



توصيف برنامج ماجستير الميكروبيولوجى و المناعة الطبية



نموذج رقم (١٣)

جامعة بنها
كلية الطب البشرى
قسم: الميكروبيولوجى و المناعة الطبية

توصيف برنامج الماجستير (عام 2014-2013)

PROGRAM SPECIFICATION

A- Administrative information : ا. معلومات أساسية :

- 1. Name of the program: Master degree of Medical Microbiology and Immunology**
- 2. Nature of the program: single**
- 3. Departments responsible: Medical Microbiology and Immunology department.**
- 4. Coordinator: Prof / Wafaa ElMosallamy & Assis.prof / Sherine Emam**
- 5. Internal evaluation of program specification: Prof. / Somaya Medany**
- 6. External evaluation of program specification: Prof./ Enas Abdel Majeed Daef , Prof of Microbiology & Immunology Assuit University**
- 7. Date of approval of program specification:**
 - Department council: 8/9/2013
 - Faculty council: 15/9/2013 NO.: 356

B. Professional information

ب. معلومات متخصصة:



١ - الأهداف العامة للبرنامج :

1- Overall Aims of the Program:

The overall goals of the program are:

- 1.1 **Apply** the detailed features of bacteria, viruses, and fungi .
- 1.2 **provide** the knowledge to understand the immune system, its protective functions and its role in the pathophysiology of infectious and non-infectious diseases.
- 1.3 **Familiarizes** graduate with the common infections and diseases of medical importance, their microbial causes, as well as pathogenesis laboratory diagnosis, treatment, prevention and control of such diseases.
- 1.4 **practice** the principles of new technology and basics of laboratory diagnosis of microbial infection and any aberration in immune response.
- 1.5 **Enable**, problem solving and decision making as well as communication skills necessary for proper evaluation and management of health problems.
- 1.6 **Realize** attention to new problem to provide basic administrative skills necessary for solving it.
- 1.7 **Develop** attention to practice Infection control procedures
- 1.8 **Employ** the available resources to achieves the best usage.

- 1.9 **Apply** basic scientific knowledge essential for following the rules of medical ethics.
- 1.10 **Develop** appropriate ethical and professional education necessary for demonstrating appropriate attitudes with patients and colleagues.

- 1.11 **Apply** long learning competencies necessary for continuous professional development.

- 1.12 **Establish** appropriate research education as related to medical practice & post-graduation development

٢ - المخرجات التعليمية المستهدفة من البرنامج :

2-Intended Learning Outcomes (ILOS):

٢.أ - المعرفة والفهم :

2.a. Knowledge and Understanding:



On successful completion of the program, the graduate will be able to:

- 2.a.1. **Describe** detailed features of bacteria , viruses & fungi as regards morphology, physiology pathogenesis and genetics.
- 2.a.2. **Explain** the physiology of the immune system, its detailed components, function of each, its beneficial role, its interaction with tumors, its deficiency conditions, as well as its detrimental role in hypersensitivity, autoimmunity and transplant rejection.
- 2.a.3. **Recognize** the most important infectious clinical conditions and outline the diagnosis, treatment, prevention and control of the most likely organisms causing such diseases.
- 2.a.4. **Describe** the most important methods of decontamination, sterilization and principles of infection control .and recognize hospital acquired infection, its types, causative organisms, prevention and control.
- 2.a.5. **Recognize** the impact of molecular technology in microbiology and immunology,.
- 2 a 6 **Realize** the moral and ethical principle in the field of microbiology and immunology.
- 2 a 7 **Know** basics and principles of quality in the field of microbiology and immunology.
- 2 a 8 **Employee** basics and ethics of scientific research

٢. ب - القدرات الذهنية :

2.b. Intellectual Skills:-

On successful completion of the program, the graduate will be able to:

- 2.b.1 **Analyze and Interpret** microbiological, immunological and molecular tests and reports reports.
- 2.b.2. **Formulate** a systematic approach for laboratory diagnosis of the infectious clinical problems and select the most appropriate and cost-effective tool leading to the identification of the causative organism.
- 2.b.3. **Evaluate** according to evidence the causal relationship of microbes and diseases.



- 2.b.4 **Evaluate** the danger of handling and use of infectious agents on community and environment as a part of their ethical heritage.
- 2.b.5 **Design** a research plan related to the field of specialty.
- 2.b.6 **plan** to achieve progress in the performance of a specific technical goal in microbiology and immunology .
- 2.b.7. **Select** a appropriate decision in diagnosis of different infectious and immunological problems.

٢. ج . مهارات مهنية وعملية :

2.c. Practical & professional Skills:-

On successful completion of the program, the graduate will be able to:

- 2.c.1 **Use** new technologies in diagnosis of infectious and immunological diseases.
- 2.c.2. **Write** and evaluate microbiological and serological test reports.
- 2.c.3. **Evaluate** available methods and tools in the field in microbiology and immunology.

٢. د . مهارات عامة :

2.d. General and transferable skills:-

On successful completion of the program, the graduate will be able to:

- 2.d.1.**Establish** life-long self-learning required for continuous professional development.
- 2.d.2. **Use** the sources of biomedical information and communication technology to remain current with advances in knowledge and practice.
- 2.d.3. **Retrieve, manage, and manipulate** information by all means, including electronic means.
- 2.d.4. **Present** information clearly in written, electronic and oral forms and establish effective interpersonal relationship to Communicate ideas and arguments.



2.d.5 **Manage** the time effectively

2.d.6. **Perform** self evolution and estimate his educational needs.

2.d.7 **Establish** basics and standers for evaluation the performance of other

2.d.8. **Work** effectively as a member or a leader of an interdisciplinary team .

3- Academic Standards

٣ - المعايير الأكاديمية للبرنامج:

Academic Reference Standards (ARS) of Master Program of Medical Microbiology and Immunology

- Approved in department council date 6 / 2013 and in faculty council no. (356) date 6 / 2013. (ملحق ١)

4- العلامات المرجعية: **Reference standards (benchmarks)**
a المعايير القياسية لبرامج الدراسات العليا (درجة الماجستير) الصادرة عن الهيئة القومية لجودة التعليم والإعتماد (مارس ٢٠٠٩)
a) **Academic reference standards (ARS) , Master Program (March 2009)**
, which were issued by the National Authority for Quality Assurance & Accreditation of Education NAQAAE (ملحق ٢)

b) **Academic reference standards of Clinical Microbiology and Immunology department faculty of medicine Aston University , (ملحق ٣)**

Academic Standards for the Programme are attached in Appendix 1.

Academic Reference standards of NAQAAE / Benchmarks are attached in Appendix 2, 3



5 - هيكل ومكونات البرنامج :

(5): Program structure and contents

a. Program duration

أ - مدة البرنامج : 96weeks

- Two years(at least) to pass master degree
- 1st part: - One Semester (6 months).
- 2nd part: - Two Semesters (1 year).

ب - هيكل البرنامج:

b. Program structure

- Total hours of program 45 credit hours
- Theoretical 675 عدد الساعات النظري
- Practical : 315 عدد الساعات العملي
- University and faculty requirements: 6
- Logbook: 4
- compulsory : إلزامي
- elective---اختياري لا يوجد

ج - مستويات ومقررات البرنامج:

المعتمدة	الساعات	الكود	المقررات	البند
6 ساعات		UNIV 601	للجامعة والكلية	متطلبات
6 ساعات			هو الجزء الفرعي ويكون حسب إحتياجات القسم وعلي مدي فصل دراسي واحد	الجزء الأول نظري وعملي
23 ساعة	3 5 3 2 4 2 2 2	MICR 601 MICR 602 MICR 603 MICR 604 MICR 605 MICR 606 MICR 607 MICR 608	هو الجزء الأساسي ويشمل: - ميكروبيولوجيا عامة - بكتريولوجيا طبية - فيروسات طبية - فطريات طبية - مناعة طبية - ميكروبيولوجيا تطبيقية - المناعة التطبيقية والمصلية - هندسة وراثية وبيولوجيا جزيئية	الجزء الثاني نظري وعملي
4 ساعات			حضور الندوات العلمية والدورات التدريبية والمؤتمرات	كراسة الأنشطة



ومناقشات الرسائل العلمية بالقسم			
رسالة الماجستير			٦ ساعات
الإجمالي			٤٥ ساعة

• وافق مجلس القسم على ضم الموضوعات ذات العلاقة فى مقررين

- **Medical microbiology-1 & Immunology&**
- **Medical Microbiology -2**

• على ان يتم تدريس مقرر **Medical microbiology-1 & Immunology** فى الجزء الاول من الماجستير و مقرر **Medical Microbiology -2** فى الجزء الثانى من الماجستير و ذلك حسب حاجة القسم .

مجلس القسم بتاريخ : ١١-٥-٢٠١١ ومجلس كلية بتاريخ : ١٥-١١-٢٠١١

First part (one semester (15 weeks duration/6 months)

a- Compulsory courses:

Course title	Code	Course content	Total teaching hours		
			Theoretical Lectures	Laboratory /practical	Total
Medical Microbiology I & Immunology	MICR 601	General bacteriology	30	45	75
	MICR 605	General immunology	60	90	150
	MICR 607	applied Immunology	30	45	75



		Total:	150	180	300

b- Elective courses: none

Second part (two semsters 30 weeks duration/12 months)

a- Compulsory courses:

Course title	Code	Course content	Total teaching hours		
			Theoretical Lectures	Laboratory /practical	Total
Medical Microbiology - 2	MICR 602	Medical Bacteriology	105	135	240
	MICR 603	Medical virology	75	45	120
	MICR 604	Mycology	45	45	90
	MICR 606	Applied microbiology	45	45	90
	MICR 608	Bacterial genetics & Genetic engineering	45	45	90



		Total.	315	315	630
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٦- محتويات المقررات (راجع توصيف المقررات) (ملحق ٦)

- كود أو رقم المقرر :
- اسم المقرر :
- المحتويات

7 - متطلبات الإلتحاق بالبرنامج : (طبقاً لما هو مذكور فى اللائحة):

مادة (٤): يشترط فى قيد الطالب لدرجة الماجستير: (١)

- أ- أن يكون حاصلًا على درجة البكالوريوس فى الطب والجراحة من احدى جامعات ج.م.ع أو على درجة معادلة لها من معهد علمى معترف به من الجامعة بتقدير جيد على الأقل.
- ب- يسمح للحاصل على الدبلوم وفقاً لنظام هذه اللائحة وبتقدير جيد على الأقل بتسجيل رسالة لاستكمال درجة الماجستير بشرط ألا يكون قد مر أكثر من ثلاث سنوات على تاريخ حصوله على درجة الدبلوم وبغض النظر على تقديره فى درجة البكالوريوس.
- ت- يسمح للحاصل على الدبلوم وعلى خلاف لنظام هذه اللائحة أن يسجل لدرجة الماجستير بشرط أن يكون تقديره فى الدبلوم لا يقل عن جيد وبغض النظر عن تقديره فى البكالوريوس.
- (٢) أن يكون قد أمضى السنة التدريبية أو ما يعادلها (سنة الامتياز)
- (٣) أن يتفرغ للدراسة لمدة سنة على الأقل فى الجزء الثانى (فصلين دراسيين)
- مادة (٥): يكون التقدم للقيود لدرجة الماجستير مرة واحدة فى السنة خلال شهري يوليو وأغسطس من كل عام. تبدأ الدراسة لدرجة الماجستير فى شهر أكتوبر من كل عام.



8 - القواعد المنظمة لإستكمال البرنامج : (طبقاً لما هو مذكور فى اللائحة)

مادة (٦): تتولى لجنة الدراسات العليا بالكلية عن طريق لجنة تشكل لكل تخصص من أعضاء مجلس القسم التابع له المادة والقسم المانح للدرجة وضع البرنامج التفصيلى للمقررات فى حدود الساعات المعتمدة الواردة باللائحة وعند الاختلاف يتم الاسترشاد بمقررات جامعة القاهرة ومقررات الشهادات العالمية الاوربية والامريكية يعتمدها مجالس الأقسام ثم يقرها مجلس الكلية وتشمل هذه الساعات محاضرات نظرية ودروس عملية وتدريب اكلينيكي ومحاضرات وندوات مشتركة.

- مادة (٧): يشترط فى الطالب لنيل درجة ماجستير التخصص فى أحد الفروع الاكلينيكية والعلوم الطبية الأساسية:
- أ- حضور المقررات الدراسية والتدريبات الاكلينيكية والعملية والمعملية بصفة مرضية طبقا للساعات المعتمدة.
 - ب- أن يقوم بالعمل كطبيب مقيم أصلى أو زائر لمدة سنة على الأقل فى قسم التخصص بالنسبة للعلوم الاكلينيكية.
 - ت- أن ينجح فى امتحان القسمين الأول والثانى.
 - ث- اجتياز الطلب لثلاث دورات فى الحاسب الآلى (دورة فى مقدمة الحاسب – دورة تدريبية متوسطة – دورة فى تطبيقات الحاسب الآلى) وذلك قبل مناقشة الرسالة.
 - ج- اجتياز اختبار التوفيل بمستوى لا يقل عن ٤٠٠ وحدة وذلك قبل مناقشة الرسالة.
 - ح- أن يقوم باعداد بحث فى موضوع تقره الجامعة بعد موافقة مجلس القسم ومجلس الكلية ينتهى باعداد رسالة تقبلها لجنة التحكيم.

9- طرق وقواعد تقييم المتحقين بالبرنامج :

9- Students Assessment Methods:

م	الوسيلة	مخرجات التعلم المستهدفة
1	Written examination	To assess knowledge ,understanding & intellectual skills. 2.a.1.....2.a.8., 2.b.1.....2.b.7,
2	Oral examination	To assess knowledge, understanding intellectual skills & General & transferable skills 2.a.1.....2.a.8., 2.b.1.....2.b.7.,



2.d.1.....2.d.8.		
To assess practical & clinical skills: 2.a.1.....2.a.8., 2.b.1.....2.b.7., 2.c.1.....2.c.3 & 2.d.1.....2.d.8. 2.c.1.....2.c.3,2.d.1.....2.d.8.	Practical examination	3

Final exam.

First part

إجمالي	الدرجة				الاختبار	المقرر
	إكلينيكي	عملي	شفهي	تحريري		
٢٠٠	-	٥٠	٥٠	١٠٠	اختبار تحريري مدته ثلاث ساعات + اختبار شفهي و عملي	Microbiology -1 & Immunology (General bacteriology , general Immunology & applied immunology)
٢٠٠	إجمالي الدرجة					

Second part

إجمالي	الدرجة				الاختبار	المقرر
	عملي	إكلينيكي	شفهي	تحريري		
٤٠٠	١٠٠	-	١٠٠	١٠٠ + ١٠٠	اختباران تحريريان مدة كل منهما ثلاث ساعات + اختبار شفهي + اختبار عملي	Microbiology-2 (Medical bacteriology, Medical virology ,Mycology , applied microbiology & Bacterial genetics & Genetic engineering)
٤٠٠	إجمالي الدرجة					

10 - طرق تقويم البرنامج :

10- Evaluation of Program:

Evaluator	Tools	Sample
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Internal evaluator (s) <u>Prof Somaya Medany</u>	Focus group discussion Meetings	٢-1 Reports
External Evaluator (s) <u>Prof/ Enas Abdel Maged</u>	Reviewing according to external evaluator checklist report of NAQAA.	1-2 Reports
Senior student (s) طلاب السنة النهائية	مقابلات , استبيان	جميع الطلبة
Alumni الخريجون	مقابلات ، استبيان	لا تقل عن ٥٠% من طلبة آخر ٣ دورات
Stakeholder (s) أصحاب العمل	مقابلات ، استبيان	هيئة ممثلة لجميع جماعات العمل
Others طرق أخرى	None	Sample

١١. استراتيجيات التعليم و التعلم علي مستوي البرنامج:

- استراتيجيات التعلم النشط. **Active learning**
- استراتيجيات التعليم المبني على المخرجات. **Outcome-based learning**
- استراتيجيات التعليم المبني على حل المشكلات. **Problem-based learning**
- استراتيجيات التعلم القائم على الدليل **Evidence based learning**

المسئول عن البرنامج : التوقيع التاريخ : ٨ / ٩ / ٢٠١٣

Program Coordinator:

Name Dr Signature.....Date



الملحقات :

ملحق ١ : المعايير الأكاديمية لبرنامج الماجستير فى الميكروبيولوجى والمناعة الطبية

Academic standard of the program

ملحق ٢ : المعايير القياسية للدراسات العليا الصادرة عن الهيئة (درجة الماجستير)..

ملحق ٣ : **Benchmarks** (المعايير المرجعية الخارجية)

ملحق ٤ : مصفوفة المعايير الأكاديمية للبرنامج مع المعايير القياسية للدراسات العليا الصادرة عن الهيئة.

ملحق ٥ : مصفوفة اهداف ونواتج التعلم للبرنامج مع المعايير الأكاديمية للبرنامج

ملحق ٦ : مصفوفة المقررات مع البرنامج **Program-Courses ILOs Matrix**

ملحق ٧ : توصيف المقررات

Program courses

First part
Microbiology -1 & Immunology (General bacteriology , general Immunology & applied immunology)
Second part
Microbiology-2 (Medical bacteriology, Medical virology ,Mycology , applied microbiology & Bacterial genetics & Genetic engineering)



ملحق ١ : وثيقة المعايير الأكاديمية

لبرنامج ماجستير الميكروبيولوجى و المناعة الطبية

Academic Reference Standards (ARS) for Master Degree in Medical Microbiology and Immunology

1. Graduate Attributes:

By the end of Master of Medical Microbiology & Immunology program, the graduate should be capable of:

- 1.1. Efficient in the application of the basics and methodologies of scientific research and the use of various tools in the field of Microbiology and Immunology.**
- 1.2. application of the analytical method and its use in the field of Microbiology and Immunology**
- 1.3. application of specialized knowledge and combined it with relevant knowledge in his professional practice**
- 1.4. Show awareness of the ongoing problems and modern visions in the field of environmental pollution and infectious diseases**
- 1.5. Determine the professional problems as exposure to infection find solutions**
- 1.6. Master the appropriate range of skills to the use of modern diagnostic techniques and the use of appropriate technological means to serve his practice in the field of Microbiology and Immunology**
- 1.7. Communicate effectively and be able to lead work teams**
- 1.8. Decision-making in different professional contexts**
- 1.9. Employ available resources to achieve the highest benefit and preservation**



- 1.10. **Show awareness of his role in the development of the society and the protection of the environment inside and outside the health care foundations (infection control) in the light of the global and regional variables**
- 1.11. **Act by the way that reflects the commitment to integrity , credibility and commitment to the rules of the profession**
- 1.12. **Develop himself academically and professionally and be able to continuous learning and recognition of the latest developments in the field of Microbiology and Immunology**

2. Academic Standards:

2.1. Knowledge and understanding:

By the end of Master program, the graduate should recognize and understand .

- 2.1.1. **The theories and fundamentals in the field related to the diagnosis of infectious and immunological diseases.**
- 2.1.2. **The mutual influence between professional practice in the field of diagnosis of microbial environmental contamination and its reflection on the environment.**
- 2.1.3. **The scientific developments in the field of diagnosis of microbial infection and immunotherapy.**
- 2.1.4. **The ethical and legal principles of professional practice in the collection and examination of pathological specimens (microbiology and Immunology)**
- 2.1.5. **The principles and the basics of quality in professional practice in the field of Medical Microbiology and Immunology**
- 2.1.6. **The basics and ethics of scientific research.**

2.2. Intellectual skills:

On successful completion of the program, the graduate should be capable of:



- 2.2.1. **Analyze and evaluate information in the field of medical microbiology and immunology, measuring them to solve problems**
- 2.2.2. **Solve Problems related to infectious diseases and microbial contaminants with unavailability of some data**
- 2.2.3. **Linkage between the various laboratory methods and knowledge to solve problems associated with the occurrence of infection**
- 2.2.4. **Conducting a research study or writing a systematic scientific study on the research problem**
- 2.2.5. **Evaluation the risks of infection in the laboratory and outside it in the field of Microbiology and Immunology and take actions necessary to protect employees**
- 2.2.6. **Planning for the development of performance in the field of Medical Microbiology and Immunology**
- 2.2.7. **Professional decision-making in a variety of professional contexts**

2.3. Practical/Professional skills

By the end of Master program, graduate should accept the followings skills.

- 2.3.1. **Mastering modern technologies in the early diagnosis of infectious and immunological diseases**
- 2.3.2. **Writing and evaluation of laboratory reports**
- 2.3.3. **Assess available methods and tools in the field of diagnosis.**

2.4. Communication and transferable skills:

By the end of Master program, graduate should accept the following skills.

- 2.4.1. **Effective communication by all its kinds for searching, collecting and developing information.**
- 2.4.2. **Usage of information technology to serve the professional practice to the field of Medical Microbiology and Immunology**



- 2.4.3. Self- assessment and determination of his educational needs
- 2.4.4. Usage of different sources of information and knowledge
- 2.4.5. Putting rules and indicators for evaluating the performance of the others
- 2.4.6. Serve in a professional team in different contexts
- 2.4.7. Manage time efficiently
- 2.4.8. Self and continuous learning

الاجتماع مجلس القسم ، بتاريخ ٨ /٦/ ٢٠١٣

رئيس مجلس القسم

الاجتماع مجلس الكلية

رقم (٣٥٤) ، بتاريخ ١ /٦/ ٢٠١٣



ملحق 2

:المعايير القياسية العامة للدراسات العليا الصادرة عن الهيئة

برامج الماجستير

١- مواصفات الخريج

- خريج برنامج الماجستير فى أى تخصص يجب أن يكون قادرا على :
- ١-١ إجادة تطبيق أساسيات ومنهجيات البحث العلمى واستخدام أدواته المختلفة
 - ٢-١ تطبيق المنهج التحليلى واستخدامه فى مجال التخصص
 - ٣-١ تطبيق المعارف المتخصصة ودمجها مع المعارف ذات العلاقة فى ماسته المهنية
 - ٤-١ إظهار وعيا بالمشاكل الجارية والرؤى الحديثة فى مجال التخصص
 - ٥-١ تحديد المشكلات المهنية وإيجاد حلول لها
 - ٦-١ إتقان نطاق مناسب من المهارات المهنية المتخصصة واستخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية
 - ٧-١ التوصل بفاعلية والقدرة على قيادة فرق العمل
 - ٨-١ اتخاذ القرار فى سياقات مهنية مختلفة
 - ٩-١ توظيف الموارد المتاحة بما يحقق أعلى استفادة والحفاظ عليها
 - ١٠-١ إظهار الوعى بدوره فى تنمية المجتمع والحفاظ على البيئة فى ضوء المتغيرات العالمية والاقليمية
 - ١١-١ التصرف بما يعكس الالتزام بالنزهة والمصداقية والالتزام بقواعد المهنة
 - ١٢-١ تنمية ذاته أكاديميا ومهنيا وقادرا على التعلم المستمر

2- المعايير القياسية العامة

١-٢ المعرفة والفهم :

- بأنتهاء دراسة برنامج الماجستير يجب ان يكون الخريج على فهم ودراسة بكل من :
- ١-١-٢ النظريات والاساسيات المتعلقة بمجال التعلم وكذا فى المجالات ذات العلاقة
 - ٢-١-٢ -التأثير المتبادل بين الممارسة المهنية وانعكاسها على البيئة
 - ٣-١-٢ التطورات العلمية فى مجال التخصص
 - ٤-١-٢ المبادئ الاخلاقية والقانونية للممارسة المهنية فى مجال التخصص
 - ٥-١-٢ مبادئ واساسيات الجودة فى الممارسة المهنية فى مجال التخصص
 - ٦-١-٢ اساسيات واخلاقيات البحث العلمى

٢-٢ المهارات الذهنية :

- بانتهاؤ دراسة برنامج الماجستير يجب ان يكون الخريج قادرا على :
- ١-٢-٢ تحليل وتقييم المعلومات فى مجال التخصص والقياس عليها لحل المشاكل
 - ٢-٢-٢ حل المشاكل المتخصصة مع عدم توافر بعض المعطيات
 - ٣-٢-٢ الربط بين المعارف المختلفة لحل المشاكل المهنية
 - ٤-٢-٢ اجراء دراسة بحثية او كتابة دراسة علمية منهجية حول مشكلة بحثية
 - ٥-٢-٢ تقييم المخاطر فى الممارسات المهنية فى مجال التخصص



توصيف برنامج ماجستير الميكروبيولوجى و المناعة الطبية

- ٦-٢-٢ التخطيط لتطوير الاداء فى مجال التخصص
٧-٢-٢ اتخاذ القرارات المهنية فى سياقات مهنية متنوعة
٣-٢ المهارات المهنية
بانتهاة دراسة برنامج الماجستير يجب ان يكون الخريج قادرا على :
١-٣-٢ اتقان المهارات المهنية الاساسية والحديثة فى مجال التخصص
٢-٣-٢ كتابة وتقييم التقارير المهنية
٣-٣-٢ تقييم الطرق والادوات القائمة فى مجال التخصص
- ٤-٢ المهارات العامة والمنتقلة :
بانتهاة دراسة برنامج الماجستير يجب ان يكون الخريج قادرا على :
١-٤-٢ التواصل الفعال بأنواعه المختلفة
٢-٤-٢ استخدام تكنولوجيا المعلومات بما يخدم الممارسة المهنية
٣-٤-٢ التقييم الذاتى وتحديد احتياجاته التعليمية
٤-٤-٢ استخدام المصادر المختلفة لحصول على المعلومات والمعارف
٥-٤-٢ وضع قواعد ومؤشرات تقييم اداء الاخرين
٦-٤-٢ العمل فى فريق سياقات كهنية مختلفة
٧-٤-٢ ادارة الوقت بكفاءة
٨-٤-٢ التعلم الذاتى والمستمر



ملحق 3 Benchmarks : (المعايير /العلامات المرجعية)

Benchmark of Aston University

Aims of the module

On completion of the module, you will have knowledge and understanding of:

- How the concepts of infection and immunity are applied in the diagnostic laboratory
- The importance of bacteria in human infection
- The use and performance of appropriate immunological tests to investigate various disease states
- A wide variety of techniques applicable for investigating the functions of the immune system.
- The role of the immune system in health and disease
- How dysfunctions in immunity lead to disease
- How the immune system can be manipulated to prevent disease or to provide protection against disease

Intellectual skills

On completion of the module, you will be expected to demonstrate:

- The ability to critically analyze scientific data
- The ability to present scientific data appropriately
- The ability to formulate a critical argument
- Skills in evaluation of scientific literature, in problem-solving and in scientific communication
- The ability to apply your knowledge of basic and clinical immunology to address specific scientific problems

Professional/subject specific skills

On completion of the module, you are expected to be able to demonstrate:

- Practical expertise in a wide range of laboratory techniques used in both research and diagnostic laboratories
- The methods used to isolate and identify bacteria causing infection
- The appropriate antibiotics for the treatment of infections.
- The in-depth knowledge of applied clinical immunology and immunopathology required to enable you to work effectively as laboratory personnel in hospital laboratories, clinics or research institutions.

Transferable skills

- Verbal and written communication
- Numerical skills



- Interpersonal skills – team work

Module content

- Lecture 1: Introduction - Historical perceptive of the origins of microbiology. The contributions of Van Leeuwenhoek, Pasteur, Lister and Koch. Koch's postulates: the proof of a causal relationship between an organism and a disease, some modern examples, gastritis (*Helicobacter pylori*) and BSE/CJD
- Lecture 2: Observing microbes, functional anatomy - Methods for observing microbes, the appearance of microbes, basic nomenclature based on structure and major components of bacteria
- Lectures 3/4: Function of major bacterial components - Cell wall, capsule, flagella, fimbriae, spores, exotoxins, the role of these components in microbial pathogenicity
- Lecture 5: Mycobacteria - A brief outline of this group of bacteria and their particular properties and the diseases they cause
- Lecture 6: Microbial growth - Total and viable counts, factors affecting microbial growth (temperature, pH, oxygen, nutrients etc.) and the design of culture media and the isolation of pure cultures.
- Lecture 7: Clinical microbiology - Isolation and identification of organisms causing infections and manual and automated methods.
- Lecture 8: Antibiotics - The major classes of antibiotics, their mechanism of action, antibiotic sensitivity of clinical isolates and choice of antibiotics in clinical microbiology.
- Lectures 9 and 10: Bacterial diseases of humans - The major microbial diseases and their routes of transmission, i.e. airborne, direct contact, food and water-borne diseases.
- Lectures 11 and 12 The structure of the immune system its organs, cells and its role in health and disease

Practical course (15 hours)

The practical element of the course gives students a clear indication of how these practicals illustrate and amplify lecture material. Five 3 hour practicals explore a variety of aspects which contribute to the activity and pathogenicity of microorganisms, in particular bacteria:

1. Ability of microbes to survive environment variably
2. Bacterial characteristics which allow them to infect, colonise and proliferate in host tissue
3. Host defences
4. Identification of bacteria
5. Mode of action and effectiveness of antibiotics



ملحق ٤

مصفوفة مضاهاة المعايير القياسية للدراسات العليا للهيئة لدرجة الماجستير مع المعايير الأكاديمية المتبناة لبرنامج الماجستير في الميكروبيولوجي و المناعة الطبية

المعايير الأكاديمية المتبناة للبرنامج					المعايير الأكاديمية القياسية	
المهارات العامة	المهارات المهنية	المهارات الذهنية	المعارف والفهم	مواصفات الخريج		
				١.١	١.١	مواصفات الخريج
				١.٢	١.٢	
				١.٣	١.٣	
				١.٤	١.٤	
				١.٥	١.٥	
				١.٦	١.٦	
				١.٧	١.٧	
				١.٨	١.٨	
				١.٩	١.٩	
				١.١٠	١.١٠	
				١.١١	١.١١	
				١.١٢	١.١٢	
			٢.١.١		٢.١.١	المعرفة والفهم
			٢.١.٢		٢.١.٢	
			٢.١.٣		٢.١.٣	
			٢.١.٤		٢.١.٤	
			٢.١.٥		٢.١.٥	
			٢.١.٦		٢.١.٦	
		٢.٢.١			٢.٢.١	المهارات الذهنية
		٢.٢.٢			٢.٢.٢	
		٢.٢.٣			٢.٢.٣	
		٢.٢.٤			٢.٢.٤	
		٢.٢.٥			٢.٢.٥	
		٢.٢.٦			٢.٢.٦	
		٢.٢.٧			٢.٢.٧	
	٢.٣.١				٢.٣.١	المهارات المهنية
	٢.٣.٢				٢.٣.٢	
	٢.٣.٣				٢.٣.٣	
٢.٤.١					٢.٤.١	المهارات العامة والمتفوقة
٢.٤.٢					٢.٤.٢	
٢.٤.٣					٢.٤.٣	
٢.٤.٤					٢.٤.٤	
٢.٤.٥					٢.٤.٥	
٢.٤.٦					٢.٤.٦	
٢.٤.٧					٢.٤.٧	
٢.٤.٨					٢.٤.٨	



المعارف Knowledge & Understanding									ILOs	
									Courses & codes	Courses
	2.a.8	2.a.7	2.a.6	2.a.5	2.a.4	2.a.3	2.a.2	2.a.1		
		■	■	■	■		■	■		Microbiology-1 & Immunology
	■	■	■	■	■	■		■	MICR601-608	Microbiology-2

مهارات ذهنية Intellectual Skills								ILOs		
								Courses & codes	Courses	
2	2.b.7	2.b.6	2.b.5	2.b.4	2.b.3	2.b.2	2.b.1			
	■	■			■	■	■			Microbiology-1 & Immunology
	■	■	■	■	■	■	■		MICR601-608	Microbiology-2

مهارات عملية و مهنية Practical & Clinical Skills							ILOs			
							Courses & codes	Courses		
					2.c.3	2.c.2	2.c.1			
					■	■	■			Microbiology-1 & Immunology
					■	■	■		MICR601-608	Microbiology-2

مهارات عامة General and transferable								ILOs		
								Courses & codes	Courses	
2.d.8	2.d.7	2.d.6	2.d.5	2.d.4	2.d.3	2.d.2	2.d.1			
■	■	■	■	■	■	■	■			Microbiology-1 & Immunology
■	■	■	■	■	■	■	■		MICR601-608	Microbiology-2

جامعة: بنها



توصيف برنامج ماجستير الميكروبيولوجى و المناعة الطبية



كلية: الطب البشرى
قسم : الميكروبيولوجى و المناعة الطبية

Medical Microbiology 1 & Immunology course
For Master Degree In Medical Microbiology and Immunology ,
Academic Year 2013 - 2014

١- بيانات المقرر		
المستوى : ماجستير جزء اول	اسم المقرر : Medical Microbiology –I & Immunology course	الرمز الكودي : (MICR) Code : MICR 601, 605 & 607)
عدد الوحدات الدراسية : ٩ نظري ٦ عملي ٣ ساعات معتمدة		التخصص Master Degree In Medical Microbiology and Immunology



The overall goals of the course are to

٢- هدف المقرر :

- 1.1. educate students about the detailed features of general bacteriology,
- 1.2. provide students with knowledge of the immune system, its protective functions and its role in the pathophysiology of infectious and non-infectious diseases.
- 1.3. enable the students to practice the principles of staining and culturing
- 1.4. provide Basic scientific knowledge essential for following the rules of medical ethics.
- 1.5. solve diagnostic, problem and decision making as well as communication skills necessary for proper evaluation and management of health problems.
- 1.6. Appropriate ethical and professional education necessary for demonstrating appropriate attitudes with patients and colleagues.
- 1.7. Life long learning competencies necessary for continuous professional development, research education as related to medical practice & post graduation development
- 1.8. Basic administrative skills necessary for delivery of health service., prevention and control of such diseases.
- 1.9 To enable the students to practice the principles of, diagnosis of infectious diseases by identification of bacteria causing clinical infections in different medical samples.
- 1.10 Basic scientific knowledge essential for following the rules of medical ethics.
- 1.11. Diagnostic, problem solving and decision making as well as communication skills necessary for proper evaluation and management of health problems.
- 1.12. Appropriate ethical and professional education necessary for demonstrating appropriate attitudes with patients and colleagues.
- 1.13. Life long learning competencies necessary for continuous professional development, research education as related to medical practice & post graduation development

1.9. Basic administrative skills necessary for delivery of health service.

The overall goals of the course are to



٣- المستهدف من تدريس المقرر :

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

- 2.a.1. Illustrate detailed bacterial morphology, physiology and genetics.
- 2.a.2. Flash light on the host parasite relationship and microbial pathogenesis.
- 2.a.3. Explain the physiology of the immune system, its detailed components, function of each, its beneficial role, its interaction with tumors, its deficiency conditions, as well as its detrimental role in hypersensitivity, autoimmunity and transplant rejection.
- 2.a.4. Explain the most important infectious clinical conditions and outline the diagnosis, treatment, prevention and control of the most likely fungus causing such diseases
- 2.a.5. Describe the most important methods of decontamination, & sterilization..
- 2.a.6. Describe the details of antimicrobial chemotherapy, side effects, antimicrobial chemoprophylaxis and resistance.
- 2a7 Recognize the impact of molecular technology in microbiology and immunology,.

أ-
المعلومات
والمفاهيم:

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

- 2.b.1. Interpret results of microbiological investigation .
- 2.b.2. Interpret serological test
- 2.b.3. Formulate a systematic approach for laboratory diagnosis of the infectious clinical conditions and select the most appropriate and cost-effective tool leading to the identification of the causative organism.
- 2.b.4. Evaluate according to evidence the causal relationship of microbes and diseases.
- 2.b.5. Categorize a microorganism as a bacterium, virus or fungus according to standard taxonomy.
- 2.b.6. Appreciate the danger of handling and use of infectious agents on community and environment as a part of their ethical heritage.
- 2.b.7. Relate the most suitable microbe according to the clinical picture of the infection
- 2.b.8. Categorize microorganisms according to their mode of transmission and according to their antibiotic sensitivity.

ب-
المهارات
الذهنية:



<p><i>By the end of the course, students should be able to:</i></p> <p>2.c.1. Use a Gram stain , a Ziehl-Neelsen stain and other different staining methods.</p> <p>2.c.2. Classify medically important bacteria based on microscopic examination of stained preparations</p> <p>2.c.3. Examine culture media and biochemical tests commonly used for bacterial identification and distinguish positive and negative results.</p> <p>2.c.4. Identify various serological tests; their types and distinguish positive and negative results.</p> <p>2.c.5 Perform antibiotic sensitivity tests& Perform viable count for bacteria</p> <p>2.c.6. Perform I cultures and other methods of fungal examination</p>	<p>جـ - المهارات المهنية الخاصة بالمقرر :</p>
<p><i>By the end of the course, students should be able to:</i></p> <p>2.d.1. Establish life-long self-learning required for continuous professional development.</p> <p>2.d.2. Use the sources of biomedical information and communication technology to remain current with advances in knowledge and practice.</p> <p>2.d.3. Retrieve, manage, and manipulate information by all means, including electronic means.</p> <p>2.d.4. Present information clearly in written, electronic and oral forms.</p> <p>2.d.5. Establish effective interpersonal relationship to Communicate ideas and arguments.</p>	<p>د - المهارات العامّة :</p>



TOPIC	Lectures	Practical	Total	% of total	-٤ محتوى المقرر:
General bacteriology	30	67.5	97.5	43.3	
General immunology	45	45	90	40	
applied Immunology	15	22.5	37.5	16.7	
TOTAL	90	135	225	100	

1. Modified Lectures 2. Small group discussions 3. Problem solving. 4. Self learning 5. Evidence base learning					-٥ أساليب التعليم والتعلم
6. Practical classes					
	نظام الساعات المكتبية				-٦ أساليب التعليم والتعلم للطلاب ذوى القدرات المحدودة
					-٧ تقويم الطلاب :
7.a.1. Written exams: to assess knowledge, understanding and intellectual skills. 7.a.2. practical I exams(OSPE): to assess knowledge and understanding, intellectual, practical and professional and General and transferable skills. 7.a.3. Structured oral exams (Viva cards): to assess knowledge and understanding, intellectual and General and transferable skills. Formative only assessment: simple research assignment, Log book, attendance and absenteeism, case study presentation and group project					أ- الأساليب المستخدمة
7.b Only by final Exam: written, oral and clinical examinations					ب- التوقيت



7.c. Final-term written examination 50% Oral examination 25% % Clinical examination 25%	ج- توزيع الدرجات
٨ قائمة الكتب الدراسية والمراجع :	
8.a Course Notes: -	أ- مذكرات
8.b. Essential Books (Text Books) <ul style="list-style-type: none">• Warren Levinson, (2012) : Review of Medical microbiology and Immunology thirteen edition , Mcgrowtill education Lang.• Collee, J. G.; Fraser, A. G.; Marmion, B.P. et al. (eds.) (1996); Mackie & McCartney Practical Medical Microbiology. 14th ed. New York: Churchill Livingstone	ب- كتب ملزمة
<ul style="list-style-type: none">• Brooks G.F.; Carroll, K. C.; Butel, J.S.; Morse, S. A. (2007): Jawetz, Melnick and Adelberg's Medical Microbiology. 24th ed. McGraw-Hill.	ج- كتب مقترحة
8.d. Periodicals and Web Sites: <ul style="list-style-type: none">• www.bfom.edu.eg• www.Sciencedirect.com• www.pubmed.com• www.Freebooks4doctors.com• www.medescape.com• www.Blackwell.com	د - دوريات علمية أو نشرات

أستاذ المادة : ا.د. وفاء المسلمى

ا.م.د. شيرين امام

رئيس مجلس القسم العلمي : ا. د . امال منير



توصيف برنامج ماجستير الميكروبيولوجى و المناعة الطبية



جامعة: بنها
كلية: الطب البشرى
قسم : الميكروبيولوجى و المناعة الطبية

Medical Microbiology -2 course
For Master Degree In Medica Microbiology and Immunology ,
Academic Year 2013 - 2014

١- بيانات المقرر		
المستوى : ماجستير جزء ثاني	اسم المقرر : Medical Microbiology -2 course	الرمز الكودي : (MICR . 602, 603,604,606, &608)
عدد الوحدات الدراسية : 20 نظري ١٤ عملي ٦ ساعات معتمدة		التخصص Master Degree In Medica Microbiology and Immunology



The overall goals of the course are to

٢- هدف المقرر :

- 1.1. To educate students about the detailed features of systemic bacteriology. and detailed features of microbial genetics and mycology.
- 1.2. To familiarize students with the common infections and diseases of medical importance, their microbial causes, as well as pathogenesis laboratory diagnosis, treatment, prevention and control of such diseases.
- 1.3. To familiarize students with the general feature of virus and common viral infections and diseases of medical importance, , as well as pathogenesis laboratory diagnosis, treatment, prevention and control of such diseases.
- 1.4. To enable the students to practice the principles of, diagnosis of infectious diseases by identification of bacteria causing clinical infections in different medical samples.
- 1.5. Basic scientific knowledge essential for following the rules of medical ethics.
- 1.6. Diagnostic, problem solving and decision making as well as communication skills necessary for proper evaluation and management of health problems.
- 1.7. Appropriate ethical and professional education necessary for demonstrating appropriate attitudes with patients and colleagues.
- 1.8. Life long learning competencies necessary for continuous professional development, research education as related to medical practice & post graduation development
- 1.9. Basic administrative skills necessary for delivery of health service.
The overall goals of the course are to
- 1.10. To educate students about the detailed features of systemic bacteriology.
- 1.11. To familiarize students with the common infections and diseases of medical importance, their microbial causes, as well as pathogenesis laboratory diagnosis, treatment, prevention and control of such diseases.
- 1.38. To familiarize students with the general feature of virus and common viral infections and diseases of medical importance, , as well as pathogenesis laboratory diagnosis, treatment, prevention and control of such diseases.

1.39.

2



٣- المستهدف من تدريس المقرر :

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

<p>2.a.1. Describe the morphology, culture, antigenic structure, virulence factors, pathogenesis and laboratory diagnosis of pathogenic bacteria</p> <p>2.a.2. Describe the morphology, culture, antigenic structure, virulence factors, pathogenesis and laboratory diagnosis of viruses of medical importance.</p> <p>2.a.3. Recognize the most important infectious clinical conditions and outline the diagnosis, treatment, prevention and control of the most likely organisms causing such diseases.</p> <p>2.a.4. Describe the most important methods of decontamination, sterilization and principles of infection control.</p> <p>2.a.5. Recognize the impact of molecular technology in microbiology and immunology, hospital acquired infection, its types, causative organisms, prevention and control and recognize the most recent infectious clinical condition, its causative agent, clinical picture, diagnosis, prevention, control and treatment.</p>	<p>أ- المعلومات والمفاهيم:</p>
<p><i>By the end of the course, students should be able to:</i></p> <p>2.b.1. Interpret results of microbiological, serological and molecular tests.</p> <p>2.b.2. Interpret microbiological, immunological and molecular reports.</p> <p>2.b.3. Formulate a systematic approach for laboratory diagnosis of the infectious clinical conditions and select the most appropriate and cost-effective tool leading to the identification of the causative organism.</p> <p>2.b.4. Evaluate according to evidence the causal relationship of microbes and diseases.</p> <p>2.b.5. Categorize a microorganism as a bacterium, virus or fungus according to standard taxonomy.</p> <p>2.b.6. Appreciate the danger of handling and use of infectious agents on community and environment as a part of their ethical heritage.</p> <p>2.b.7. Relate the most suitable microbe according to the clinical picture of the infection</p> <p>2.b.8. Categorize microorganisms according to their mode of transmission and according to their antibiotic sensitivity.</p>	<p>ب- المهارات الذهنية:</p>



<p><i>By the end of the course, students should be able to:</i></p> <p>2.c.1. Identify medically important bacteria based on microscopic examination of stained preparations</p> <p>2.c.2. Identify culture media and biochemical tests commonly used for bacterial identification and distinguish positive and negative results.</p> <p>2.c.3. Identify various serological tests; their types and distinguish positive and negative results.</p> <p>2.c.4. Identify medically important bacteria based on culture characters and biochemical tests.</p> <p>2.c.5. Identify medically important fungi based on culture characters.</p> <p>2.c.6. identify bacteria causing clinical infections in unknown medical samples</p> <p>2.c.7 Perform antibiotic sensitivity tests& Perform viable count for bacteria .</p> <p>2.c.8 Perform mycological cultures and other methods of fungal examination</p>	<p>جـ - المهارات المهنية الخاصة بالمقرر :</p>
<p><i>By the end of the course, students should be able to:</i></p> <p>2.d.1. Establish life-long self-learning required for continuous professional development.</p> <p>2.d.2. Use the sources of biomedical information and communication technology to remain current with advances in knowledge and practice.</p> <p>2.d.3. Retrieve, manage, and manipulate information by all means, including electronic means.</p> <p>2.d.4. Present information clearly in written, electronic and oral forms.</p> <p>2.d.5. Establish effective interpersonal relationship to Communicate ideas and arguments.</p>	<p>د - المهارات العامّة :</p>



TOPIC	Lectures	Practical	Total	% of total	٤- محتوى المقرر:
Medical Bacteriology	210	180	٣٩٠	٣٥.١٣	
Medical virology	150	90	٢٤٠	٢١.٦٢	
Mycology	90	90	١٨٠	١٦.٢١	
Applied microbiology	90	90	١٨٠	١٦.٢١	
Bacterial genetics & Genetic engineering	30	90	١٢٠	١٠.٨١	
TOTAL	570	540	١١١٠	%١٠٠	

7. Modified Lectures 8. Small group discussions 9. Problem solving. 10. Self learning 11. Evidence base learning 12. Practical classes	٥- أساليب التعليم والتعلم
٦- أساليب التعليم والتعلم للطلاب ذوى القدرات المحدودة	
نظام الساعات المكتبية	٧- تقويم الطلاب :



7.a.1. Written exams: to assess knowledge, understanding and intellectual skills. 7.a.2. practical I exams(OSPE): to assess knowledge and understanding, intellectual, practical and professional and General and transferable skills. 7.a.3. Structured oral exams (Viva cards): to assess knowledge and understanding, intellectual and General and transferable skills. Formative only assessment: simple research assignment, Log book, attendance and absenteeism, case study presentation and group project	أ- الأساليب المستخدمة
7.b Only by final Exam: written, oral and clinical examinations	ب- التوقيت
7.c. Final-term written examination 50% Oral examination 25% % Clinical examination 25%	ج- توزيع الدرجات
٨ قائمة الكتب الدراسية والمراجع :	
8.a Course Notes: -	أ- مذكرات
8.b. Essential Books (Text Books) <ul style="list-style-type: none">• Warren Levinson, (2012) : Review of Medical microbiology and Immunology thirteen edition , Mcgrowtill education Lang.• Abu I K. Abbas & Andrew H. lichtman (2012): Basic immunology, Functions and disorders of the immune system.2nd edition, SAUNDERS, An Imprint of Elsevier Science• Collee, J. G.; Fraser, A. G.; Marmion, B.P. et al. (eds.) (1996); Mackie & McCartney Practical Medical Microbiology. 14th ed. New York: Churchill Livingstone	ب- كتب ملزمة



<ul style="list-style-type: none">• Brooks G.F.; Carroll, K. C.; Butel, J.S.; Morse, S. A. (2007): <i>Jawetz, Melnick and Adelberg's Medical Microbiology</i>. 24th ed. McGraw-Hill.• Basic and Clinical Immunology, Stites, Stobo, Fudenberg and Wells. Lange Medical Publishing. (2004)• Abbas, A. K. and Lichtman, A.H. (2007): <i>Cellular and molecular immunology</i>. 5th ed. Philadelphia: Saunders.	ج- كتب مقترحة
<p>8.d. Periodicals and Web Sites:</p> <ul style="list-style-type: none">• www.bfom.edu.eg• www.Sciencedirect.com• www.pubmed.com• www.Freebooks4doctors.com• www.medescape.com• www.Blackwell.com	د – دوريات علمية أو نشرات

أستاذ المادة : ا.د. وفاء المسلمى

ا.م.د شيرين امام

رئيس مجلس القسم العلمي : ا.د . امال منير