For physicians</b>
The principles of antiparasitic chemotherapy within areas of pharmacodynamics, pharmacokinetics and medicinal chemistry and the application of these to different classes of antiparasitic compounds. The students understand the principles of chemotherapy, the dosages used, selective toxicity, drug activity and its relation to structure; as well as the mechanisms of action and resistance.			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1503(1)813</b>	<b>1</b>	<b>Clinical Infectious Parasitic Diseases</b>	<b>For physicians</b>
Comprehensive review of the epidemiology of major infectious parasitic diseases of tropical and developing countries. It includes the geographical distribution, causation, pathogenesis, clinical features, diagnosis, management, and the principles control measures.			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1503(1)812</b>	<b>2</b>	<b>Schistosomiasis</b>	<b>For physicians</b>
Schistosome species that infect humans. Morphological features, life cycle, host-parasite interactions, clinical manifestations, geographical distribution, reservoir hosts, methods of transmission and control, pathology, immunological aspects and diagnosis. Epidemiology of schistosomiasis and surveillance. Factors contributing to the success or failure of systems of control and intervention.			

Code	Credit Hours	Course Title	Prerequisites
1501806	2	Epidemiologic Models	
Description of the features of different epidemiological models, selection and application of the suitable epidemiological models for problems of public health importance, types of epidemiological models, some forms of mathematical epidemiological models and uses and limitations of epidemiological models.			

Code	Credit Hours	Course Title	Prerequisites
1501809	2	Clinical Epidemiology	
Understand the principles and methods of clinical epidemiology as a science underpinning clinical practice, statement of the research questions, sample size determination, randomization, the placebo effect and blinding, ethical issues concerning clinical trials, evaluation of clinical trials, analysis of results, guidelines for reporting of clinical trials: the CONSORT statement, therapeutic versus preventive trials, clinical decision making.			

Code	Credit Hours	Course Title	Prerequisites
1502801	3	Non Linear Regression Models	
This course allows the students to deal with: Reducing non-linear expressions to linear ones by means of suitable transformations. Some frequently occurring mathematical models- Comparing two (nested) mathematical models.			

Code	Credit Hours	Course Title	Prerequisites
1502802	3	Analysis of Multivariate Data	
This course allows the students to deal with advanced multivariate analysis such as discriminate analysis, factor analysis and cluster analysis.			

Code	Credit Hours	Course Title	Prerequisites
1502810	3	Meta-analysis	
This course covers meta-analysis, the quantitative synthesis of research findings where each relevant study gleaned from literature. The students will learn to plan, conduct, and report and evaluate meta-analysis.			

Code	Credit Hours	Course Title	Prerequisites
1502812	2	Applied Multivariate Analysis	
This course help students to develop an understanding of what multivariate statistics are and the techniques could be used for complicated problems dealing with multiple variables.			

## **4- Doctoral Degree in Public Health (Majoring Tropical Health)**

*Students should fulfill a total of 44 credit hours:*

### **1- Compulsory courses: 14 credit hours.**

1503(2)801, 1503(2)802, 1503(2)803, 1503(2)804

### **2- Elective courses: 6 credit hours – with at least 2 credit hours in the specialty.**

1503(2)805, 1503(2)806, 1503(2)807, 1503(2)808, 1503(2)809

### **3- Thesis: 24 credit hours. 1503(2)899**

#### **1- Compulsory Courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1503(2)801	Approach and Diagnostic Methods in Tropical Health نهج وأساليب التشخيص في مجال صحة المناطق الحارة	2	4		4	
1503(2)802	Health Problem Solving in the Tropics حل المشكلات الصحية في المناطق الحارة	2	2	4	4	
1503(2)803	Critical Appraisal التقييم النقدي	2	2		3	
1503(2)804	Recent Updates in Tropical Health الحديث في مجال صحة المناطق الحارة	3			3	
<b>Total</b>		<b>9</b>	<b>8</b>	<b>4</b>	<b>14</b>	

#### **2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1503(2)805	Advanced Course on Immunity and Vaccination in the Tropics مقرر متقدم في المناعة والتطعيمات	1	2		2	
1503(2)806	Literature Review in Tropical Health مراجعة الأدبيات في مجال صحة المناطق الحارة	1	2		2	
1503(2)807	Advanced Course on Liver Diseases in the Tropics مقرر متقدم في أمراض الكبد في المناطق الحارة	1	2		2	
1503(2)808	Clinical Research الأبحاث السريرية	1	1	2	2	
1503(2)809	Emerging and Re-emerging Infectious Diseases الأمراض التي يتوقع زيادة معدلاتها في السنوات القليلة القادمة	2			2	



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## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1503(2)801	4	Approach and Diagnostic Methods in Tropical Health	
How to take medical history relevant to tropical diseases including (travel, diet, vaccination,..), significance of some specific symptoms ( as fever, anorexia, diarrhea, abdominal pain,...), significance of clinical signs (as hepatomegaly, splenomegaly,..). The background knowledge and essential techniques for the study of abnormalities associated with tropical diseases. Practical work, which is related to appropriate laboratory exercises and technical skills necessary for managing cases appropriately, and for conducting related research projects.			

Code	Credit Hours	Course Title	Prerequisites
1503(2)802	4	Health Problem Solving in the Tropics	
Each time a problem will be raised by the lecturer, and a discussion till solving the problem will be held.			

Code	Credit Hours	Course Title	Prerequisites
1503(2)803	3	Critical Appraisal	
In the form of journal club, critically appraise a research study to decide whether its contents could be used to improve the practice or help to make informed decisions. Papers should be chosen carefully to cover recent advances in tropical medicine and hygiene, vary in quality, and include different study designs and evidence-based papers.			

Code	Credit Hours	Course Title	Prerequisites
1503(2)804	3	Recent Updates in Tropical Health	
They will be assigned to perform seminars on certain subjects with guidance from the lecturer. The subject chosen should be one which is not specifically covered elsewhere in the program.			

Code	Credit Hours	Course Title	Prerequisites
1503(2)805	2	Advanced Course on Immunity and Vaccination in the Tropics	
Immunity to viruses, bacteria, viruses and fungi. Specific cells and receptors of the immune system; regulatory T cells, Dendritic cells, Toll like receptors,, hypersensitivity, immunodeficiency, cytokines, antigenic variations, mucosal immunity, recent methods of vaccine production, conjugated polysaccharides, monoclonal and polyclonal preparation.			

Code	Credit Hours	Course Title	Prerequisites
1503(2)806	2	Literature Review in Tropical Health	
Students will be assigned to do an updated review of a specific topic in tropical health. Each student will be guided by advisors regarding selection of topic, literature search and judging the validity of publications. Series of consultations and discussion between advisors and students will be scheduled until the review is completed and officially presented. A meta-analysis of certain relevant topic would be accomplished in this course.			

Code	Credit Hours	Course Title	Prerequisites
1503(2)807	2	Advanced Course on Liver Diseases in the Tropics	
Infectious diseases which could have influence on the liver , with special emphasis on viral hepatitis, liver conditions of public health importance, such as cirrhosis, fibrosis, portal hypertension, steatosis, hepatitis, liver abscess, hepatocellular carcinoma, and some biliary conditions.			

Code	Credit Hours	Course Title	Prerequisites
1503(2)808	4	Clinical Research	
Review knowledge in research methodology and application in etiologic study and clinical trials, protocol writing, diagnostic tests, good clinical practice, designing case-record forms, sampling and allocation, ethical issues and consent form, conduct of the study, data management, publication and presentation of the research results. The significance of ethical aspects and good clinical practice (GCP) Students will be guided to write and format a research proposal. The classification of clinical research, principles of clinical research, administration of clinical research, grant applications, and principles of ethical aspects and GCP. The student will be assigned to practically apply the knowledge and skills in a research work.			

Code	Credit Hours	Course Title	Prerequisites
1503(2)809	2	Emerging and Re-emerging infectious Diseases	
Defining emerging and reemerging diseases, introduction to the factors involved in the emergence of pathogens causing human disease. Following a general overview of these factors, specific pathogens are examined with regard to historical and current relevance, emergence factors, surveillance, and control, detailed knowledge about most of them, prevention and control of emergence. Types of disasters, different health problems appearing in disasters and their causes, control of these problems, health problems in refugee camps, surveillance, management and control. Agents that could be used in bioterrorism, prophylaxis and preparation of bioterrorism.			

## **5- Doctoral Degree in Public Health and Public Health Sciences (Majoring Vector Control & Pesticide Risks)**

*Students should fulfill a total of 44 credit hours:*

### **1- Compulsory courses: 14 credit hours.**

1503(3)801, 1503(3)802, 1503(3)803, 1503(3)804, 1503(3)805, 1503(3)806.

### **2- Elective courses: 6 credit hours – with at least 2 credit hours in the specialty.**

1503(3)821, 1503(3)822, 1503(3)823, 1503(3)824, 1503(3)825, 1503(3)826, 1503(3)827, 1503(3)828.

### **3- Thesis: 24 credit hours. 1503(3)899**

### **1- Compulsory Courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1503(3)801	Advanced Course in Vector Control مقرر متقدم في مقاومة ناقلات الأمراض	2	2		3	
1503(3)802	Structure Activity Relationship of Pesticides العلاقة بين تركيب ونشاط المبيدات	2			2	
1503(3)803	Risk Assessment and Management of Pesticides/Chemicals إدارة مخاطر المبيدات/ الكيماويات	2			2	
1503(3)804	Techniques in Laboratories of Pesticides Chemistry and Toxicology التقديرات العملية في كيمياء وسمية المبيدات	2	2		3	
1503(3)805	Advanced Course in Toxicology of Pesticides مقرر متقدم في سمية المبيدات	2			2	
1503(3)806	Critical Readings قراءات نقدية	2			2	
<b>Total</b>		<b>12</b>	<b>4</b>		<b>14</b>	

## **2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1503(3)810	Diagnosis, Clinical Manifestation of Pesticide Poisoning التشخيص والأعراض الأكلينيكية للتسمم بالمبيدات	1	4		3	
1503(3)821	Biological Interventions in Vector Control الطرق الحيوية في مكافحة ناقلات الأمراض	2			2	
1503(3)822	Environmental Management in Vector Control الإدارة البيئية في مكافحة ناقلات الأمراض	2			2	
1503(3)823	Environmental Toxicology of Pesticides السمية البيئية للمبيدات	2			2	
1503(3)824	Advanced Course in Modes of Action of Pesticides مقرر متقدم في طرق عمل المبيدات	2			2	
1503(3)825	Genetic Toxicology and Carcinogenesis of Pesticides السمية الوراثية والسرطنة بالمبيدات	2			2	
1503(3)826	Systemic Toxicology of Pesticides السمية الجهازية للمبيدات	2			2	
1503(3)827	Multiple Chemical Interactions التداخل المتعدد للكيماويات	2			2	
1503(3)828	Application of Remote Sensing Technology in the Field of Vector Control تطبيق تكنولوجيا الاستشعار عن بعد في مجال مقاومة ناقلات الأمراض	2			2	

## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1503(3)801	3	Advanced Course in Vector Control	
Introduction – Difficulties phasing vector control – Role of insecticides in vector control – Nowadays available interventions for vector control – Community based integrated vector control – Role of governorates, international agencies, and private sectors in vector control - IP\VM - Economics of vector control activities – Planning of vector control programs - Field and laboratory demonstrations and techniques.			

Code	Credit Hours	Course Title	Prerequisites
1503(3)802	2	Structure Activity Relationship of Pesticides	
Introduction – Chemistry of different groups of pesticides – Site of action of different groups of pesticides – Chemical structure and pesticidal activity of different groups of pesticides.			

Code	Credit Hours	Course Title	Prerequisites
1503(3)803	2	Risk Assessment and Management of Pesticides/Chemicals	
Approaches to risk analysis - Risk analysis categories - Uncertainty and variability in risk analysis - Ecological risk analysis - Assessment residential and occupational exposure to pesticide - Environmental priorities based on risk - Pesticides in Disaster and as a Weapon in War and Terrorism (History of disasters due to pesticides in Egypt and in the world - Cases of using pesticides and pesticide-related compounds as a weapon in wars {World war I, Vietnam war, & Gulf war} - Cases of using pesticides and pesticide-related compounds as a weapon in terrorism {domestic, national and global} - Legislation and awareness to fight back).			

Code	Credit Hours	Course Title	Prerequisites
1503(3)804	3	Techniques in Laboratories of Pesticides Chemistry and Toxicology	
Introduction – Experimental Animals: rearing and models. Sample collection – Sample preparation – Extraction, clean up, and concentration – Instrumentation – Separation and detection – Concentration calculation and preparation – Insect and animal treatment – animal scarification – Dissection and organs preparation – Biological parameters determination (Why using bio-indicators/markers – Enzymes – hormones – neurotransmitters - other biological parameters.) - Data handling and reporting - Quality control, quality assurance, and safety.			

Code	Credit Hours	Course Title	Prerequisites
1503(3)805	2	Advanced Course in Toxicology of Pesticides	
Introduction – Dosage and other factors influencing toxicity (biological, chemical, route of administration, and genetic factors) – exposure to pesticides - Distribution, excretion, and absorption of pesticides – Biotransformation of pesticide – Statistics and epidemiology in toxicology - Prevention, recognition and management of pesticide poisoning.			

Code	Credit Hours	Course Title	Prerequisites
1503(3)806	2	Critical Reading	
Provide students with a perspective on the development and use of vector control through discussion of key vector control strategies – development of skills to find, interpret and criticize information in vector control and pesticides risks literature.			

Code	Credit Hours	Course Title	Prerequisites
1503(3)810	2	Diagnosis, Clinical Manifestations of Pesticide Poisoning	For Physician
Introduction – Clinical picture (signs and symptoms) of Pesticides poisoning and factors affecting it – clinical picture in different systems i.e skin, lung, CNS, kidney liver etc – Laboratory diagnosis of Pesticide poisoning in different samples i.e stomach lavage, blood urine, clothes.....etc			

Code	Credit Hours	Course Title	Prerequisites
1503(3)821	2	Biological Interventions in Vector Control	
Biochemical pesticides such as pheromones - Microbial pesticides – Genetically modified plants or microorganisms - Botanical pesticides – Essential oils as pesticides - Important and applicable examples of biopesticides – Resistance management - Role of biopesticides in IV/PM. Principles involved in the control of insect population by the release of sterile insect - Factors to be considered in appraising the feasibility of employing the sterile insect release technique - Basis requirements and factors that determine feasibility of employing the sterile insect release methods - Chemosterilants for insect control - The relation between insect sterility and dominant lethality - Induction of dominant lethal mutations by radiation and chemicals and its cytogenetic basis and dose response curve.			

Code	Credit Hours	Course Title	Prerequisites
1503(3)822	2	Environmental Management in Vector Control	
Introduction – Purpose and utility of EM for vector control – Evolution of EM as a tool and approach strategy – Current uses of EM in Vector control – Examples of application of EM for Vector control – Evaluation of EM against specific vectors and diseases – Community participation in EM program – Cost-effectiveness in vector control – Outlook of EM in vector control in the future			

Code	Credit Hours	Course Title	Prerequisites
1503(3)823	2	Environmental Toxicology of Pesticides	
Introduction – Movement of pesticides in the environment - Environmental alteration of pesticides (physical, chemical and biological alteration) – Dynamics of pesticides in animal body – Metabolism of pesticides by animal, insect, plants, microorganisms - Effect of pesticides on wild life. Environmental hazards of pesticide use (pesticides in water, soil and in air) – Hazards of pesticides to man and other non target species - Protection in the environment: protecting fish and other aquatic life, protecting birds, wild life and domestic animals.			

Code	Credit Hours	Course Title	Prerequisites
1503(3)824	2	Advanced Course in Modes of Action of Pesticides	
Introduction – Site of actions of different classes and groups of pesticides – Symptomatology and characteristics of different pesticides – Action of different pesticides – Physicochemical parameters and theories of structure-toxicity relationship – Cholinesterase and other enzyme (s) inhibition involved in pesticide toxicity – Prevention, diagnosis, and treatment of pesticide poisoning.			

Code	Credit Hours	Course Title	Prerequisites
1503(3)825	2	Genetic Toxicology and Carcinogenesis of Pesticides	
Introduction – Consequences of genotoxic effects in human and other mammals – Screening chemical s for genotoxic properties – Genetic risk estimation – Application of genetic toxicology to environmental and human monitoring – Description of genetic toxicology assays – Sample study designs. Definition of chemical carcinogens – Classes of chemical carcinogens – Biotransformation and reactions of chemical carcinogens – Modifying factors in chemical carcinogenesis – Qualitative aspects of chemical carcinogenesis – Bioassay of chemical carcinogenesis.			

Code	Credit Hours	Course Title	Prerequisites
1503(3)826	2	Systemic Toxicology of Pesticides	
Introduction – Toxic response of the blood – Toxic response of the immune system - Toxic response of the liver - Toxic response of the kidney - Toxic response of the respiratory system - Toxic response of the central nervous system - Toxic response of the cardiovascular system - Toxic response of the skin - Toxic response of the reproductive system and developmental toxicity - Toxic response of the eye.			

Code	Credit Hours	Course Title	Prerequisites
1503(3)827	2	Multiple Chemical Interactions	
Introduction – Terminology – Quantitative analysis of combined effect of multiple agents – Pharmacokinetic and pharmacodynamic foundations of interactions – Insecticides interactions – Regulatory perspectives. Interaction models for assessing toxicity of chemical mixtures–Mechanisms of chemical interaction.			

Code	Credit Hours	Course Title	Prerequisites
1503(3)828	2	Application of Remote Sensing Technology and GIS in the Field of Vector Control	
Introduction – Rational and relevance of space technology and GIS to vector studies – Current remote sensing systems – Application of remote sensing and GIS data in disease vector surveillance and control – Predictive studies.			



## **6- Doctoral Degree in Public Health (Majoring Primary Health Care)**

*Students should fulfill a total of 44 credit hours:*

### **1- Compulsory courses: 14 credit hours.**

1503(4)801, 1503(4)802, 1503(4)803, 1503(4)804, 1503(4)805, 1503(4)806

### **2- Elective courses: 6 credit hours – with at least 2 credit hours in the specialty.**

1503(4)811, 1503(4)812, 1503(4)813, 1503(4)814, 1503(4)815, 1503(4)816,  
1503(4)817, 1503(4)818, 1503(4)819, 1503(4)820, 1503(4)821, 1503(4)822,  
1503(4)823, 1503(4)824

### **3- Thesis: 24 credit hours 1503(4)899**

### **1- Compulsory courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1503(4)801	Family Medicine Undifferentiated Clinical Complaints طب الاسرة في الشكاوى الإكلينيكية الغير محددة	1	2		2	
1503(4)802	Family Medicine Clinical Case Presentations عروض الحالات الإكلينيكية لطب الأسرة	1	2		2	
1503(4)803	Advanced Family Medicine Primary Health Care الرعاية الصحية الأولية بطب الأسرة المتقدم	2	2		3	
1503(4)804	Internal Medicine Advances in PHC/FM الباطنة المتقدم في الرعاية الصحية الأولية/طب الأسرة	2	2		3	
1503(4)805	Pediatric, Gynecological and Obstetric Advances in PHC/FM الأطفال و النساء و التوليد المتقدم في الرعاية الصحية الأولية/طب الأسرة	2	2		3	
1503(4)806	Family Medicine Pilot Research Assignment مهمة بحثية نموذجية في طب الأسرة			4	1	
<b>Total</b>		<b>8</b>	<b>10</b>	<b>4</b>	<b>14</b>	

### **2- Elective courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1503(4)811	PHC/Family Medicine Surgical Problems المشاكل الجراحية في الرعاية الصحية الأولية / طب الأسرة	2	2		3	
1503(4)812	Family Medicine/ PHC Musculoskeletal Problems المشاكل العضلية العظمية في الرعاية الصحية الأولية/ طب الأسرة	2	2		3	
1503(4)813	Sexual and Reproductive PC/FM الرعاية الأولية الجنسية والإنجابية بطب الأسرة	2	2		3	
1503(4)814	Pain Management in PHC/FM علاج الألم في الرعاية الصحية الأولية/ طب الأسرة	2	2		3	
1503(4)815	Advanced Evidence Based Family Medicine. طب الأسرة المبني على الدليل المتقدم	2	2		3	
1503(4)816	Primary Health Care/FM Clinical Guidelines. الدلائل الإكلينيكية للرعاية الصحية الأولية/ طب الأسرة	2	2		3	
1503(4)817	Special Studies and Critical Reading in PHC/FM دراسات خاصة وقراءة نقدية في الرعاية الصحية الأولية/ طب الأسرة	2	2		3	
1503(4)818	Clinical Pharmacology in PHC/FM الفارماكولوجيا الإكلينيكية في الرعاية الصحية الأولية/ طب الأسرة	2	2		3	
1503(4)819	Family Practice Bleeding complaints ممارسة طب الأسرة في شكاوى النزف	2	2		3	
1503(4)820	Family Practice Abdominal complaints ممارسة طب الأسرة في الشكاوى الباطنية	2	2		3	
1503(4)821	Family Practice Cardiopulmonary complaints ممارسة طب الأسرة في شكاوى القلب والصدر	2	2		3	
1503(4)822	Family Practice Ophthalmological complaints ممارسة طب الأسرة في شكاوى العيون	2	2		3	
1503(4)823	Family Practice ENT complaints ممارسة طب الأسرة في شكاوى الأنف و الأذن و الحنجرة	2	2		3	
1503(4)824	Advances in PHC/FM Patient Safety المتقدم في سلامة مريض الرعاية الصحية الأولية/ طب الأسرة	2	2		3	

## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1503(4)801	2	Family Medicine Undifferentiated Clinical Complaints	
Undifferentiated clinical complaints encountered in family medicine. Assessment and analysis of undifferentiated complaints in FM. Consultation, referral and plan for management of undifferentiated cases through FM.			

Code	Credit Hours	Course Title	Prerequisites
1503(4)802	2	Family Medicine Clinical Case Presentations	
Evidence based diagnostic family medicine models. Family medicine clinical diagnostic skills. Complete case presentation: including clinical sheet completion, case presentation, and report preparation according to family medicine guidelines. Diagnostic measures and investigations. Cases management within the holistic context of family medicine and within the available resources.			

Code	Credit Hours	Course Title	Prerequisites
1503(4)803	3	Advanced Family Medicine Primary Health Care	
Evidence based advanced diagnostic PHC/ family Medicine models. Advanced PHC/ family Medicine clinical diagnostic skills. Advanced screening and periodic health examination practices in PHC/Family Medicine. Principal elements of follow-up in PHC/ Family Medicine.			

Code	Credit Hours	Course Title	Prerequisites
1503(4)804	3	Internal Medicine Advances in PHC/FM	
Recent and advanced clinical screening and management of internal medical cases in family medicine practice. Holistic PHC/FM treatment regimens. The most recent prevention and control measures and follow up of chronic/acute diseases in PHC/FM.			

Code	Credit Hours	Course Title	Prerequisites
1503(4)805	3	Pediatric, Gynecological and Obstetric Advances in PHC/FM	
Recent and advanced clinical screening and management of pediatric, gynecological and obstetric cases in family medicine practice. Holistic PHC/FM treatment regimens. The most recent prevention and control measures and follow up of chronic/acute diseases in PHC/FM.			

Code	Credit Hours	Course Title	Prerequisites
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<b>1503(4)806</b>	<b>1</b>	<b>Family Medicine Pilot Research Assignment</b>	
FM research construction (selection of a research topic, construction of a research proposal, and development of data collection methods). Research implementation in family medicine centers (data collection, and analysis, followed by presentation of the research results). Research evaluation.			

Code	Credit Hours	Course Title	Prerequisites
1503(4)811	3	PHC / Family Medicine Surgical Problems	
Common surgical problems encountered in PHC/FM. Differential diagnoses and first aid management of surgical problems in PHC/FM. Appropriate and timely referral of surgical problems.			

Code	Credit Hours	Course Title	Prerequisites
1503(4)812	3	Family Medicine/ PHC Musculoskeletal Problems	
Common bone and joint complaints encountered in PHC/FM. Differential diagnosis of bone and joint complaints. Guidelines for assessment and management of cases of arthritis in PHC/FM. Screening for orthopedic abnormality in children in PHC/FM. Orthopedic emergencies and first aid measures in PHC/FM level.			

Code	Credit Hours	Course Title	Prerequisites
1503(4)813	3	Sexual and Reproductive PC/FM	
Commonly encountered sexual and reproductive health problems in PC/FM. Early detection, management and counseling of sexual and reproductive problems through PC/FM. Gender and male involvement in reproductive health. Consultation and referral.			

Code	Credit Hours	Course Title	Prerequisites
1503(4)814	3	Pain Management in PHC/FM	
Pathophysiology and psychology of pain. Assessment and categorizing pain. Guidelines for pain management. Role of family physician in pain management.			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
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<b>1503(4)815</b>	<b>3</b>	<b>Advanced Evidence Based Family Medicine</b>	
Introduction to Evidence-Based Medicine (EBM). Learning critical thinking in family practice. Applying critical thinking in family practice. Physician-patient partnership in evidence-based family practice. Evidence-based family practice			

Code	Credit Hours	Course Title	Prerequisites
1503(4)816	3	Primary Health Care/FM Clinical Guidelines	
PHC/FM clinical guidelines development. Application of guidelines in PHC/FM practice. Interventions used in disease management programs in PHC practice. Physician-patient partnership in disease management in PHC/FM practice.			

Code	Credit Hours	Course Title	Prerequisites
1503(4)817	3	Special Studies and Critical Reading in PHC/FM	
General and main topics in PHC/FM. Updated studies in common and important topics in PHC/FM. Evidence based PHC/FM research. Critical thinking in PHC/FM. Research analysis and critical reading in PHC/FM			

Code	Credit Hours	Course Title	Prerequisites
1503(4)818	3	Clinical Pharmacology in PHC/FM	
Essential drugs concept. Criteria for selection of essential drugs. Preparation of essential drugs list. Development of a national drug policy. Revised procedures for updating and disseminating the model list. Strengthening of quality assurance of drugs and biologicals. PHC/FM and essential drugs. Rationale drug use in family medicine. The problem of drug resistance in PHC/FM			

Code	Credit Hours	Course Title	Prerequisites
1503(4)819	3	Family Practice Bleeding complaints	
Differential diagnosis of causes of bleeding according to bleeding sites. Assessment of cases in family practice. Management of bleeding through family practice. Emergency management in family practice.			

Code	Credit Hours	Course Title	Prerequisites
1503(4)820	3	Family Practice Abdominal complaints	
Common abdominal complaints encountered in family practice. Differential diagnosis of different gastrointestinal and abdominal complaints. Food poisoning diagnosis and management in family practice. Gastrointestinal infections. Guidelines for assessment and management of abdominal cases in family practice. Abdominal emergencies and first aid measures.			

Code	Credit Hours	Course Title	Prerequisites
1503(4)821	3	Family Practice Cardiopulmonary complaints	
Common chest complaints in family practice and their differential diagnosis. Guideline for management of chest in infections in family practice. Guidelines for management of wheezy chest in family practice. Tuberculosis diagnosis and management through family practice. Management of chest cases in family practice. Cardiovascular Complaints commonly encountered in family practice. Cardiovascular risk assessment and management in family practice. Hypertension management in family practice. Guidelines for hypertension, and cardiovascular diseases management in family practice. Cardiovascular emergencies and first aid measures Referral and consultation.			

Code	Credit Hours	Course Title	Prerequisites
1503(4)822	3	Family Practice Ophthalmological complaints	
Common eye complaints encountered in family practice. Differential diagnosis of eye complaints cases. Guidelines for screening for visual problems according to the age in family practice. Visual emergencies diagnosis and referral.			

Code	Credit Hours	Course Title	Prerequisites
1503(4)823	3	Family Practice ENT complaints	
Common ENT complaints encountered in family practice. Differential diagnosis of ENT complaints cases. Guidelines for screening for ENT problems according to the age in family practice. ENT emergencies diagnosis and referral.			

Code	Credit Hours	Course Title	Prerequisites
1503(4)824	3	Advances in PHC/FM Patient Safety	
The type and magnitude of unintentional harm caused by unsafe care. Contributing factors and causal pathways that are potentially modifiable, including unsafe systems, processes and behaviours. The cost-effective and locally adapted interventions that can successfully prevent reduce or mitigate unsafe care to reduce unintentional harm. Advances in patient safety practice in PHC/FM.			

## **7- Doctoral Degree in Public Health and Public Health Sciences (Majoring Microbiology)**

*Students should fulfill a total of 44 credit hours:*

**1- Compulsory courses: 14 credit hours.**

1504801, 1504802, 1504803, 1504804

**2- Elective courses: 6 credit hours – with at least 2 credit hours in the specialty.**

1504805, 1504806, 1504807, 1504808, 1504809, 1504810, 1504811, 1504812, 1504813, 1504814, 1504815, 1504816, 150705

**3- Thesis: 24 credit hours. 1504899**

**1- Compulsory courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1504801	Problem-orientated Clinical Microbiology إدراك مشاكل الميكروبيولوجيا الإكلينيكية	4			4	
1504802	Special Studies دراسات خاصة	4			4	
1504803	Quality Assurance in Bacteriology & Immunology Laboratory تأكيد الجودة في علم البكتريا والمناعة	2			2	
1504804	Recent Updates in Microbiology مناقشات في الميكروبيولوجيا	4			4	
<b>Total</b>		<b>14</b>			<b>14</b>	

## **2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1504805	Immune Modulation التغيير المناعي	2			2	
1504806	Immune System and Disease الجهاز المناعي والمرض	2			2	
1504807	Immunity to Tumors المناعة ضد الأورام	2			2	
1504808	Advances in Virology التطورات في علم الفيروسات	2			2	
1504809	Advances in Sanitary Microbiology التطورات في الميكروبيولوجيا الصحية	1	2		2	
1504810	Mycotoxins and Human Diseases السّموم الفطرية وأمراض الإنسان	1	2		2	
1504811	Allergic Mycoses الفطريات المسببة للحساسية	1	2		2	
1504812	Occupational Mycoses الفطريات المهنية	1	2		2	
1504813	Advanced Mycosis مقرر متقدم في الفطريات الطبية	1	2		2	
1504814	Systemic Mycosis الفطريات العميقة	1	2		2	
1504815	Oral Microbiology بكتريا الفم	1	2		2	
1504816	Molecular Biology Techniques تقنية طرق البيولوجيا الجزيئية	1	2		2	
150705	Ethics and Law for Health Professionals الأخلاقيات والقانون لأفراد الفريق الصحي	1			1	

## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1504801	4	<b>Problem-orientated Clinical Microbiology</b>	
<p>This course Explain clinical presentations and manifestations of various infectious diseases during discussion and workup of Microbiology cases, and use of such knowledge to formulate pathologic diagnoses. Also, Discuss media based differential diagnoses, including biochemical and immunologic principles, methods, and applications and principles of molecular testing.</p>			



<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1504802</b>	<b>4</b>	<b>Special Studies</b>	
This is a flexible course designed for students interested in a specific subject(s) in microbiology, aiming to teach students how to work with scientific literature, to be able to prepare, present and defend a scientific presentation based on literature studied in front of his/ her supervisor.			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1504803</b>	<b>4</b>	<b>Quality Assurance in Bacteriology &amp; Immunology Laboratory</b>	
Assessment of the quality of the specimen, document the validity of the test method, monitoring the performance of test procedures, reagents, media, instruments and personnel and how review test results for errors and clinical relevance.			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1504804</b>	<b>4</b>	<b>Recent Updates in Microbiology</b>	
To provide students with a capstone experience with topics of current interest in different aspects of Microbiology which are not covered in regular courses. To teach students how to work with scientific literature, to be able to prepare, present and defend a scientific presentation based on literature studied. Each student prepares a presentation on a given topic and presents it in front of his /her colleagues and teachers of Department of Microbiology.			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1504805</b>	<b>2</b>	<b>Immune Modulation</b>	
Extrinsic regulation of unwanted immune response, using the immune response to attack tumors and manipulating the immune response to fight infection.			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1504806</b>	<b>2</b>	<b>Immune System and Disease</b>	
The different immune mechanisms directed against innocuous antigen leading to hypersensitivity. The immune response directed to self antigens leading to autoimmunity. The immune response to transplanted organs leading to graft rejection.			

Code	Credit Hours	Course Title	Prerequisites
1504807	2	Immunity to Tumors	
The general causes of failure of the immune response. The effective and non effective immune response to tumors. How the tumor escapes the immune response. The tumor markers and their role in diagnosis and clinical monitoring.			

Code	Credit Hours	Course Title	Prerequisites
1504808	2	Advances in Virology	
The recent advances in nomenclature, classification, genome structure, pathogenesis, diagnosis, prevention and control of different medically important viruses. The interactions between viral infections and the immune response. The use of viruses in gene therapy and genetic vaccines.			

Code	Credit Hours	Course Title	Prerequisites
1504809	2	Advances in Sanitary Microbiology	
The diseases transmitted by water, food, milk, the microbiological tests for detection and enumeration of indicator, spoilage and pathogenic microorganisms and the recent methods for examination of water, food, milk, including mycotoxin and endotoxin detection.			

Code	Credit Hours	Course Title	Prerequisites
1504810	2	Mycotoxins and Human Diseases	
The important mycotoxins, the exposure to mycotoxins, the occurrence of mycotoxins in food. Sampling & extracting of mycotoxins. Techniques for detection of mycotoxins and immuno modulation.			

Code	Credit Hours	Course Title	Prerequisites
1504811	2	Allergic Mycoses	
The allergenically important fungi, the difference among spores mycelia & yeast forms of fungi, the extraction of allergen content. Testing for allergenic activity. Techniques for separation & study of mould allergen extracts and cross reactivity & shared determinants.			

Code	Credit Hours	Course Title	Prerequisites
1504812	2	Occupational Mycoses	
The exposure & ecologic of occupational mycoses the occupational association. The non occupational exposure. Mycotic hypersensitivity. Work places where infectious mycotic agents present a potentially serious hazards and sampling, appropriate lab. Tests for diagnosis.			

Code	Credit Hours	Course Title	Prerequisites
1504813	2	Advanced Mycosis	
The most recent mycotic diseases in the world. Their occurrence. Methods of discovering & diagnosis. New tests & methods for diagnosis. Recent trial for treatment.			

Code	Credit Hours	Course Title	Prerequisites
1504814	2	Systemic Mycosis	
Fungi causing systemic diseases. Most common organs to be infected. The clinical signs & symptoms. The specimens to be collected. The lab. Diagnosis of the disease. Treatment of systemic mycosis.			

Code	Credit Hours	Course Title	Prerequisites
1504815	2	Oral Microbiology	
The essential micro-organisms have a role in dental diseases. The role of immune response in defense against these pathogens. The role of doctor to control these infection.			

Code	Credit Hours	Course Title	Prerequisites
1504816	2	Molecular Biology Techniques	
The manipulation of DNA techniques. Molecular procedures as recombinant DNA technology and the molecular diagnosis of disease.			

Code	Credit Hours	Course Title	Prerequisites
150705	1	Ethics and Law for Health Professionals	
Definitions of ethics, law, risk management and public health will be clarified. Major ethical and legal conflicts in public health will be addressed. Justifying public health programs and policies will be discussed. Human rights and public health will be explained. The course will also tackle understanding of the public health profession's roles and professional values.			

## **8- Doctoral Degree in Public Health (Majoring Occupational Health and Industrial Medicine)**

*Students should fulfill a total of 44 credit hours:*

**1- Compulsory courses: 14 credit hours.**

1505(1)801, 1505(1)802, 1505(1)803, 1505(1)804, 1505(1)805,

**2- Elective courses: 6 credit hours – with at least 2 credit hours in the specialty.**

1505(1)806, 1505(1)807, 1505(1)808, 1505(1)809, 1505(1)810, 1505(1)811,  
1505(1)812, 1505(1)813, 1505(1)814, 1505(1)815, 1505(1)816, 1505(1)817

**3- Thesis: 24 credit hours. 1505(1)899**

**1- Compulsory courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1505(1)801	Occupational Risk Assessment Quality Assurance & Quality Control in Occupational Medicine تقييم المخاطر المهنية وضمان الجودة والتحكم في جودة الطب المهني	1	2		2	
1505(1)802	Determination of Fitness to Work and Rehabilitation تحديد اللياقة للعمل وإعادة التأهيل	1	2		2	
1505(1)803	Occupational Medicine Laboratory معمل الطب المهني Equipment and Practices المعدات العملية والممارسات للطب المهني	2	2		3	
1505(1)804	Advanced Clinical Toxicology and Biological Monitoring علم السموم الاكلينيكي و التقييم البيولوجي المتقدم	2	2		3	
1505(1)805	Updates in Occupational Medicine الجديد في الطب المهني	4			4	
<b>Total</b>		<b>10</b>	<b>8</b>		<b>14</b>	

## **2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1505(1)806	Occupational Dermatology الأمراض الجلدية المهنية	2	2		3	
1505(1)807	Occupational Audiology علم السمعيات المهني	2	2		3	
1505(1)808	Occupational Traumatology & First Aid Measures إصابات العمل وطرق الاسعافات الأولية	2	2		3	
1505(1)809	Occupational Health Nursing تمريض الصحة المهنية	2	2		3	
1505(1)810	Occupational Psychoneurology الأمراض النفسية والعصبية المهنية	2	2		3	
1505(1)811	Occupational Cardiology أمراض القلب المهنية	2	2		3	
1505(1)812	Occupational Chest Diseases الأمراض الصدرية المهنية	2	2		3	
1505(1)813	Occupational Enterology أمراض الباطنة المهنية	2	2		3	
1505(1)814	Occupational Ergophthalmolgy ديناميكية الأداء البصري المهني	2	2		3	
1505(1)815	Economics of Occupational Medicine إقتصاديات الطب المهني	2	2		3	
1505(1)816	Health Effects of Terrorism and Warfare الآثار الصحية من الإرهاب والحرب	2			2	
1505(1)817	Man/Machine Interaction التفاعل بين العامل والآلة	2			2	

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## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1505(1)801	2	Occupational Risk Assessment Quality Assurance & Quality Control in Occupational Medicine	
This course provides students with advanced knowledge in Occupational risk assessment quality assurance & quality control in Occupational medicine. To guarantee that the results obtained in biological monitoring of chemical exposure in the workplace are comparable with threshold limit values and results from other laboratories, the analysis must be carried out with tested and reliable analytical methods and accompanied by a quality assurance scheme. Confounding influences and interferences during the pre-analytical phase can be minimised by recommendations from experienced laboratories. For internal quality control commercially available control samples with an assigned concentration are used. External quality control programs for biological monitoring are offered by several institutions. Quality control for investigations used in occupational medicine.			

Code	Credit Hours	Course Title	Prerequisites
1505(1)802	2	Determination of Fitness to Work and Rehabilitation	
This course provides students with deep insights in methods and application for Determination of fitness to work and Rehabilitation. Standards for pre-employment medical examination in different jobs, musculo-skeletal fitness, Psychiatric conditions in worker fitness and risk evaluation., the evaluation of pulmonary fitness and risk., cardiovascular fitness, high-demand jobs, age-related diversity in work ability, Low back pain: risk evaluation and pre-placement screening. Job evaluation in worker fitness determination.			

Code	Credit Hours	Course Title	Prerequisites
1505(1)803	3	Occupational Medicine Laboratory Equipment and Practices	
This course provides students with advanced techniques and practices needed in Occupational Medicine Laboratory. The importance of occupational medicine laboratory in early detection of occupational diseases, drug testing and screening for substance abuse. The main parameters used to detect chemicals or their metabolites as indicator of exposure. The tests used as indicators of response to toxic hazards in human body.			

Code	Credit Hours	Course Title	Prerequisites
1505(1)804	3	Advanced Clinical Toxicology and Biological Monitoring	
This course provides students with knowledge about Advanced Clinical Toxicology and Biological Monitoring. Systemic toxicology including hepato-toxicity, nephro-toxicity , neuro-toxicity. Factors influencing toxicity, individual susceptibility. Methods of sample collection and types of samples used in biological monitoring of different occupational chemical exposures.			

Code	Credit Hours	Course Title	Prerequisites
1505(1)805	4	Updates in Occupational Medicine	
This course provides students the chance to review the literature in different topics related to hot problems in occupational medicine raising the updated control strategies.			

Code	Credit Hours	Course Title	Prerequisites
1505(1)806	3	Occupational Dermatology	
This course provides students with advanced knowledge in different types of dermatological diseases related to different occupational exposures.			

Code	Credit Hours	Course Title	Prerequisites
1505(1)807	3	Occupational Audiology	
This course provides students with deep insights in methods of diagnosis of occupational hearing loss and its relation to occupational noise, and to differentiate it from different type of hearing loss.			

Code	Credit Hours	Course Title	Prerequisites
1505(1)808	3	Occupational Traumatology & First Aid Measures	
This course provides students with excellent knowledge about the different causes of accidents in occupational field, and to determine the different first aid measures for all kinds of trauma in occupational settings.			

Code	Credit Hours	Course Title	Prerequisites
1505(1)809	3	Occupational Health Nursing	
This course intended to provide professional training for nurses involved in occupational health field.			

Code	Credit Hours	Course Title	Prerequisites
1505(1)810	3	Occupational Psychoneurology	
This course provides the students with deep insight of causes, types and management of occupational psychoneurology.			

Code	Credit Hours	Course Title	Prerequisites
1505(1)811	3	Occupational Cardiology	
This course provides the students with advanced knowledge about occupational risk factors related to cardiovascular diseases, cardiovascular risk assessment for different occupational settings, and how to deal with different cardiovascular emergencies that could occurs in occupational setting.			

Code	Credit Hours	Course Title	Prerequisites
1505(1)812	3	Occupational Chest Diseases	
This course provides the students with deep insights about occupational chest diseases, the different methods of diagnosis of pulmonary diseases emanating from occupational settings including pulmonary function testing, and how to deal with any occupational chest diseases.			

Code	Credit Hours	Course Title	Prerequisites
1505(1)813	3	Occupational Enterology	
This course provides the students with advanced knowledge about the different occupational causes of enteric diseases and the different methods of diagnosis of occupational enterology.			

Code	Credit Hours	Course Title	Prerequisites
1505(1)814	3	Occupational Ergophthalmlogy	
This course provides the students with deep insights about the work related eye diseases and the different methods of diagnosing eye diseases related to occupational settings.			

Code	Credit Hours	Course Title	Prerequisites
1505(1)815	3	Economics of Occupational Medicine	
This course provides the students with excellent knowledge about general aspects of economics in occupational medicine, Differentiate between micro-economic and macro-economic concepts, Detect a methodology for analyzing cost of occupational diseases and injuries, and Apply different techniques of economic evaluation.			



Code	Credit Hours	Course Title	Prerequisites
1505(1)816	2	Health Effects of Terrorism and Warfare	
This course provides the students with excellent knowledge about policy makers with specific definition, action, management and precautions in case of chemical unclear and biologic warfare.			

Code	Credit Hours	Course Title	Prerequisites
1505(1)817	2	Man/Machine Interaction	
This course provides the students with deep insight with the ability to develop man-machine systems by understanding human behavior, both from a cognitive and an ecological point of view. This implies that human perceptual conditions, experience, learning and problem solving abilities shall be integrated in product development.			

## **9- Doctoral Degree in Public Health Sciences (Majoring Occupational Hygiene and Air Pollution)**

*Students should fulfill a total of 44 credit hours:*

**1- Compulsory courses: 14 credit hours.**

1505(2)801, 1505(2)802, 1505(2)803, 1505(2)804,

**2- Elective courses: 6 credit hours – with at least 2 credit hours in the specialty.**

1505(2)805, 1505(2)806, 1505(2)807, 1505(2)808, 1505(2)809, 1505(2)810, 1502710, 1502711

**3- Thesis: 24 credit hours: 1505(2)899**

**1- Compulsory courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1505(2)801	Advanced Occupational Risk Assessment and Management Techniques تقنيات متقدمة في تقييم وإدارة الخطر المهني	2	2		3	
1505(2)802	Occupational Health and Safety Management Systems نظم إدارة السلامة الصحة المهنية	2	4		4	
1505(2)803	Health and Safety Hazards in Selected Occupations مخاطر الصحة والسلامة في مهن مختارة	2	2		3	
1505(2)804	Updates in Occupational Hygiene and Air Pollution الجديد في صحة بيئة العمل وتلوث الهواء	4			4	
<b>Total</b>		<b>10</b>	<b>8</b>		<b>14</b>	

## **2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1505(2)805	Air Quality Management Systems نظم إدارة نوعية الهواء	1	4		3	
1505(2)806	Advanced Air Pollution Control Technology تقنيات متقدمة للتحكم في تلوث الهواء	1	2		2	
1505(2)807	Air Pollution Modeling نمذجة تلوث الهواء	1	2		2	
1505(2)808	Atmospheric Global Changes التغيرات المناخية العالمية	1	2		2	
1505(2)809	Validation and Quality Assurance of Biological Analysis التحقق من صحة التحاليل البيولوجية وضمان جودتها	2	4		4	
1505(2)810	Emission Inventory For Air Pollutants قوائم الانبعاثات للملوثات الهواء	1	4		3	
1502710*	Statistical Software Computer Packages (Program 1) البرنامج الأول من مجموعة برامج الحاسب الآلي الإحصائية	1	2		2	Applied statistics 1502707
1502711	Database 1 قواعد البيانات ١	1	2		2	

## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1505(2)801	3	<b>Advanced Occupational Risk Assessment and Management Techniques</b>	
The course focuses on risk identification, evaluation methodologies for risk assessment, risk assessment techniques, strategies for reducing and managing occupational health and safety risks, design and implementation of risk reduction techniques, management plans and risk auditing, in addition to practical application of risk assessment and management.			

Code	Credit Hours	Course Title	Prerequisites
1505(2)802	4	Occupational Health and Safety Management Systems	
The candidate will gain skills of identification and categorization of occupational hazards, application of local and federal laws and regulations, development of management and reduction strategies, control technologies, testing and auditing, reporting, development of internal auditing and inspection system, development of continuous monitoring program, development of regular maintenance program in addition to the requirements for obtaining ISO 18001certificate.			

Code	Credit Hours	Course Title	Prerequisites
1505(2)803	3	Health and Safety Hazards in Selected Occupations	
Introduction, general safety rules, hazards in some selected industries, iron and steel industry, petrochemical industry, petroleum industry, cement industry, textile industry, soap and detergent industry, construction industry, pulp and paper industry, management of occupational health & safety hazards among exposed workers, reduction strategies, safety precautions & safety inspection, testing and auditing & reporting.			

Code	Credit Hours	Course Title	Prerequisites
1505(2)804	4	Updates in Occupational Hygiene and Air Pollution	
Developing a recent research or project idea in the hot topics of occupational hygiene & air pollution, conduct literature reviews and library search for new topics, internet search training, identify & plan methodologies, discussion and interpretation of data and report writing.			

Code	Credit Hours	Course Title	Prerequisites
1505(2)805	3	Air Quality Management Systems	
Identification and categorization of industrial air pollutants, stationary, mobile and area sources of air pollutants, applicable local and federal laws and regulations, management and reduction strategies, control technologies, control of stationary sources, control of mobile sources, testing and auditing, reporting, practical and design. In addition to the requirements for obtaining ISO 14001 certificate, construction of air quality monitoring system, data feeding system, emission inventories, develops data base using GIS and development of a system for proper application and use of air quality monitoring system.			

Code	Credit Hours	Course Title	Prerequisites
1505(2)806	2	Air Pollution Control Technology	
Engineering control concept, process change, fuel change, pollution removal, pollution disposal, industrial pollution emission & standards, pollution control for specific air pollutants, removal of sulfur dioxide, removal of oxides of nitrogen, removal of organic vapor from different gases, removal of ammonia, removal of particulates, air pollution control in selected process industries, control in petroleum refineries, control in iron and steel industry, control in textile industry, control aspect of fertilizer industry, control in pulp & paper industries, miscellaneous process industries, and project & field demonstration.			

Code	Credit Hours	Course Title	Prerequisites
1505(2)807	2	Air Pollution Modeling	
The course focuses on literature review, modeling approaches, data sources and processing, variable definitions, model estimation, applicability and dynamic extension of the model.			

Code	Credit Hours	Course Title	Prerequisites
1505(2)808	2	Atmospheric Global Changes	
Introduction, climate changes, changes in atmospheric /oceanic circulation, stratospheric ozone depletion, acidic deposition, simulated global environmental impacts.			

Code	Credit Hours	Course Title	Prerequisites
1505(2)809	4	Validation and Quality Assurance of Biological Analysis	
Biological sampling strategies and study plan design for environmental hazards including facilities of personal and equipment, quality control of sampling, presentation and registration, recognition and evaluation of biological media for analysis, criteria for selection of test and performance evaluation, test control and reference substances and inter-laboratories quality assurance system, statistical and interpretation of the analytical results and uses of specific guidance limit values for evaluation, practical performance for specific exposure parameters and factors affecting reliability of result.			

Code	Credit Hours	Course Title	Prerequisites
1505(2)810	3	Emission Inventory For Air Pollutants	
Introduction, point sources, defining the scope, quality assurance/quality control program, emission estimation methods, data collection/management, material balance method, mathematical models, emission factors, area sources, defining the scope, quality assurance/quality control program, emission estimation methods, data collection/management, material balance method, mathematical models, emission factors, mobile sources, defining the scope, quality assurance/quality control program, emission estimation methods, data collection/management, material balance method, mathematical models, emission factors, biogenic sources, greenhouse gases, particulate emissions, emission projections, preparations of an emission inventory for a certain area.			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1502710</b>	<b>2</b>	<b>Statistical Software Computer Packages (Program 1)</b>	<b>Applied statistics 1502707</b>
Introduction to computer, installing SPSS software package, data definition and access, data management and modifications, data analysis and presentation, graphical presentation, output management, saving files, printing files.			

Code	Credit Hours	Course Title	Prerequisites
1502711	2	Database I	
Introduction to computer, introduction to database, database environment, the relational model, database planning and design, entity relationship modeling, normalization, database design methodology, worked examples.			

## **10- Doctoral Degree in Public Health Sciences (Majoring Environmental Chemistry and Biology)**

*Students should fulfill a total of 44 credit hours:*

**1- Compulsory courses: 14 credit hours.**

1506(1)801, 1506(1)802, 1506(1)803, 1506(1)804, 1506(1)805

**2- Elective courses: 6 credit hours – with at least 2 credit hours in the specialty.**

1506(1)810, 1506(1)811, 1506(1)812, 1506(1)813, 1506(1)814, 1506(1)815, 1506(1)816

**3- Thesis: 24 credit hours: 1506(1)899**

**1- Compulsory courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1506(1)801	Environmental Management الإدارة البيئية	3			3	
1506(1)802	Environmental Risk Assessment تقييم المخاطر البيئية	3			3	
1506(1)803	Chemical and Biological Modeling النمذجة الكيميائية والبيولوجية	2			2	
1506(1)804	Cost Benefit Analysis تحليل التكلفة والعائد	2			2	
1506(1)805	Recent Updates in Environmental Chemistry and Biology المستجدات الحديثة في كيمياء وبيولوجيا البيئة	4			4	
<b>Total</b>		<b>14</b>			<b>14</b>	

**2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1506(1)810	Environmental Chemical Pollution التلوث البيئي الكيميائي	2			2	
1506(1)811	Environmental Microbiology الميكروبيولوجيا البيئية	2			2	
1506(1)812	Advanced Solid Waste Management الإدارة المتقدمة للمخلفات الصلبة	2			2	
1506(1)813	Environmental Treaties المعاهدات البيئية	2			2	
1506(1)814	Water Resources Management in Egypt إدارة الموارد المائية في مصر	2			2	
1506(1)815	Environmental Remote Sensing الإستشعار عن بعد في مجال البيئة	2			2	
1506(1)816	Environmental Applications of Biotechnology التطبيقات البيئية للتكنولوجيا الحيوية	2			2	

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## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1506(1)801	3	Environmental Management	
The course aims at acquainting students with environmental management systems, environmental auditing and accounting systems that enable managers to assess their environmental performance. The students should be able to evaluate pollution prevention and resource management efforts, determine best management practices, and employ the various environmental management tools efficiently.			

Code	Credit Hours	Course Title	Prerequisites
1506(1)802	3	Environmental Risk Assessment	
Relation between environmental pollution and public health, water-borne pathogenic organisms diseases, water-borne chemical diseases, quality of natural waters, protection of water supply sources, deterioration of water sources quality, standards of water.			

Code	Credit Hours	Course Title	Prerequisites
1506(1)803	2	Chemical and Biological Modeling	
Definition and scope of environmental modeling; the uses and principles of modeling; investigating the complexities of the environment using models; generation of chemical and biological models; models evaluation and validation; control of chemical and biological processes; examples.			

Code	Credit Hours	Course Title	Prerequisites
1506(1)804	2	Cost Benefit Analysis	
Relation between economics and the resolution of environmental problems on the local and on the global levels, cost benefit analysis studies, modules and case studies.			

Code	Credit Hours	Course Title	Prerequisites
1506(1)805	4	Recent Updates in Environmental Chemistry and Biology	
By the end of this course the student should be able to select and review articles, prepare seminars, assignments and presentations in a number of chosen topics reflecting the current issues and trends in the field.			

Code	Credit Hours	Course Title	Prerequisites
1506(1)810	2	Environmental Chemical Pollution	
Sources of pesticides, organic and inorganic its cycles in the environment, absorption, metabolism, benefits, hazards, control of the hazards.			



Code	Credit Hours	Course Title	Prerequisites
1506(1)811	2	Environmental Microbiology	
Environmental aspects of methane bacteria, sulfur bacteria, iron bacteria, manganese bacteria, algae and fungi and other environmentally important.			

Code	Credit Hours	Course Title	Prerequisites
1506(1)812	2	Advanced Solid Waste Management	
Solid waste recycling, incineration, Composting and Landfill construction and operation, benefits, hazards, control of the hazards, Types of incineration.			

Code	Credit Hours	Course Title	Prerequisites
1506(1)813	2	Environmental Treaties	
Definitions of treaties, agreements and conventions on the environment; goals and achievements; shortcomings and problems; Agenda 21, Rio De Janeiro, Earth Summit, Kyoto, and the following treaties.			

Code	Credit Hours	Course Title	Prerequisites
1506(1)814	2	Water Resources Management in Egypt	
The course emphasizes the management of the Nile River, ground water, and other water resources in Egypt; desalination of sea water, water consumption in agriculture, in industry and in recreational areas, politics of wastewater reuse in Egypt, etc.			

Code	Credit Hours	Course Title	Prerequisites
1506(1)815	2	Environmental Remote Sensing	
History of remote sensing, functions and advantages of remote sensing, components of remote sensing, applications of remote sensing, the major fundamental concepts related to remote sensing of environmental features on the land surface, interpretation of imagery, etc.			

Code	Credit Hours	Course Title	Prerequisites
1506(1)816	2	Environmental Applications of Biotechnology	
Introduction to biotechnology, classification of microorganisms, uses of living organisms for a wide variety of applications in agriculture, in industry, in environmental pollution control, in hazardous waste treatment, etc. Use and regulation of biological systems for remediation of contaminated environments (land, air, water), and for environment-friendly processes.			

## **11- Doctoral Degree in Public Health Sciences (Majoring Environmental Engineering)**

*Students should fulfill a total of 44 credit hours:*

**1- Compulsory courses: 14 credit hours.**

1506(2)801, 1506(2)802, 1506(2)803, 1506(2)804, 1506(2)805, 1506(2)806

**2- Elective courses: 6 credit hours – with at least 2 credit hours in the specialty.**

1506(2)810, 1506(2)811, 1506(2)812, 1506(2)813, 1506(2)814, 1506(2)815, 1506(2)816

**3- Thesis: 24 credit hours: 1506(2)899**

**1- Compulsory courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1506(2)801	Integrated Engineering Environmental Aspects (IEEA) الجوانب البيئية الهندسية المتكاملة	2			2	
1506(2)802	Environmental Pollution: Monitoring and Risk Assessment تلوث البيئة : الرصد وتقييم المخاطر	2			2	
1506(2)803	Comparative Risk Assessment in Sanitary Engineering تقييم المخاطر المقارن في الهندسة الصحية	2			2	
1506(2)804	Water Bodies Restoration استعادة المسطحات المائية	2			2	
1506(2)805	Critical Readings in Environmental Engineering قراءات نقدية في هندسة البيئة	2			2	
1506(2)806	Environmental Engineering Updates مستجدات الهندسة البيئية	4			4	
<b>Total</b>		<b>14</b>			<b>14</b>	

## **2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1506(2)810	Ionizing Radiation الأشعة المؤينة	2			2	
1506(2)811	Environmental Impacts of Oil and Gas Production الآثار البيئية لإنتاج النفط والغاز	3			3	
1506(2)812	Environmental Design التصميم البيئي	2			2	
1506(2)813	Pollution Prevention and Waste Minimization منع التلوث وتقليل المخلفات	4			4	
1506(2)814	Pollution Prevention through Manufacturing; Materials Selection; and Product Design منع التلوث من خلال الصناعة التحويلية، اختيار المواد، وتصميم المنتجات	3			3	
1506(2)815	Wastewater Collection Systems نظم جمع المخلفات السائلة	2			2	
1506(2)816	Environmental Systems Optimization تحسين النظم البيئية	2			2	

### **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1506(2)801	2	<b>Integrated Engineering Environmental Aspects (IEEA)</b>	
Principles of IEEA, importance of IEEA, objectives; goals; and driving forces, impacts of industrial wastewater on domestic wastewater treatability and reuse, environmental assessment tools, pollution prevention and control, environmental monitoring tools, environmental modeling.			

Code	Credit Hours	Course Title	Prerequisites
1506(2)802	2	<b>Environmental Pollution: Monitoring and Risk Assessment</b>	
Types of pollutants, pollution indicators measurement; instruments; and methods, pollutants effects on the environment and human health, toxicity and risk assessment of selected pollutants.			

Code	Credit Hours	Course Title	Prerequisites
1506(2)803	2	Comparative Risk Assessment in Sanitary Engineering	
Relation between water quality and public health, water-borne pathogenic organisms diseases, water-borne chemical diseases, quality of natural waters, protection of water supply sources, deterioration of water sources quality, standards of water supply quality, water analysis, water purification systems design; operation; and maintenance.			

Code	Credit Hours	Course Title	Prerequisites
1506(2)804	2	Water Bodies Restoration	
Fresh; brackish; and saline water, oceans; marines; lakes; rivers; and drains, sources of water pollution, integrated pollution prevention and control methods, methods of water bodies restoration.			

Code	Credit Hours	Course Title	Prerequisites
1506(2)805	2	Critical Readings in Environmental Engineering	
Titles, language, punctuation marks, style, consistency, clarity, missing parts, repetition, connection between different parts, accuracy, translation, transliteration, abbreviations, references.			

Code	Credit Hours	Course Title	Prerequisites
1506(2)806	4	Environmental Engineering Updates	
By the end of this course the student should be able to select and review articles representing current issues and trends in the field.			

Code	Credit Hours	Course Title	Prerequisites
1506(2)810	2	Ionizing Radiation	
Fundamentals of radiation, biological effects f radiation, acute radiation sickness, chronic radiation sickness, radiation exposure, radiation protection, radioactive waste management.			

Code	Credit Hours	Course Title	Prerequisites
1506(2)811	3	Environmental Impacts of Oil and Gas Production	
Environmental impacts associated with drilling of oil wells; crude oil transportation; and oil refining industry, environmental impacts associated with drilling gas wells; transportation; and gas refining industry, health and safety requirements.			

Code	Credit Hours	Course Title	Prerequisites
1506(2)812	2	Environmental Design	
Hydraulic design, e.g., precipitation and floods; optimal sequences; return periods; and design procedures, wind engineering; speed observations; data processing; and evaluations, earthquake engineering; observation; data processing; and evaluation, ocean engineering; wave loads on break works; moored ships; and ocean structures.			

Code	Credit Hours	Course Title	Prerequisites
1506(2)813	4	Pollution Prevention and Waste Minimization	
Methods and impacts of selecting alternative technologies; processes; and/or products as to reduce the sources of pollution and wastes, recycling, environmental regulations, life cycle assessment, economic analysis.			

Code	Credit Hours	Course Title	Prerequisites
1506(2)814	3	Pollution Prevention through Manufacturing; Materials Selection; and Product Design	
Manufacturing; materials selection; and product design alternatives, abatement of air; water; and solid pollution, life cycle assessment and economic analysis to compare alternatives, case studies.			

Code	Credit Hours	Course Title	Prerequisites
1506(2)815	2	Wastewater Collection Systems	
Collection systems purposes, components of collection systems, design of collection systems, safety procedures, inspection and testing, cleaning and maintenance.			

Code	Credit Hours	Course Title	Prerequisites
1506(2)816	2	Environmental Systems Optimization	
Design and analysis of complex environmental systems and air; water; land; and energy resources, methods for decision making, alternatives policies choice, heuristic and formal solution procedures to select the best project alternative.			

## **12- Doctoral Degree in Public Health and Public Health Sciences (Majoring Environmental Health)**

*Students should fulfill a total of 44 credit hours:*

**1- Compulsory courses: 14 credit hours.**

1506(3)801, 1506(3)802, 1506(3)803, 1506(3)804, 1506(3)805, 1506(3)806

**2- Elective courses: 6 credit hours – with at least 2 credit hours in the specialty.**

1506(3)810, 1506(3)811, 1506(3)812, 1506(3)813, 1506(3)814, 1506(3)815, 1506(3)816

**3- Thesis: 24 credit hours: 1506(3)899**

**1- Compulsory courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1506(3)801	Environmental Health Policies and Decision Making سياسات الصحة البيئية وصنع القرار	2			2	
1506(3)802	Epidemiology of Environmental Diseases وبائيات الأمراض البيئية	2			2	
1506(3)803	Exposure and Risk Assessment in Environmental Health التعرض وتقييم المخاطر في الصحة البيئية	2			2	
1506(3)804	Environmental Health in Vulnerable Groups الصحة البيئية في الفئات الضعيفة	2			2	
1506(3)805	Integrated Environmental Management Policies and Applications in Health Care Settings سياسات وتطبيقات الإدارة البيئية المتكاملة في أماكن الرعاية الصحية	2			2	
1506(3)806	Recent Updates in Environmental Health المستجدات الحديثة في الصحة البيئية	4			4	
<b>Total</b>		<b>14</b>			<b>14</b>	

## **2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1506(3)810	Environmental Health Indicators in Developing Countries مؤشرات الصحة البيئية في الدول النامية	2			2	
1506(3)811	Global Problems & Environmental Burden of Disease المشاكل العالمية والعبء البيئي للمرض	2			2	
1506(3)812	Environmental Health Promotion Policies and Applications سياسات وتطبيقات تعزيز الصحة البيئية	2			2	
1506(3)813	Environmental Health Preparedness and Disaster Response الاستعداد في الصحة البيئية والاستجابة للكوارث	2			2	
1506(3)814	Environmental Health and Cancer الصحة البيئية والأمراض السرطانية	2			2	
1506(3)815	Environmental Health in Neurological and Mental Disorders الصحة البيئية في الاضطرابات العصبية والذهنية	2			2	
1506(3)816	Current Research in Environmental Health الأبحاث الراهنة في الصحة البيئية	2			2	

### **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1506(3)801	2	<b>Environmental Health Policies and Decision Making</b>	
Factors governing the decision making process: political, financial, personnel, energy, raw materials, water, wastewater & solid waste management; methods of decision making; management of environmental health programs in the community, organization theory and practice, budgeting, personnel management, program planning and evaluation, community relations.			

Code	Credit Hours	Course Title	Prerequisites
1506(3)802	2	<b>Epidemiology of Environmental Diseases</b>	
Basic principles and concepts of descriptive and analytical epidemiology; collection and evaluation of environmental health data; risk factors of environmental diseases; surveillance and epidemiology of communicable and non-communicable diseases; statistical methods and applications in environmental exposure assessment; case studies. Tracking of environmental hazards and diseases, skills and practical knowledge; basic concepts and methods of surveillance, epidemiologic measures of incidence and mortality, and graphing and mapping methods used to describe and display surveillance data.			

Code	Credit Hours	Course Title	Prerequisites
1506(3)803	2	Exposure and Risk Assessment in Environmental Health	
Exposures to chemicals, as well as biological and radiological exposures; quantification of risk and adverse health effects; strengths and weaknesses of risk assessment methods; relationship between risk assessment and risk management; hazard identification; dose-response assessment; exposure assessment; risk characterization; risk communication; analytical skills for developing, interpreting, and understanding risk assessment for specific contamination incidents involving human exposure.			

Code	Credit Hours	Course Title	Prerequisites
1506(3)804	2	Environmental Health in Vulnerable Groups	
Characteristics of vulnerable groups, children, elderly, women in reproductive age, handicapped; common diseases and environmental risk factors, chemical and biological risks, water and food safety, indoor & outdoor air pollution, accidents in the physical environment, other health risks; prevention and control methods; policies for vulnerable groups; case studies.			

Code	Credit Hours	Course Title	Prerequisites
1506(3)805	2	Integrated Environmental Management Policies and Applications in Health Care Settings	
Concepts and practices of integrated environmental management (covering infection control, occupational health and safety, hospital wastes management, resources conservation, ... etc). Determinants controlling the quality of health care services and the efficiency of infection control programs, incidence of nosocomial infections, antimicrobial resistance and delayed wound healing. Design and management criteria for effective & high quality services. Policies for integrated environmental management as a basic tool for quality assurance & accreditation of hospitals.			

Code	Credit Hours	Course Title	Prerequisites
1506(3)806	4	Recent Updates in Environmental Health	
Searching for recent information, critical assessment of evidence, critical appraisal of research, interpretation and criticism of information, etc. Appraisal of recent research papers. Seminars on recent topics in environmental health. Case studies.			



Code	Credit Hours	Course Title	Prerequisites
1506(3)810	2	Environmental Health Indicators in Developing Countries	
Definition, importance and criteria for useful environmental health indicators; concepts and models, types of indicators: environmental risks, health determinants, population health effects and interventions; uses in planning health policies and environmental decision making. Impact of environment on public health in low- and middle-income nations; population pressures on the environment; environmental degradation; interactions between population, poverty, and pollution on health; solutions.			

Code	Credit Hours	Course Title	Prerequisites
1506(3)811	2	Global Problems & Environmental Burden of Disease	
Definitions & examples for global problems: climate change; ozone depletion; water shortage; loss of biodiversity; coastal zone threats; impacts on environmental health, emergence and spread of diseases; control measures, global policies for prevention & control of environmental deterioration; case studies. Environmental changes affecting the burden of disease on the international and local levels; genetic predisposition to diseases; cancers; urbanization and health; allergies and multiple chemical sensitivities; methodology for assessment of the burden of disease.			

Code	Credit Hours	Course Title	Prerequisites
1506(3)812	2	Environmental Health Promotion Policies and Applications	
Principles of health promotion and public participation applicable in the field of environmental health, communication methods suitable for environmental health messages, case studies; environmental legislation, policies for health promotion and community participation.			

Code	Credit Hours	Course Title	Prerequisites
1506(3)813	2	Environmental Health Preparedness and Disaster Response	
Disaster management cycle, pre- and post-disaster activities, technical aspects of disaster management, environmental preparedness and emergency response; chemical accidents, radiation emergencies; impacts on environmental and human health, environmental health in areas of conflict and refugee camps, emergency preparedness for both intentional and natural disasters; methods for mitigation; health education and community participation.			

Code	Credit Hours	Course Title	Prerequisites
1506(3)814	2	Environmental Health and Cancer	
Types of cancer; environmental carcinogens; types of environmental pollutants and risk factors related to cancer; teratogenicity, mutations and genetic predisposition to cancer; genetic toxicology; gene-environmental interactions; bio-monitoring; chemical and radiological cancer treatment and the environment; case studies.			

Code	Credit Hours	Course Title	Prerequisites
1506(3)815	2	Environmental Health in Neurological and Mental Disorders	
Impacts on neurological and mental health from environmental and occupational toxicants (e.g., metals, pesticides, solvents); emphasis on Alzheimer's, Parkinson's diseases, Autism, ADHD,...etc; assessment of causal relations; prevention of adverse health effects in exposed populations; case studies.			

Code	Credit Hours	Course Title	Prerequisites
1506(3)816	2	Current Research in Environmental Health	
The course comprises seminars, assignments and presentations by students on the recent research in environmental health, e.g. impacts of climate change, air pollution, urbanization, and other environmental risk factors on health.			

## **13- Doctoral Degree in Public Health and Public Health Sciences (Majoring Nutrition)**

*Students should fulfill a total of 44 credit hours:*

**1- Compulsory courses: 14 credit hours.**

1507(1)801, 1507(1)802, 1507(1)803, 1507(1)804, 1502707, 1501701

**2- Elective courses: 6 credit hours – with at least 2 credit hours in the specialty.**

1507(1)805, 1507(1)806, 1507(1)807, 1507(1)808, 1507(1)809, 1507(1)810

**3- Thesis: 24 credit hours: 1507(1)899**

**1- Compulsory courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1507(1)801	Therapeutic Nutrition II التغذية العلاجية II	2			2	
1507(1)802	Therapeutic Nutrition III التغذية العلاجية III	2			2	
1507(1)803	Nutrition & Chronic Diseases التغذية والأمراض المزمنة	2			2	
1507(1)804	Critical Readings in Nutrition قراءات نقدية في التغذية	4			4	
1502707	Applied Statistics إحصاء تطبيقي	1	2		2	
1501701	Epidemiologic Research Methods (I) طرق البحث الوبائية (I)	2			2	
<b>Total</b>		<b>13</b>	<b>2</b>		<b>14</b>	

**2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1507(1)805	Nutrition & Immunity التغذية والمناعة	2			2	
1507(1)806	Foodservice Management & Catering إدارة الخدمات الغذائية وتغذية الجماعات	2			2	
1507(1)807	Advances in Nutrition الحديث في التغذية	1	2		2	
1507(1)808	Meal Planning & Evaluation تخطيط وتقييم الوجبة	1	2		2	
1507(1)809	Nutrition & Aging التغذية والشيخوخة	2			2	
1507(1)810	Nutrition of Special Groups تغذية الفئات الخاصة	2			2	

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## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1507(1)801	2	Therapeutic Nutrition II	
The course aims at giving the student knowledge in the nutritional care and support in the dietary management of hepato-biliary system disorders, common metabolic disorders, eating disorders, musculo-skeletal disorders, and nutritional management of cancer patients.			

Code	Credit Hours	Course Title	Prerequisites
1507(1)802	2	Therapeutic Nutrition III	
The course aims at exploring the modes of nutritional support and the nutritional care before-during- and after surgery, and burns. Knowledge and experience will be gained in the relationship between drugs and nutrients.			

Code	Credit Hours	Course Title	Prerequisites
1507(1)803	2	Nutrition & Chronic Diseases	
The aim of the course is to examine the dietary methods used to assess the dietary intake, and to review the current state of knowledge regarding diet and other nutritional indicators as etiological factors in chronic diseases.			

Code	Credit Hours	Course Title	Prerequisites
1507(1)804	4	Critical Readings in Nutrition	
The course aiming at gaining knowledge of the advanced and critical topics in nutrition researches and emerging problems that may compromise the nutrition and its suitability for consumption that are of public health importance.			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1502707</b>	<b>2</b>	<b>Applied Statistics</b>	
This is a course to teach students from different specialties of public health how to analyze data and interpret the results. By the end of the course the student should be able to determine the type of analysis (parametric or non parametric), test the relation between variables using comparison of means, test the hypothesis, test the relation between variables, using various measures of association.			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1501701</b>	<b>2</b>	<b>Epidemiologic Research Methods I</b>	
Screening tests, evaluation of screening tests, measures of association and impact, risk and causality, intervention studies (field trials versus clinical trials), sources of bias in different epidemiologic studies and their control, different sources of confounders and methods of their control and effect modifier versus confounders.			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1507(1)805</b>	<b>2</b>	<b>Nutrition and Immunity</b>	
The aim of the course is to give the student the knowledge of the cellular and molecular mechanisms underlying interactions of nutrition and immune function, including the modulation of immunocompetence by diet and effects of immune responses on nutritional status.			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1507(1)806</b>	<b>2</b>	<b>Foodservice Management &amp; Catering</b>	
The course aims at introducing the student to the principles of food services in institutions. Also the methods used in purchasing, quantity food production, sanitation and safety of foods, layout design of food service areas and equipment selection will be covered.			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1507(1)807</b>	<b>2</b>	<b>Advances in Nutrition</b>	
The course deals with advances in the knowledge of human nutrition and the public health aspects of proper nutrition in health and disease. The student will acquire this knowledge through assigned readings and discussions.			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1507(1)808</b>	<b>2</b>	<b>Meal planning &amp; Evaluation</b>	
The course aims at giving the student the principles of diet planning and evaluation in order to be able to construct and evaluate diets used in the nutritional care of various physiological and pathological states.			

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Code	Credit Hours	Course Title	Prerequisites
1507(1)809	2	Nutrition & Aging	
The aim of the course is to give the student the principles of nutrition and nutritional care of the elders, and to understand the aging process, as well as the effect of the aging on organ and physiological function.			

Code	Credit Hours	Course Title	Prerequisites
1507(1)810	2	Nutrition of Special Groups	
The aim of the course is to give the student the principles of nutrition, nutritional problems, and nutritional care of vulnerable groups as athletes, handicapped, and low-birth weight infants.			

## **14- Doctoral Degree in Public Health and Public Health Sciences (Majoring Food Hygiene and Control)**

*Students should fulfill a total of 44 credit hours:*

**1- Compulsory courses: 14 credit hours.**

1507(2)801, 1507(2)802, 1507(2)803, 1507(2)804

**2- Elective courses: 6 credit hours – with at least 2 credit hours in the specialty.**

1507(2)805, 1507(2)806, 1507(2)807, 1507(2)808, 1507(3)803

**3- Thesis: 24 credit hours: 1507(2)899**

**1- Compulsory courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1507(2)801	Food Safety and Public Health سلامة الغذاء والصحة العامة	2	2		3	
1507(2)802	Recent issues in Food Chain Management القضايا الحالية في إدارة سلسلة الغذاء	2	2		3	
1507(2)803	Management of Microbiological Foods Hazards إدارة المخاطر الميكروبيولوجية في الأغذية	3	2		4	
1507(2)804	Updates in Food Hygiene and Control الحديث في صحة الأغذية والرقابة الغذائية	4			4	
<b>Total</b>		<b>11</b>	<b>6</b>		<b>14</b>	

**2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1507(2)805	Veterinary Microbiology الميكروبيولوجيا البيطرية	1	2		2	
1507(2)806	Food Safety in Technology السلامة التكنولوجية للأغذية	1	2		2	
1507(2)807	Catering Management إدارة تغذية الجماعات	2			2	
1507(2)808	Risk Analysis in Food Safety تحليل الخطر في سلامة الغذاء	2	2		3	
1507(3)803	Advanced Instrumental Food Analysis مقرر متقدم في تحليل الأغذية باستخدام الأجهزة المعملية	2	2		3	

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## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1507(2)801	3	Food Safety and Public Health	
This course will introduce the importance of food safety in public health and community welfare, the role of food safety within healthy nutrition and the activities of food safely in a practical and comprehensive way. Among topics included in this course are; Food toxicants, Food related health issues, Food processing and health effects, Food quality and safety, Food safety for vulnerable groups, Food Contaminants and Emerging Food borne pathogens.			

Code	Credit Hours	Course Title	Prerequisites
1507(2)802	3	Recent Issues in Food Chain Management	
This course will provide the students with the recent food hygiene management strategies, Pre and post-harvest food safety, updates in international food law, urgent food related trade problems, emerging food processing technologies, as well as the emerging Food borne pathogen problems.			

Code	Credit Hours	Course Title	Prerequisites
1507(2)803	4	Management of Microbiological Food Hazards	
This course aims to improve the knowledge of the students regarding the management of microorganisms that may compromise the safety of foods and the topics included in this course are; microbial ecology of raw materials, microbiological Criteria, Spoilage and preservation, Hazard Analysis Critical Control Point (HACCP) principles, Food Safety in International Trade, as well as Sampling and Monitoring			

Code	Credit Hours	Course Title	Prerequisites
1507(2)804	4	Updates in Food Hygiene and Control	
This course discusses the building of a food foundation, current trends in the design both of buildings and types of food processing equipment, from heating and packaging equipment to valves, pipes and sensors. Key issues in effective hygiene management are also covered, from risk analysis, good manufacturing practice and standard operating procedures (SOPs) to improving cleaning and decontamination techniques. It also discusses the developments in ways of monitoring the effectiveness of hygiene operations, from testing surface cleanability to sampling techniques and hygiene auditing.			



Code	Credit Hours	Course Title	Prerequisites
1507 (2) 805	2	Veterinary Microbiology	
This course covers the bacterial, fungal, and viral pathogenic agents that are significant causes of animal disease. The focus includes pathogenic mechanisms and processes in infectious diseases; methods of diagnosis; and principles of resistance, prevention, and therapy.			

Code	Credit Hours	Course Title	Prerequisites
1507 (2) 806	2	Food Safety in Technology	
This course covers current regulatory information, food safety in technology, myriad food hazards, food safety surveillance, and risk prevention. Approaching food safety from retail, commercial, and institutional angles, this authoritative resource analyzes every step of the food production process, from processing and packaging to handling and distribution. The course defines also real and perceived safety issues surrounding food, providing scientifically non-biased perspectives on issues for professional and general readers.			

Code	Credit Hours	Course Title	Prerequisites
1507 (2) 807	2	Catering Management	
This course includes caterers would need to set up and run a successful catering business of any kind. From setting up a kitchen, staffing, and marketing to planning events, organizing service, preparing food, managing the dining room and beverages, and developing menus, it provides detailed guidance on every aspect of the catering business, showing operators how to troubleshoot and creatively solve problems.			

Code	Credit Hours	Course Title	Prerequisites
1507(2)808	3	Risk Analysis in Food Safety	
This course provides the students with the various components of risk analysis, risk assessment (dose-response ; exposure assessment; risk characterization), dose-response modeling, risk reduction strategies, Application to various national and international risk management options, as well as the risk communication			

Code	Credit Hours	Course Title	Prerequisites
1507(3)803	3	Advanced Instrumental Food Analysis	
This course provides the students with advanced applications of instrumental techniques used in separation and purification of biological compound from a mixture of compounds. Chromatography and chromatographic techniques including: adsorption chromatography, paper chromatography, gas-liquid chromatography, ion-exchange chromatography, permeation chromatography and affinity chromatography.			

## **15- Doctoral Degree in Public Health and Public Health Sciences (Majoring Food Analysis)**

*Students should fulfill a total of 44 credit hours:*

### **1- Compulsory courses: 14 credit hours.**

1507(3)801, 1507(3)802, 1507(3)803, 1507(3)804, 1507 (3)805

### **2- Elective courses: 6 credit hours – with at least 2 credit hours in the specialty.**

1507 (3)806, 1507 (3)807, 1507 (3)808, 1507 (3)809, 1507 (3)810, 1507 (3)811, 1507 (3)812

### **3- Thesis: 24 credit hours: 1507(3)899**

### **1- Compulsory courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1507(3)801	Advanced Food Analysis مقرر متقدم في تحليل الأغذية	2	2		3	
1507(3)802	Advanced Food Biotechnology مقرر متقدم في التكنولوجيا الحيوية	1	2		2	
1507(3)803	Advanced Instrumental Food Analysis مقرر متقدم في تحليل الأغذية باستخدام الأجهزة العملية	2	2		3	
1507(3)804	Advanced Food Chemistry مقرر متقدم في كيمياء الأغذية	2	2		3	
1507(3)805	Recent Updates in Food Analysis الحديث في تحليل الأغذية	3			3	
<b>Total</b>		<b>10</b>	<b>8</b>		<b>14</b>	

### **2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1507(3)806	Advanced Analysis of Food Products مقرر متقدم في تحليل المنتجات الغذائية	2	2		3	
1507(3)807	Advanced Analysis of Mycotoxins in Food مقرر متقدم في تحليل السموم الفطرية في الغذاء	1	2		2	
1507(3)808	Advanced Sensory Evaluation of Food مقرر متقدم في التقييم الحسي للأغذية	1	2		2	
1507(3)809	Gas Chromatography Analysis التحليل الكروماتوجرافي الغازي	1	2		2	
1507(3)810	High Pressure Liquid Chromatography Analysis التحليل الكروماتوجرافي السائل عالي الضغط	1	2		2	
1507(3)811	Atomic Absorption Spectroscopy الامتصاص الذري للأطياف	1	2		2	
1507(3)812	Mass Spectrometry Analysis التحليل باستخدام طيف الكتلة	1	2		2	

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## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1507(3)801	3	Advanced Food Analysis	
This course highlights the advanced food analysis topics. It covers accuracy, precision and validation of methods used in the analysis of micro and macro components of food. It contains advanced methods of extraction, separation and clean up of food samples.			

Code	Credit Hours	Course Title	Prerequisites
1507(3)802	2	Advanced Food Biotechnology	
This course focuses on the advanced biotechnology and bioinformatics which concerned with protein biosynthesis, DNA analysis and gene expression. It focuses on the genetic modification of food as well as methods of analysis of genetically modified food..			

Code	Credit Hours	Course Title	Prerequisites
1507(3)803	3	Advanced Instrumental Food Analysis	
This course provides the students with advanced applications of instrumental techniques used in separation and purification of biological compound from a mixture of compounds. Chromatography and chromatographic techniques including: adsorption chromatography, paper chromatography, gas-liquid chromatography, ion-exchange chromatography, permeation chromatography and affinity chromatography.			

Code	Credit Hours	Course Title	Prerequisites
1507(3)804	3	Advanced Food Chemistry	
This course highlights the advanced chemical reactions that take place in the biological system. It also covers colloidal particles in food systems, auto oxidation of lipids and causes of rancidity, proteins and amino acids, carbohydrates, sugars and volatile compounds. Chemical reactions that take place in biological systems including Maillard reaction and caramelization of sugars.			

Code	Credit Hours	Course Title	Prerequisites
1507(3)805	3	Recent Updates in Food Analysis	
The course aiming at gaining knowledge of the advanced topics in food analysis researches and studies that are of public health importance.			

Code	Credit Hours	Course Title	Prerequisites
1507(3)806	3	Advanced Analysis of Food Products	
This course provides advanced knowledge about food standards in the USA and EEC countries. Food standards and regulations in Egypt. It also provides advanced knowledge about chemical analysis of specific food products in the Egyptian markets including fruit and vegetable products, meat, poultry and fish products, dairy products, fat and oil products, chemical additives and functional foods. Chemical, instrumental and microbial analysis of food contaminants and additives are included.			

Code	Credit Hours	Course Title	Prerequisites
1507(3)807	2	Advanced Analysis of Mycotoxins in Food	
This course highlights the problem of mycotoxins in food products and health hazards associated with the ingestion of food contaminated with mycotoxins. It includes identification and classification of different types of mycotoxins, causes of food contamination with mycotoxins, methods of analysis of and decontamination of mycotoxins. It also provides advanced knowledge about toxicity of mycotoxins.			

Code	Credit Hours	Course Title	Prerequisites
1507(3)808	2	Advanced Sensory Evaluation of Food	
This course provides advanced knowledge about sensory evaluation as a method to assess food quality. Topics of this course include basic theories for the assessment of odour, colour, taste and texture in relation to food quality. Practical sensory evaluation is also used as a tool to assess food quality.			

Code	Credit Hours	Course Title	Prerequisites
1507(3)809	2	Gas Chromatography Analysis	
This course provides detailed information about the construction and mode of operation of GC, usage of GC for qualitative and quantitative analysis of complex organic mixtures containing volatile compounds. It focuses on the carrier gas and its purification, injection system, column (which is the core of the GC), and types of detectors. Applications on quantitative analysis of fats and oils are also included.			

Code	Credit Hours	Course Title	Prerequisites
1507(3)810	2	High Pressure Liquid Chromatography Analysis	
This course aims at understanding the principles of separation using isocratic and gradient elution of the solvent delivery system of HPLC. Types of columns, assessment of column efficiency and resolution index are covered by this course. It also gives detailed information about features of the chromatogram, the pump system and types of detectors. Applications on quantitative analysis using HPLC are also included.			

Code	Credit Hours	Course Title	Prerequisites
1507(3)811	2	Atomic Absorption Spectroscopy	
This course highlights the instrumentation, specific analytical methods and practical applications of atomic absorption spectroscopy. It covers methods of separation of inorganic residues of food including minerals and heavy metals.			

Code	Credit Hours	Course Title	Prerequisites
1507(3)812	2	Mass Spectrometry Analysis	
This course highlights the differences between chemical and spectral examination. It focuses on the direct combination of the gas chromatograph and gas spectrometer giving information about interface designs (jet, porous tube, Teflon tube, membrane), separator selection, system sensitivity, operating modes and data handling methods and commercially available combinations. Specialized GC-MC combinations are also covered.			

## **16- Doctoral Degree in Public Health and Public Health Sciences (Majoring Health Management, Planning and Policy)**

*Students should fulfill a total of 44 credit hours:*

### **1- Compulsory courses: 14 credit hours.**

1508(1)801, 1508(1)802, 1508(1)803, 1508(1)804

### **2- Elective courses: 6 credit hours – with at least 2 credit hours in the specialty.**

1508(1)805, 1508(1)806, 1508(1)807, 1508(1)808

### **3- Thesis: 24 credit hours: 1508(1)899**

### **1- Compulsory courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1508(1)801	Managing Organizational Behavior in Health Care Institutions إدارة السلوك التنظيمي في مؤسسات الرعاية الصحية	4			4	
1508(1)802	Total Quality Management in Health Care إدارة الجودة الشاملة في مجال الرعاية الصحية	3			3	
1508(1)803	Ethical Issues in Health Care Management القضايا الأخلاقية في مجال إدارة الرعاية الصحية	3			3	
1508(1)804	Readings for Physicians in Current Issues & Trends in Health Management, Planning and Policy قراءات للأطباء في القضايا والاتجاهات الحديثة في مجال الرعاية الصحية	4			4	
<b>Total</b>		<b>14</b>			<b>14</b>	

### **2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1508(1)805	Strategic Planning and Marketing التخطيط و التسويق الاستراتيجي	3			3	
1508(1)806	Tools and Techniques for Improving Quality and Performance أدوات و طرق تحسين الجودة و الأداء	3			3	
1508(1)807	Managing Time / Conflict and Stress Management إدارة الوقت والصراع والضغط	3			3	
1508(1)808	Health Legislations التشريعات الصحية	3			3	

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## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1508(1)801	4	Managing Organizational Behavior in Health Care Institutions	
This course provides students with knowledge regarding the organizational environment. It also provides students with the required skills needed for managing organizational behavior in relation to individuals, groups and the health care organization as a whole. It helps graduates to explain organizational behavior, nature of organizations, management process, various basic attributes of individuals, motivational theories, importance of effective communication, the nature & strategies of organizational change and importance of innovation in effective management of organizational behavior. In addition, group dynamics, team building and team work, organizational politics, decision making in organizations, conflict and the dynamics, sources & effective management of stress will be discussed .			

Code	Credit Hours	Course Title	Prerequisites
1508(1)802	3	Total Quality Management in Health Care	
This course will help students to identify the TQM concept and philosophy and understand the relationship between TQM, productivity improvement and cost-effectiveness. It provides skills necessary to monitor and evaluate process through statistical quality control measures. In addition, the role of TQM pioneers and the PDCA model for process improvement will be studied. The quality improvement team, type of leadership required for successful TQM, and physician involvement in quality improvement will also be explored .			

Code	Credit Hours	Course Title	Prerequisites
1508(1)803	3	Ethical Issues in Health Care Management	
This course helps the student to understand the various important ethical issues related to health care management, their implications and how organizations respond to ethical problems and improve ethical behavior. Also factors that affect managerial ethics, codes of ethics, moral philosophies, ethical dimensions related to respect for persons, beneficence and non malfeasance and contemporary biomedical ethical issues are discussed.			

Code	Credit Hours	Course Title	Prerequisites
1508(1)804	4	Readings for Physicians in Current Issues & Trends in Health Management, Planning and Policy	
This course provides physician students with the required skills needed for selecting and reviewing articles representing current issues and trends in the health management, planning and policy fields especially those related to clinical aspects & departments of health care organizations and other areas of physician interest. In addition, it helps students to prepare a written summary of selected articles and present & discuss the selected articles.			

Code	Credit Hours	Course Title	Prerequisites
1508(1)805	3	Strategic Planning and Marketing	
This course provides students with concepts and issues related to planning and its relation to the management model, planning characteristics & outcomes and the planning environment. In addition, it helps the graduates to understand strategic planning and its components as well as marketing and its role in the strategic planning process. The course also includes strategic quality planning, its attributes and the main activities involved in its process.			

Code	Credit Hours	Course Title	Prerequisites
1508(1)806	3	Tools and Techniques for Improving Quality and Performance	
This course will help the students to understand and differentiate between tools and techniques used for data collection and display and those used for targeting quality improvement. It also provides students with the required skills needed to demonstrate which tool to use on what occasion. Students will be required to complete an assignment involving a problem situation where they will have to choose and apply the correct tools for the given situation.			

Code	Credit Hours	Course Title	Prerequisites
1508(1)807	3	Managing Time / Conflict and Stress Management	
This course provides the graduates with the skills necessary to manage their time, as well as to control and manage conflict and stressful situations in health care organizations. The course provides the graduate with a fundamental understanding of the importance of time, priority setting and avoiding time wasters. In addition conflict resolution strategies and ways to simplify life will be studied.			

Code	Credit Hours	Course Title	Prerequisites
1508(1)808	3	Health Legislations	
This course will help students to identify various legislations related to the different disciplines of public health and the extent to which they are applied. Also the advantages and disadvantages of such legislations and experience with implementation of some of them will be discussed. In addition, recommended solutions and/ or improvements to legislations needing change will be explored.			



## **17- Doctoral Degree in Public Health and Public Health Sciences (Majoring Hospital Administration)**

*Students should fulfill a total of 44 credit hours:*

### **1- Compulsory courses: 14 credit hours.**

1508(2)801, 1508(2)802 1508(1)801, 1508(2)803

### **2- Elective courses: 6 credit hours – with at least 2 credit hours in the specialty.**

1508(2)804, 1508(2)805, 1508(2)806, 1508(2)807

### **3- Thesis: 24 credit hours: 1508(2)899**

### **1- Compulsory courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1508(2)801	Strategic Management for Hospitals التخطيط الاستراتيجي للمستشفيات	3			3	
1508(2)802	Total Quality Management in Hospitals إدارة الجودة الشاملة بالمستشفيات	3			3	
1508(1)801	Managing Organizational Behavior in Health Care Institutions إدارة السلوك التنظيمي في مؤسسات الرعاية الصحية	4			4	
1508(2)803	Critical Readings in Hospital Administration قراءات نقدية في إدارة المستشفيات	4			4	
<b>Total</b>		<b>14</b>			<b>14</b>	

### **2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1508(2)804	Computer Applications in Hospitals and Healthcare تطبيقات الحاسب الآلي بالمستشفيات والرعاية الصحية	2		2		
1508(2)805	Hospital Accreditation الاعتراف بالمستشفيات	2		2		
1508(2)806	Productivity Management in Hospitals إدارة الإنتاجية بالمستشفيات	2		2		
1508(2)807	Hospital Design تصميم المستشفيات	2		2		
1508(1)806	Tools and Techniques for Improving Quality and Performance أدوات و طرق تحسين الجودة و الأداء	3			3	

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## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1508(2)801	3	Strategic Management for Hospitals	
This course provides students with knowledge and skills necessary to be able to develop a strategic plan for a hospital.			

Code	Credit Hours	Course Title	Prerequisites
1508(2)802	3	Total Quality Management in Hospitals	
This course provides students with knowledge and skills necessary to be able to apply total quality management (TQM) methods and techniques in hospitals.			

Code	Credit Hours	Course Title	Prerequisites
1508(1)801	4	Managing Organizational Behavior in Health Care Institutions	
This course provides students with knowledge regarding the organizational environment. It also provides students with the required skills needed for managing organizational behavior in relation to individuals, groups and the health care organization as a whole. It helps graduates to explain organizational behavior, nature of organizations, management process, various basic attributes of individuals, motivational theories, importance of effective communication, the nature & strategies of organizational change and importance of innovation in effective management of organizational behavior. In addition, group dynamics, team building and team work, organizational politics, decision making in organizations, conflict and the dynamics, sources & effective management of stress will be discussed.			

Code	Credit Hours	Course Title	Prerequisites
1508(2)803	4	Critical Readings in Hospital Administration	
By the end of this course the student should be able to select and critically review articles representing current issues and trends in the field of hospital administration.			

Code	Credit Hours	Course Title	Prerequisites
1508(2)804	2	Computer Applications in Hospitals and Health Care	
This course provides students with knowledge and skills necessary to be able to participate in the planning and use of computer applications in hospitals and health care.			

Code	Credit Hours	Course Title	Prerequisites
1508(2)805	2	Hospital Accreditation	
This course provides students with knowledge and skills necessary to be able to be able to effectively participate in development and implementation of hospital accreditation programs.			

Code	Credit Hours	Course Title	Prerequisites
1508(2)806	2	Productivity Management in Hospitals	
This course provides students with knowledge and skills necessary to be able to participate effectively in improvement of productivity in hospitals.			

Code	Credit Hours	Course Title	Prerequisites
1508(2)807	2	Hospital Design	
This course provides students with knowledge and skills necessary to be able to plan and manage the hospital outpatient department (OPD).			

Code	Credit Hours	Course Title	Prerequisites
1508(1)806	3	Tools and Techniques for Improving Quality and Performance	
This course will help the students to understand and differentiate between tools and techniques used for data collection and display and those used for targeting quality improvement. It also provides students with the required skills needed to demonstrate which tool to use on what occasion. Students will be required to complete an assignment involving a problem situation where they will have to choose and apply the correct tools for the given situation.			

## **18- Doctoral Degree in Public Health and Public Health Sciences** **(Majoring Health Education and Behavioral Sciences)**

*Students should fulfill a total of 44 credit hours:*

### **1- Compulsory courses: 14 credit hours.**

1508(3)801, 1508(3)802, 1508(3)803, 1508(3)804, 1508(3)805, 1508(3)806

### **2- Elective courses: 6 credit hours – with at least 2 credit hours in the specialty.**

1508(3)807, 1508(3)808, 1508(3)809, 1508(3)810, 1508(3)811, 1508(3)812, 1508(3)813

### **3- Thesis: 24 credit hours: 1508(3)899**

### **1- Compulsory courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1508(3)801	Theories and Models of Health Education نظريات ونماذج التثقيف الصحي	2			2	
1508(3)802	Effective Patient Education التثقيف الفعال للمرضى	2			2	
1508(3)803	Health Education Evaluation and Measurement التثقيف الصحي – القياس والتقييم	2			2	
1508(3)804	Update Topics in Health Education and Behavioral Sciences الموضوعات الحديثة في التثقيف الصحي والعلوم السلوكية	4			4	
1508(3)805	Critical Reading in Current Issues in Behavioral Sciences قراءات نقدية في موضوعات العلوم السلوكية	2			2	
1508(3)806	Community Health Education Intervention Strategies استراتيجيات التدخلات المجتمعية للتثقيف الصحي	2			2	
<b>Total</b>		<b>14</b>			<b>14</b>	

## **2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1508(3)807	Management of Health Education إدارة التثقيف الصحي	2			2	
1508(3)808	Learning Theories and Models نظريات ونماذج التعلم	2			2	
1508(3)809	Computer Application in Health Education تطبيقات الحاسب الآلي في التثقيف الصحي		4		2	
1508(3)810	Evidence Based Health Education التثقيف الصحي المبني على الدليل	2			2	
1508(3)811	Social Mobilization & Social Marketing in Health Education الحراك والتسويق الاجتماعي في التثقيف الصحي	2			2	
1508(3)812	Motivating Health Behavior دافعية السلوك الصحي	2			2	
1508(3)813	Health Education Campaigns حملات التثقيف الصحي	2			2	

## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1508(3)801	2	Theories and Models of Health Education	
This course will provide students with in-depth knowledge and skills of the leading behavioral sciences theories and models and application of such theories in health education interventions in schools and other community settings.			

Code	Credit Hours	Course Title	Prerequisites
1508(3)802	2	Effective Patient Education	
This course provides students with knowledge and skills necessary to be able to design, implement and evaluate patient education programs.			

Code	Credit Hours	Course Title	Prerequisites
1508(3)803	2	Health Education Evaluation and Measurement	
This course will provide students with knowledge and skills necessary to understand types of health education evaluation and measurement and apply evaluation design.			

Code	Credit Hours	Course Title	Prerequisites
1508(3)804	2	Update Topics in Health Education and Behavioral Sciences	
Writing and presenting scientific review paper on up-to-date topic in health education and behavioral sciences using internet, library and other valid sources.			

Code	Credit Hours	Course Title	Prerequisites
1508(3)805	2	Critical Reading in Current Issues in Behavioral Sciences	
Research topic and literature review of current issues and trends in the field of health education and behavioral sciences.			

Code	Credit Hours	Course Title	Prerequisites
1508(3)806	2	Community Health Education Intervention Strategies	
This course is intended to provide the students with knowledge and skills to apply health education strategies for individuals groups and community and evaluation of community intervention strategies.			

Code	Credit Hours	Course Title	Prerequisites
1508(3)807	2	Management of Health Education	
The course provides students with knowledge and skills necessary to be able to plan and manage health education services.			

Code	Credit Hours	Course Title	Prerequisites
1508(3)808	2	Learning Theories and Models	
This course is intended to provide the students with knowledge and skills of learning theories and models and application in health education design.			

Code	Credit Hours	Course Title	Prerequisites
1508(3)809	2	Computer Application in Health Education	
The course will provide students with knowledge and skills to be able to utilize computer programs in health education.			

Code	Credit Hours	Course Title	Prerequisites
1508(3)810	2	Evidence Based Health Education	
This course will provide students with knowledge and skills to develop, implement and evaluate health education/promotion programs through application of evidence based health education researches and appropriate planning models.			

Code	Credit Hours	Course Title	Prerequisites
1508(3)811	2	Social Mobilization and Social Marketing in Health education	
This course will provide students with knowledge and skills to social marketing and social mobilization technique in health education.			

Code	Credit Hours	Course Title	Prerequisites
1508(3)812	2	Motivating Health Behavior	
The course provides students with knowledge and skills of behavior analysis and application in health education interventions.			

Code	Credit Hours	Course Title	Prerequisites
1508(3)813	2	Health Education Campaigns	
The course will provide students with knowledge and skills of designing and evaluating successful health education campaigns.			

## **19- Doctoral Degree in Public Health (Majoring Maternal and Child Health)**

*Students should fulfill a total of 44 credit hours:*

### **1- Compulsory courses: 14 credit hours.**

1509(1)801, 1509(1)802, 1509(1)803, 1509(1)804

### **2- Elective courses: 6 credit hours – with at least 2 credit hours in the specialty.**

1509(1)805, 1509(1)806, 1509(1)807, 1509(1)808, 1501801, 1501802

### **3- Thesis: 24 credit hours: 1509(1)899**

### **1- Compulsory courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1509(1)801	Women with Special Needs السيدات ذوات الاحتياجات الخاصة	3			3	
1509(1)802	Current Status of Maternal and Child Health الحالة الصحية الراهنة للأطفال والأمهات	2			2	
1509(1)803	Critical Analysis of Maternal and Child Health Policies and Programs in Developing Countries التحليل النقدي للسياسات والبرامج الصحية للأمهات والأطفال في الدول النامية	4	2		5	
1509(1)804	Recent Updates in Maternal and Child Health حلقات نقاشية في صحة الأم والطفل	4			4	
<b>Total</b>		<b>13</b>	<b>2</b>		<b>14</b>	

### **2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1509(1)805	Applied Human Genetics تطبيقات الوراثة الانسانية	2			2	
1509(1)806	The Social Context of Women's Health البيئة الاجتماعية وصحة المرأة	2			2	
1509(1)807	MCH Policies and Programs سياسات وبرامج رعاية الأم والطفل	1	2		2	
1509(1)808	Care in the Field of Public Health الممارسات المبنية على البرهان العلمي في مجال الصحة العامة	2			2	
1501801	Epidemiologic Research Methods (II) (II) طرق البحث الوبائية	3			3	
1501802	Epidemiologic Base for Health Planning الأسس الوبائية للتخطيط الصحي	3			3	



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## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1509(1)801	3	Women with Special Needs	
This course will provide a comprehensive summary of the issues involved in identifying the special groups of women at risk such as those exposed to violence, social and cultural discrimination, divorce, occupational hazards etc. It helps students to analyze the common health problems of these women in terms of magnitude, risk factors and impact on women health. It also provides the students with skills to develop a preventive health program emphasizing measures done at the primary and secondary levels of prevention.			

Code	Credit Hours	Course Title	Prerequisites
1509(1)802	2	Current Status of Maternal and Child Health	
This course will focus on developing skills and expertise to promote and use health indicators in maternal and child health. It provides the students with a fundamental understanding of the importance of health indicators, the different criteria for assessing the indicators, as well as the implications of using these indicators in reproductive health programs. The MCH indicators will be the basis for analyzing the most recent data on maternal health status, child health status family planning status and maternal nutritional status presented in the national surveys in Egypt such as the DHS and National Nutrition Surveys.			

Code	Credit Hours	Course Title	Prerequisites
1509(1)803	5	Critical Analysis of Maternal and Child Health Policies and Programs in Developing Countries	
This course provides the skills necessary to design and evaluate the relevant programs that address the major maternal and child health problems in developing countries. It provides the students with a fundamental understanding of the global and national programs and initiatives currently implemented for improving maternal and child health, describe how to prioritize maternal and child health programs and indicate tools for measuring these programs. It also provides examples of ineffective policies and programs and outline ways to strengthen and overcome barriers to progress.			

Code	Credit Hours	Course Title	Prerequisites
<b>1509(1)804</b>	<b>4</b>	<b>Recent Updates in Maternal and Child Health</b>	
This course helps the student to be able to review recent literature in the field of maternal and child health.			

Code	Credit Hours	Course Title	Prerequisites
<b>1509(1)805</b>	<b>2</b>	<b>Applied Human Genetics</b>	
This course will provide students with the knowledge and skills needed to provide genetic counseling. It will train students in practical application of genetic counseling for solving genetic problems (early detection, prevention of complications and management). It will focus on the principles of human genetics in general and genetic counseling in particular including its importance, application in different fields of MCH and ethics of genetic counseling.			

Code	Credit Hours	Course Title	Prerequisites
<b>1509(1)806</b>	<b>2</b>	<b>The Social Context of Women's Health</b>	
This course will focus on developing a sociological point of view regarding health and healthcare and its relevance to public health practice. Integral to the course is exploration of key sociological issues which influence health and health care such as gender, social class, and ethnicity. The magnitude of women's ill health as influenced by socio-cultural issues will be discussed. Meanwhile, the social side of service accessibility will be highlighted giving examples of reproductive health care programs in which the role of social networks in bringing about program effects is evaluated.			

Code	Credit Hours	Course Title	Prerequisites
<b>1509(1)807</b>	<b>2</b>	<b>MCH Policies and Programs</b>	
The course is designed to help interested students to analyze the different MCH policies and programs in developing countries with special consideration of the Egyptian situation. This will be through providing students with essential knowledge and skills used for assessment of needs of mothers and children, identifying appropriate measures and critically evaluate the approaches used to deliver the MCH services and the resulting quality. Interactive discussions with the managers of some programs will be provided.			

Code	Credit Hours	Course Title	Prerequisites
1509(1)808	2	Evidence-based Care in the Field of Public Health	
The course is designed to acquaint the students with the concepts of evidence-based medicine to enable them to compare current practices in the field of public health with the evidence based ones and to close the gap between evidence and practice. The students will understand and analyze the approaches necessary for making public health interventions more evidence-based.			

Code	Credit Hours	Course Title	Prerequisites
1501801	3	Epidemiologic Research Methods (II)	
Use quantitative techniques to evaluate screening tests, selection of the most plausible inferences from different studies, intervention studies, sources of bias in different epidemiologic studies and their control, different sources of confounders and methods of their control and effect modifier versus confounders.			

Code	Credit Hours	Course Title	Prerequisites
1501802	3	Epidemiologic Base for Health Planning	
The role of epidemiology in health planning, analyzing a community's health problems and prioritizing health concerns, determination of magnitude of the problems in terms of mortality, morbidity and disability, existing hazards to health or precursors of disease, population characteristics related to disease and its precursors, information uses, obtaining information, identification of appropriate units for intervention, program plan components and examples of current health program plans.			

## **20- Doctoral Degree in Public Health (Majoring Adolescent and School Health)**

*Students should fulfill a total of 44 credit hours:*

**1- Compulsory courses: 14 credit hours.**

1509(2)801, 1509(2)802, 1509(2)803, 1509(2)804

**2- Elective courses: 6 credit hours** – with at least 2 credit hours in the specialty.

1509(2)805, 1509(2)806, 1509(2)807, 1509(2)808, 1509(2)809, 150705, 1508(1)701, 1508(1)706, 1509(3)702, 1509(3)708, 1509(3)703, 1502701, 1502707

**3- Thesis: 24 credit hours: 1509(2)899**

**1- Compulsory courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1509(2)801	School Health Services and Programs خدمات وبرامج الصحة المدرسية	3			3	
1509(2)802	Health Promoting Schools المدارس المعززة للصحة	3			3	
1509(2)803	Health Problems of Students المشاكل الصحية للطلاب	4			4	
1509(2)804	Recent Updates in School and Adolescent Health الحديث في الصحة المدرسية وصحة المراهق	4			4	
<b>Total</b>		<b>14</b>			<b>14</b>	

## **2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1509(2)805	Nutritional Problems of School Children المشاكل التغذوية لتلاميذ المدارس	2		2		
1509(2)806	Accidents Among School Students الحوادث بين طلاب المدارس	2		2		
1509(2)807	Advanced Course in Health – Risk Taking Behavior among Adolescents مقرر متقدم في السلوك المحفوف بالخطر المتعلق بالصحة بالمراهقين.	2		2		
1509 (2)808	University Health Services and University Environment خدمات الصحة الجامعية و البيئة الجامعية	3		3		
1509 (2)809	Advances in Smoking Cessation Programs الجديد في برامج الإقلاع عن التدخين	2		2		
150705	Ethics and Law for Health Professionals الأخلاقيات والقانون لأفراد الفريق الصحي	1			1	
1508(1)701	Health Planning التخطيط الصحي	2			2	
1508(1)706	Problem Solving and Decision Making: Concepts and Techniques حل المشاكل واتخاذ القرار: المفاهيم والأساليب	2			2	
1509(3)702	Psychological Testing القياسات النفسية	2			2	
1509(3)708	Evidence Based Approaches for Prevention & Control of Substance Abuse الاتجاهات القائمة علي الدليل في الوقاية والمكافحة لتعاطي المخدرات	2			2	
1509(3)703	Child & Adolescent Mental Health الصحة النفسية للطفل والمراهق	3			3	
1502701	Study Design and Sampling نوع الدراسة وطرق المعاينة	2	2		3	
1502707*	Applied Statistics الإحصاء التطبيقي	1	2		2	

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## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1509(2)801	3	School Health Services and Programs	
Health status of children. The utilization of school health services and system of referral. Determine the school health team and its responsibilities. The role of school in establishing a healthy environment. Objectives of school health services. Components of school health services. Out reach programs. Health services needed for the expatriates.			

Code	Credit Hours	Course Title	Prerequisites
1509(2)802	3	Health Promoting School	
The needs of health promoting school. Concept of a health promoting schools. The objectives of health promoting school. The health promoting school programs. The elements of health promoting school learning process. Different health promoting schools models. The quality standards for local health promoting school programs			

Code	Credit Hours	Course Title	Prerequisites
1509(2)803	4	Health Problems of Students	
Common health problems among Egyptian school children. Set priority for a health problem. The relation of these problems with the social level of the children’s families. Ecological factors of some health problems. Public health program for the control of specific health problems			

Code	Credit Hours	Course Title	Prerequisites
1509(2)804	4	Recent Updates in School and Adolescent Health	
By the end of this course the student should be able to select and review articles representing current issues and trends in the field.			

Code	Credit Hours	Course Title	Prerequisites
1509(2)805	2	Nutritional Problems of School Children	
National policy pertaining to Egyptian school child. Nutritional requirements of school child. Food choices and meal preparations at school. Growth monitoring for school child and use growth charts at school. School nutrition education. Types and characteristics of different school lunch programs.			

Code	Credit Hours	Course Title	Prerequisites
1509(2)806	2	Accidents among School Students	
Different accidents and emergency situations among school children. Ecology of emergency at school. Public health measures needed. Prevention of road traffic accidents. Annual trends of emergency frequency at school. School regulations pertaining to the isolation and sick leave for school children and school personnel.			

Code	Credit Hours	Course Title	Prerequisites
1509(2)807	2	Advanced Course in Health Risk Taking Behavior among Adolescents	
Adolescent development and features. Methods for promoting healthy development among adolescents. Social environment influences on adolescent health. Different risk taking behavioral problems among adolescents. Intervention programs for promoting a safe and supportive environment. Health services provided to adolescents. Challenges for programming for adolescent health.			

Code	Credit Hours	Course Title	Prerequisites
1509(2)808	3	University Health Services and University Environment	
The concept and components of university health program, the different health problems facing students and personnel in the university. The university environment. Health care for university students and staff. Also, the benefits of good environmental conditions inside colleges. The physical environment and safety measures. The social and emotional environment. Construct a tool for the evaluation of the physical environment and safety measures. Suggest a plan for the promotion of the whole university environment.			

Code	Credit Hours	Course Title	Prerequisites
1509(2)809	2	Advances in Smoking Cessation Programs	
The seminars are tailored towards student's needs and their career(family centers, primary health care providers, schools and university, industry and other work places) Self help smoking cessation programs and pharmacotherapy.			

Code	Credit Hours	Course Title	Prerequisites
150705	2	Ethics and Law for Health Professionals	
Definitions of ethics, law, risk management and public health will be clarified. Major ethical and legal conflicts in public health will be addressed. Justifying public health programs and policies will be discussed. Human rights and public health will be explained. The course will also tackle understanding of the public health profession's roles and professional values.			

Code	Credit Hours	Course Title	Prerequisites
1508(1)701	2	Health Planning	
This course provides students with the knowledge and skills required for successful planning for different health organizations and systems with special emphasis on strategic planning. It covers areas related to development of Health Service Organization (HSO) missions, objectives, programmes, policies & procedures. Differentiates between types of plans e.g. strategic versus operational, single use versus standing plans.....etc. Contemporary issues in planning e.g. criticism of planning and how to plan in a dynamic environment. Components of HSO strategic planning as discussed in detail i.e. I) Formulating objectives. II) Strategic assessment (including SWOT analysis). III) Strategy Choice. Moreover, introduction of planning tools and techniques which will help students in health planning results are include e.g. forecasting, benchmarking, budgeting & scheduling, as well as contemporary planning techniques e.g. project management and scenario planning.			

Code	Credit Hours	Course Title	Prerequisites
1508(1)706	2	Problem Solving and Decision Making: Concepts and Techniques	
This course aims at developing graduates trained in adequately solving organizational health problems based on objective non- biased decisions. The course follows the workshop approach where students are required to apply each step of the framework of problem solving in the classroom situation. Students are also required to present a problem solving assignment at the end of the course. The course content includes decision-making definition, types of decisions and problems, relation between decision making and problem solving, phases and steps of the "systematic framework for problem solving" as well as the various factors influencing problem solving and decision making.			



Code	Credit Hours	Course Title	Prerequisites
1509(3)702	2	Psychological Testing	
Definitions, classification and historical review of psychological testing, purposes and principles of psychological testing (reliability, validity, norms), intelligence tests, objective personality tests, projective personality tests, neuropsychological tests, psychiatric rating scales.			

Code	Credit Hours	Course Title	Prerequisites
1509(3)708	2	Evidence Based Approaches for Prevention & Control of Substance Abuse	
Definitions& classification of dependence producing substances, magnitude of the problem, etiology and risk factors of the problem, protective factors, , impact of the problem on individual, family and community & prevention and control of substance abuse.			

Code	Credit Hours	Course Title	Prerequisites
1509(3)703	3	Child & Adolescent Mental Health	
Definitions & different classifications of mental & neurological disorders in children and adolescents. Management of common mental, neurological, psychosocial, and developmental problems in children and adolescents.			

Code	Credit Hours	Course Title	Prerequisites
1502701	3	Study Design and Sampling	
The different types of study designs and their appropriate statistics. The concept of sampling, sampling distributions, parameters and statistics, central limit theorem, types of samples and sampling error, complex samples, the normal distribution and estimation of a population parameter from a sample, determination of the minimum required sample size for different designs.			

Code	Credit Hours	Course Title	Prerequisites
1502707	2	Applied Statistics	
This is a course to teach students from different specialties of public health how to analyze data and interpret the results. By the end of the course the student should be able to determine the type of analysis (parametric or non parametric), test the relation between variables using comparison of means, test the hypothesis, test the relation between variables, using various measures of association.			

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## **21- Doctoral Degree in Public Health (Majoring Mental Health)**

*Students should fulfill a total of 44 credit hours:*

**1- Compulsory courses: 14 credit hours.**

1509(3)801, 1509(3)802, 1509(3)803, 1508(3)807

**2- Elective courses: 6 credit hours** – with at least 2 credit hours in the specialty.

1509(3)804, 1509(3)805, 1509(3)806, 1509(3)808, 1509(3)809, 1509(3)810, 1509(3)811, 1509(3)812, 150705

**3- Thesis: 24 credit hours: 1509(3)899**

**1- Compulsory courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1509(3)801	Advanced Course in Child & Adolescent Mental Health مقرر متقدم في الصحة النفسية للطفل و المراهق	4			4	
1509(3)802	Advanced Course in Adult Mental Health مقرر متقدم في الصحة النفسية للبالغ	4			4	
1509(3)803	Recent Updates in Mental Health الحديث في الصحة النفسية	4			4	
1509(3)807	Approaches for Relapse Prevention in Substance Abuse الاتجاهات في الوقاية من انتكاسة تعاطي المخدرات	2			2	
<b>Total</b>		<b>14</b>			<b>14</b>	

## **2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1509(3)804	Updates in Psychiatric Epidemiology الحديث في وبائية الأمراض النفسية	2			2	
1509(3)805	Advanced Course in Geriatric Mental Health مقرر متقدم في الصحة النفسية للمسنين	2			2	
1509(3)806	Management of Mental Health Services إدارة خدمات الصحة النفسية	2			2	
1509(3)808	Advanced Field Training in Mental Health تدريب حقل متقدم في الصحة النفسية	1		4	2	
1509(3)809	Applications of Behavior Modification in Mental Health تطبيقات التعديل السلوكي في الصحة النفسية	2			2	
1509(3)810	Evidence-based Non-pharmacological Interventions in Mental Health التدخلات الغير دوائية القائمة على الدليل في الصحة النفسية	2			2	
1509(3)811	Updates in Mental Health Care in Chronic Diseases الحديث في الرعاية النفسية في الأمراض المزمنة	2			2	
1509(3)812	Updates in Reproductive Mental Health الحديث في الصحة النفسية الإنجابية	2			2	
150705	Ethics and Law for Health Professionals الأخلاقيات والقانون لأفراد الفريق الصحي	2			2	

## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1509(3)801	4	Advanced Course in Child & Adolescent Mental Health	
Assigned readings on selected child and adolescent mental health problems, emotional problems, behavioral problems and developmental problems, proposals on mental health promotion of vulnerable groups such as children of divorce, abused children and street children.			

Code	Credit Hours	Course Title	Prerequisites
1509(3)802	4	Advanced Course in Adult Mental Health	
Assigned readings on selected adult mental and neurological health problems: depression, schizophrenia, anxiety disorders, proposals on mental health promotion of vulnerable groups such as women and people in crisis.			

Code	Credit Hours	Course Title	Prerequisites
1509(3)803	4	Recent Updates in Mental Health	
The most up to date information on promotion of mental health of vulnerable groups in the community, as well as occurrence, risk factors and evidence based interventions for such mental health problems.			

Code	Credit Hours	Course Title	Prerequisites
1509(3)807	2	Approaches for Relapse Prevention in Substance Abuse	
Relapse definition, risk factors of the problem, protective factors, impact on individual, family and community & different approaches for prevention of relapse in substance abuse.			

Code	Credit Hours	Course Title	Prerequisites
1509(3)804	2	Updates in Psychiatric Epidemiology	
Recent updates in psychiatric epidemiology, problems specific to psychiatric epidemiology, psychiatric diagnostic classifications, psychiatric and somatic co-morbidity, the measurement of outcome, course, relapse, and chronicity. Comparative studies in descriptive and analytical epidemiology of mental disorders.			

Code	Credit Hours	Course Title	Prerequisites
1509(3)805	2	Advanced course in Geriatric Mental Health	
Mental health needs of elderly, updates in classification of geriatric mental disorders, aging and psychopathology, comparative studies on geriatric mental health problems, geriatric mental health services.			

Code	Credit Hours	Course Title	Prerequisites
1509(3)806	2	Management of Mental Health Services	
Management of mental health services around the world, current status of service organization nationally and internationally, updates in guidance for organizing mental health services, integration of mental health services into general health services, barriers and evidence-based solutions for organizing mental health care services.			

Code	Credit Hours	Course Title	Prerequisites
1509(3)808	2	Advanced Field Training in Mental Health	
To acquire clinical skills regarding the clinical picture of the common neuro-psychiatric disorders encountered in our culture and thus the post-graduate student finds the link between his pre-clinical and clinical studies. To acquire knowledge and skills regarding substance use prevention/intervention. To acquire the skills to be able to design, implement and analyze a mini-research. To be able to acquire the skills of writing a report on activities performed in the field training and main conclusions from the research.			

Code	Credit Hours	Course Title	Prerequisites
1509(3)809	2	Applications of Behavior Modification in Mental Health	
Applications and assigned readings of counseling skills, principles of behavior modification, behavioral and cognitive approaches, and behavior modification techniques in different mental health issues.			

Code	Credit Hours	Course Title	Prerequisites
1509(3)810	2	Evidence-based Non-pharmacological Interventions in Mental Health	
Applications and assigned readings of evidence-based non-pharmacological interventions in mental health including counseling skills, individual counseling, group therapy, family therapy and cognitive and behavioral approaches in counseling.			

Code	Credit Hours	Course Title	Prerequisites
1509(3)811	2	Updates in Mental Health Care in Chronic Diseases	
Assigned readings of current evidence based studies on mental health care of patients with chronic illness including diabetes mellitus, malignancy, cardiovascular diseases, terminally ill patients, chronic renal diseases, bronchial asthma, and chronic pain.			

Code	Credit Hours	Course Title	Prerequisites
1509(3)812	2	Updates in Reproductive Mental Health	
Assigned readings of up to date studies on mental health care of a spectrum of mental and psychosocial problems of women in their age, etiology, preconception mental health problems, pregnancy problems, post partum problems, pregnancy loss, infertility, menopause problems.			

Code	Credit Hours	Course Title	Prerequisites
150705	2	Ethics and Law for Health Professionals	
Definitions of ethics, law, risk management and public health will be clarified. Major ethical and legal conflicts in public health will be addressed. Justifying public health programs and policies will be discussed. Human rights and public health will be explained. The course will also tackle understanding of the public health profession's roles and professional values.			

## **22- Doctoral Degree in Public Health (Majoring Geriatric Health)**

*Students should fulfill a total of 44 credit hours:*

**1- Compulsory courses: 14 credit hours.**

1509(4)801, 1509(4)802, 1509(4)803, 1509(4)804 1502707

**2- Elective courses: 6 credit hours** – with at least 2 credit hours in the specialty.

1509(4)805, 1509(3)804, 1502710, 1508(1)701

**3- Thesis: 24 credit hours: 1509(4)899**

**1- Compulsory courses: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Credit Hours	Prerequisites
1509(4)801	Acute Illnesses and Accidents among the Elderly الأمراض الحادة و الحوادث بين المسنين	2		2	
1509(4)802	Neoplasms and Quality of Life among the Elderly الأورام و نوعية الحياة بين المسنين	2		2	
1509(4)803	Care of the Elderly Sick العناية بالمريض المسن	4		4	
1509(4)804	Recent Updates in Geriatric Health حلقات دراسية في صحة المسنين	4		4	
1502707	Applied Statistics إحصاء تطبيقي	1	2	2	
<b>Total</b>		<b>13</b>	<b>2</b>	<b>14</b>	

**2- Elective Courses: 6 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1509(4)805	Advanced Course in Chronic Diseases and Quality of Life among the Elderly مقرر متقدم في الأمراض المزمنة و نوعية الحياة بين المسنين	2			2	
1509(3)804	Advanced Course in Geriatric Mental Health مقرر متقدم في مقرر متقدم في الصحة النفسية للمسنين	2			2	
1502710	Statistical Software Computer Packages (Program 1) البرنامج الأول من مجموعة برامج الحاسب الآلي الإحصائية	1	2		2	Applied statistics 1502707
1508(1)701	Health Planning التخطيط الصحي	2			2	



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## **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1509(4)801	2	Acute Illnesses and Accidents among the Elderly	
Types of acute illnesses among the aged. Difference between acute and chronic conditions in the elderly. Risk factors for acute illnesses among the elders. Problem of pressure sores and how to manage. Dehydration among older people. Environmentally induced acute illnesses: hypothermia and hyperthermia. Problem of accidents among the aged. Factors increasing accidents susceptibility among the elderly. Common types of accidents among elders: falls, motor vehicle accidents, pedestrian accidents, fires and burns, choking. Different preventive measures for accidents.			

Code	Credit Hours	Course Title	Prerequisites
1509(4)802	2	Neoplasms and Quality of Life among the Elderly	
Risk factors for cancer among the aged. Age and gender specific variations in cancer statistics. Common cancers among the elders. Prevention of cancer, knowledge, attitude and use of screening services among the elderly.			

Code	Credit Hours	Course Title	Prerequisites
1509(4)803	4	Care of the Elderly Sick	
Chronic diseases, mental problems of the old, disabled elders, ethical issues in dealing with the elders, care of the dying, medications among the elders, community services(hospital, hospice and home care). Advanced directives and palliative care.			

Code	Credit Hours	Course Title	Prerequisites
1509(4)804	4	Recent Updates in Geriatric Health	
Introduction to geriatric health, research methodology, writing proposal, Elderly abuse 1,Elderly abuse 2			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1502707</b>	<b>2</b>	<b>Applied Statistics</b>	
This is a course to teach students from different specialties of public health how to analyze data and interpret the results. By the end of the course the student should be able to determine the type of analysis (parametric or non parametric), test the relation between variables using comparison of means, test the hypothesis, test the relation between variables, using various measures of association.			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1509(4)805</b>	<b>2</b>	<b>Advanced Course in Chronic Diseases and Quality of Life among the Elderly</b>	
Definition of quality of life and its different domains. Nature of chronic morbidities among the elderly. Psychosocial aspects of chronic morbidities in the aged. Common chronic conditions among the elders and difference in presentation the young. Management of chronic morbidities among the elderly. Quality of life of diabetic elders. Quality of life of arthritic elder patients. Quality of life of elderly cancer patients. Quality of life of hypertensive elders. Plans for improvement of quality of life for the chronically ill elders			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1509(3)804</b>	<b>2</b>	<b>Advanced Course in Geriatric Mental Health</b>	
Principles of elderly mental health. Psychological changes accompanying aging. Vulnerability of the elderly and risk factors of certain mental diseases or problems. Common mental problems of the elderly. Cognitive problems e.g Dementia. Affect problems e.g Depression. Sleep disorders. Memory changes. Personality changes. Schizophrenia. Anxiety. Elderly abuse and neglect. Acute confusional state and delirium			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1502710</b>	<b>2</b>	<b>Statistical Software Computer Packages (Program 1)</b>	<b>Applied statistics 1502707</b>
Introduction to computer, Installing SPSS software package, Data definition and access, Data management and modifications, Data analysis and presentation, Graphical presentation, Output management, Saving files, Printing files.			

<b>Code</b>	<b>Credit Hours</b>	<b>Course Title</b>	<b>Prerequisites</b>
<b>1508(1)612</b>	<b>2</b>	<b>Health Planning</b>	
This course provides students with the knowledge and skills required for successful planning for different health organizations and systems with special emphasis on strategic planning. It covers areas related to development of Health Service Organization (HSO) missions, objectives, programmes, policies & procedures. Differentiates between types of plans e.g. strategic versus operational, single use versus standing plans.....etc. Contemporary issues in planning e.g. criticism of planning and how to plan in a dynamic environment. Components of HSO strategic planning as discussed in detail i.e. I) Formulating objectives. II) Strategic assessment (including SWOT analysis). III) Strategy Choice. Moreover, introduction of planning tools and techniques which will help students in health planning results are include e.g. forecasting, benchmarking, budgeting & scheduling, as well as contemporary planning techniques e.g. project management and scenario planning.			

## **23- Doctoral Degree in Public Health Sciences (Majoring Public Health Nursing)**

*Students should fulfill a total of 44 credit hours:*

**1- Compulsory courses: 14 credit hours.**

1509(5)801, 1509(5)802, 1509(5)803, 1509(5)804, 1509(5)805, 1502707

**2- Elective courses:**

1509(5)806, 1509(5)807, 1502710\*, 1508(1)612, 1509 (2)809, 1509(1)802, 1508(1)803, 1509(2)802

**3- Thesis: 24 credit hours: 1509(5)899**

**Compulsory courses Doctor of public Health Nursing: 14 credit hours**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1509(5)801	Manpower Development in Public Health Nursing Practices التنمية البشرية في مهنة تمريض الصحة العامة	2			2	
1509(5)802	Advanced Course in the Scopes of Public Health Nursing Practice مقرر متقدم في مجالات تمريض الصحة العامة	2			2	
1509(5)803	Public Health Nursing Intervention Programs البرامج التدخلية في تمريض الصحة العامة	2			2	
1509(5)804	Principles of Educating Public Health Care Providers مبادئ تثقيف القائمين على رعاية الصحة العامة	2			2	
1502707	Applied Statistics إحصاء تطبيقي	1	2		2	
1509(5)805	Recent Updates in Public Health Nursing الحديث في تمريض الصحة العامة	4			4	
<b>Total</b>		<b>13</b>	<b>2</b>		<b>14</b>	

### **3- Elective Courses:**

Code	Course Title	Theoretical	Practical/ Clinical	Field	Credit Hours	Prerequisites
1509(5)806	Public Health Nursing Ethics أخلاقيات تمريض الصحة العامة	2			2	
1509(5)807	Social and Economical Services Affecting Health in Developing Countries الخدمات الاجتماعية والاقتصادية المؤثرة على الصحة في الدول النامية	2			2	
1502710*	Statistical Software Computer Packages (Program 1) البرنامج الأول من مجموعة برامج الحاسب الآلي الإحصائية	1	2		2	Applied statistics 1502707
1508(1)701	Health Planning التخطيط الصحي	2			2	
1509 (2)809	Advances in Smoking Cessation Programs الجديد في برامج الإقلاع عن التدخين	2			2	
1509(1)802	Current Status of Maternal and Child Health الحالة الصحية الراهنة للأطفال والأمهات	2			2	
1508(1)803	Ethical Issues in Health Care Management القضايا الأخلاقية في مجال إدارة الرعاية الصحية	3			3	
1509(2)802	Health Promoting Schools المدارس المعززة للصحة	3			3	

### **Course Description**

Code	Credit Hours	Course Title	Prerequisites
1509(5)801	2	Manpower Development in Public Health Nursing Practices	
This course provides opportunities to study the current problems facing the manpower development. It contains: nursing education, recruitments, work environments, in-service training and quality of nursing care.			

Code	Credit Hours	Course Title	Prerequisites
1509(5)802	2	Advanced Course in the Scopes of Public Health Nursing Practice	
The course helps the attendance to use critical thinking to apply new concepts of the scope of public health nursing. It contains: history and concepts of public health nursing, primary health care, maternal & child health nursing, school, occupational, geriatric & mental health nursing.			

Code	Credit Hours	Course Title	Prerequisites
1509(5)803	2	Public Health Nursing Intervention Programs	
The course is designed to help the attendance to acquire the knowledge & skills to detect the current community health problems, planning intervention programs to resolve it. It contains: community assessment, planning, implementation, monitoring & evaluation of the programs.			

Code	Credit Hours	Course Title	Prerequisites
1509(5)804	2	Principles of Educating Public Health Care Providers	
The course helps the attendance to study the issues related to education of health care providers and to know the possible approaches for effective learning. It includes: learning process, writing objectives, methods of teaching, teaching environment, preparing learning materials and evaluation.			

Code	Credit Hours	Course Title	Prerequisites
1502707	2	Applied Statistics	
This is a course to teach students from different specialties of public health how to analyze data and interpret the results. By the end of the course the student should be able to determine the type of analysis (parametric or non parametric), test the relation between variables using comparison of means, test the hypothesis, test the relation between variables, using various measures of association.			

Code	Credit Hours	Course Title	Prerequisites
<b>1509(5)805</b>	<b>4</b>	<b>Recent Updates in Public Health Nursing</b>	
This course will focus on helping the attendance to be oriented with different hot topics concerning public health problems in the community. It includes: different research methods, methods used to recognize the existence of a health problem of interest in public health nursing work, the relationship between public health nursing problems and research and the research process (conceptual and factual).			

Code	Credit Hours	Course Title	Prerequisites
<b>1509(5)806</b>	<b>2</b>	<b>Public Health Nursing Ethics</b>	
The course helps the learner to understand the public health nursing ethical principles, theories, decisions and actions. It includes: ethical principles related to nursing practice, ethical frame works and theories, ethical decisions factors affecting it, the current professional issues, valuing process.			

Code	Credit Hours	Course Title	Prerequisites
<b>1509(5)807</b>	<b>2</b>	<b>Social and Economical Services Affecting Health in Developing Countries</b>	
This course is designed to provide opportunities for the learner to study the social and economical services which affect health in developing countries. It contains: professional nursing socialization, social and economical national programs and its effectiveness, governmental and non-governmental services.			

Code	Credit Hours	Course Title	Prerequisites
<b>1502710</b>	<b>2</b>	<b>Statistical Software Computer Packages (Program 1)</b>	<b>Applied statistics 1502707</b>
Introduction to computer, Installing SPSS software package, Data definition and access, Data management and modifications, Data analysis and presentation, Graphical presentation, Output management, Saving files, Printing files.			

Code	Credit Hours	Course Title	Prerequisites
1508(1)701	2	Health Planning	
<p>This course provides students with the knowledge and skills required for successful planning for different health organizations and systems with special emphasis on strategic planning. It covers areas related to development of Health Service Organization (HSO) missions, objectives, programmes, policies &amp; procedures. Differentiates between types of plans e.g. strategic versus operational, single use versus standing plans.....etc. Contemporary issues in planning e.g. criticism of planning and how to plan in a dynamic environment. Components of HSO strategic planning as discussed in detail i.e. I) Formulating objectives. II) Strategic assessment (including SWOT analysis). III) Strategy Choice. Moreover, introduction of planning tools and techniques which will help students in health planning results are include e.g. forecasting, benchmarking, budgeting &amp; scheduling, as well as contemporary planning techniques e.g. project management and scenario planning.</p>			

Code	Credit Hours	Course Title	Prerequisites
1509(2)809	2	Advances in Smoking Cessation Programs	
The seminars are tailored towards student's needs and their career(family centers, primary health care providers, schools and university, industry and other work places) Self help smoking cessation programs and pharmacotherapy.			

Code	Credit Hours	Course Title	Prerequisites
1509(1) 802	2	Current Status of Maternal and Child Health	
This course will focus on developing skills and expertise to promote and use health indicators in maternal and child health. It provides the students with a fundamental understanding of the importance of health indicators, the different criteria for assessing the indicators, as well as the implications of using these indicators in reproductive health programs. The MCH indicators will be the basis for analyzing the most recent data on maternal health status, child health status family planning status and maternal nutritional status presented in the national surveys in Egypt such as the DHS and National Nutrition Surveys.			

Code	Credit Hours	Course Title	Prerequisites
1508(1)803	3	Ethical Issues in Health Care Management	
This course helps the student to understand the various important ethical issues related to health care management, their implications and how organizations respond to ethical problems and improve ethical behavior. Also factors that affect managerial ethics, codes of ethics, moral philosophies, ethical dimensions related to respect for persons, beneficence and non malfeasance and contemporary biomedical ethical issues are discussed.			

Code	Credit Hours	Course Title	Prerequisites
1509(2)802	3	Health Promoting School	
The needs of health promoting school. Concept of a health promoting schools. The objectives of health promoting school. The health promoting school programs. The elements of health promoting school learning process. Different health promoting schools models. The quality standards for local health promoting school programs.			