



توصيف برنامج دكتوراة الباثولوجي
(عام 2013-2014)

*** معلومات أساسية :** Basic information

- ١ - اسم البرنامج : MD of Pathology
- ٢ - طبيعة البرنامج : single
- ٣ - القسم/ المانح للدرجة: قسم الباثولوجي
- ٤- تاريخ إقرار البرنامج فى مجلس القسم : ٢٠١٣ / 9
- ٥- تاريخ إقرار البرنامج فى مجلس الكلية ٣٥٦ : ٥١ / ٩ / ٢٠١٣
- ٦- مسؤل البرنامج: د. سامية أحمد يوسف (رئيس قسم الباثولوجي سابقا).
- ٧- المراجعة الداخلية للبرنامج: Prof. Dr د. هالة عادل عجيبة استاذ الباثولوجي بالقسم و رئيس القسم سابقا
- ٨- المراجعة الخارجية للبرنامج: أ.د. مها محمد أبو هاشم (أستاذ الباثولوجي طب المنصورة)

*** معلومات متخصصة:** Professional information

١ - الأهداف العامة للبرنامج :

1- Program aims:

The overall aims of the program are:

- 1.1. Produce competent surgical pathologists able to practice at constant level in their specialty of histopathology and to take personal responsibility of their work and diagnosis; applying the national and international standards of evidence based pathology and complying with the code of medical laboratory ethics.
- 1.2. Conduct an efficacious research according to the needs of the Egyptian community and be prepared for continuous professional development.
- 1.3. Demonstrate good working relationships with colleagues and appropriate communication skills
- 1.4. Respect confidentiality of patients and interact with an honest manner

٢ - المخرجات التعليمية المستهدفة من البرنامج :

2-Intended Learning Outcomes (ILOS):

2.a. Knowledge and Understanding

٢.أ - المعرفة والفهم :



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

- 2.a.1.** Describe of the updates in pathology of most diseases that may affect the human body as well as the basic mechanisms underlying these disorders
- 2.a.2.** Determine the fate & complications of each particular disease and its relation to surrounding environment.
- 2.a.3.** Determine the value of early cancer detection on decreasing the incidence of cancer in surrounding area.
- 2.a.4.** Describe of the fine microscopic features and common patterns of the diseases that help to differentiate related pathological cases under microscope .
- 2.a.5.** Discuss of the principles of special histochemical and immunohistochemical methods and principles of common molecular pathology techniques and list the panels of antibodies for particular diagnostic application.
- 2.a.6.** Describe the basis of new techniques as cytopathology, molecular pathology and immunofluorescent microscopy.
- 2.a.7.** mention of the principles and ethics of medical research study, how to use appropriate statistical methods.
- 2.a.8.** Identify the ethical and legal principles of professional practice in the field of pathology
- 2.a.9.** explain of the fundamentals of quality in the professional practice in the field of pathology

2.b. Intellectual Skills:

٢. ب - القدرات الذهنية :-

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

- 2.b.1.** Correlate of the pathological finding with clinical, laboratory and x-rays findings to reach the most accurate diagnosis and effective management of the disease.
- 2.b.2.** Interpret available data effectively and discuss the case with other members of the pathology department, other departments and clinicians.
- 2.b.3.** Differentiate related cases to solve complex clinical problems by applying sound knowledge of basic science principles and the use of updated techniques.
- 2.b.4.** Choose the most appropriate and cost effective further pathologic diagnostic procedures.
- 2.b.5.** Evaluate an accurate report that gives clinicians the information



they need.

2.b.6. Appraise appropriate research evidence in particular disease and diagnose accordingly.

2.b.7. design basis of performing medical research paper.

2.b.8. Assess risk in professional practices in surgical pathology.

2.b.9. Plan for the development of performance in the field of surgical pathology

2.c. Practical and professional Skills: ج. ٢ . مهارات مهنية وعملية :

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

2.c.1. Apply accurate practical measurements in dealing with specimen description, block selection, during surgical reporting.

2.c.2. Check strict accuracy of the request form and specimen identification to prevent errors or discordance.

2.c.3. Examine microscopically different neoplastic and non-neoplastic tissue lesions as well as the major common patterns of diseases

2.c.4. Write an accurate pathological report that gives clinicians the information they need.

2.c.5. Perform histochemical and immune-histochemical, immune-fluorescent staining using paraffin section and interpret findings of immune-histochemical stains in normal and diseased tissues.

2.c.6. Evaluate different staining methods and determine value of different stains and tumor markers in diagnosis of particular disease.

2.c.7. Supervise the practical work of the technical staff in preparing pathological slides.

2.c.8. Perform FNA, spreading and fixing a smear and recognize faults and artifacts in interpretation of smears, e.g., air drying.

د. ٢ . مهارات عامة و منتقلة:

2.d. General and transferable skills:-

By the end of the program the graduate should be able to:

2.d.1. Communicate clearly, sensitively and effectively with their colleagues from a variety of health and social care professions.

2.d.2. Communicate effectively with the patients and their relatives, transferring them information about illness in clear and suitable manner.

2.d.3. Use the sources of information technology to remain current with the advances in knowledge & practice.

2.d.4. Use the available sources of biomedical information for continuous retrieval of knowledge.



- 2.d.5.** Apply self-evaluation and specification of his medical educational needs (e.g. through tutorials).
- 2.d.6.** Assess of the performance of undergraduate students in practical lessons.
- 2.d.7.** Apply recent methods of teaching for undergraduate inside the lab
- 2.d.8.** Demonstrate independent and continuous learning.
- 2.d.9.** Mänge time and practice team working through case presentations and seminars.
- 2.d.10.** Consult with other pathology labs and clinical teams for accurate diagnosis in problematic cases.

3- Academic Standards

٣ - المعايير الأكاديمية للبرنامج:

- **Academic Standards of MD Program of pathology** approved in department council date 2 / 6 / 2013, and in faculty council no. (354) date 16 / 6 / 2013. (ملحق ١)

4- Reference standards

4- العلامات المرجعية:

- a) المعايير القياسية لبرامج الدراسات العليا (درجة الدكتوراة) الصادرة عن الهيئة القومية (مارس ٢٠٠٩) لجودة التعليم والإعتماد
- Academic reference standards (ARS) , MD Program (March 2009)**
, which were issued by the National Authority for Quality Assurance & Accreditation NAQAA (ملحق ٢)

(5): Program structure and contents

5 - هيكل ومكونات البرنامج :

أ - مدة البرنامج :

Program duration

2nd part: - three Semester (1 1/2year). 🇪🇬

ب - هيكل البرنامج:

Program structure

Total hours of program 60 credit hours

Theoretical12 credit hours

Practical12 credit hours ...

Thesis: 15 credit hours

University & faculty requirements: 6 credit hours

Log book: 15 credit hours



ج - مستويات ومقررات البرنامج:

الزامي compulsory

الساعات المعتمدة	الكود	المقررات	البند
		يشمل مواد إجبارية هي:	مواد التخصص
٦ ساعات	PATH 701	باثولوجيا عامة General pathology	
١٢ ساعة		باثولوجيا خاصة تضم الآتي: Special pathology	
	PATH 702	باثولوجيا القلب والأوعية الدموية	
	PATH 703	باثولوجيا الجهاز التنفسي	
	PATH 704	باثولوجيا الفم	
	PATH 705	باثولوجيا الجهاز الهضمي والكبد	
	PATH 706	باثولوجيا الكلى والجهاز البولي	
	PATH 707	باثولوجيا الجهاز التناسلي للرجال	
	PATH 708	باثولوجيا الجهاز الحركي والمفاصل	
	PATH 710	باثولوجيا الدم والغدد اللمفاوية والطحال	
	PATH 711	باثولوجيا أمراض الأطفال	
	PATH 712	باثولوجيا العين وملحقاتها	
	PATH 713	باثولوجيا الغدد الصماء	
	PATH 715	باثولوجيا الأنف والأذن والحنجرة	
	PATH 715	باثولوجيا المخ والأعصاب	
	PATH 716	باثولوجيا الجلد	
	PATH 717	باثولوجيا الخلية	
	PATH 718	باثولوجيا الجزيئات الحيوية بالخلية	
	PATH 719	باثولوجيا المناعة ومناعة الأورام	
	PATH 720	باثولوجيا المناعة الكيميائية للأنسجة	
	PATH 721	إستخدامات المجهر الإلكتروني والتعداد التدفقي ومحلل الصور الضوئي في التشخيص الباثولوجي	
١٢ ساعة		كلها إجبارية وتشمل :	التدريب العملي
		تقطيع ووصف العينات الجراحية	



		أخذ عينات من المرضى بالإبرة الرفيعة	
		تجهيز العينات للفحص بالطرق المختلفة ويشمل التمرير والتقطيع بالميكروتوم والصبغة	
		فحص وتشخيص العينات بالميكروسكوب عمل الصفة التشريحية الباثولوجية	
		تشخيص عينات مصبوغة بطريقة المناعة الكيميائية	
		الإشراف علي الكتابة العلمية والإخراج الفني لتقارير الباثولوجي الصادرة من القسم	
١٥ ساعة		تقديم ونقد ٥ أبحاث منشورة بالدوريات في إجتماع القسم العلمي. حضور الإجتماع الدوري والمشاركة الإيجابية في أنشطته. حضور مناقشات الرسائل والمؤتمرات	كراسة الأنشطة
١٥ ساعة		يتم مناقشتها علنياً وقبولها	رسالة دكتوراه
٦٠ ساعة			المجموع

First part (none):

Second part (2 semesters):

Compulsory courses: -a

Course Title	Course Code	NO. of hours per week			Total teaching hours weeks
		Theoretical Lectures	Laboratory /practical seminars	Total	
General pathology	PATH 701	4	2	12	15 credit h (180 h)
Systemic pathology	PATH (702-721)				
Log book activities					810 (teaching h)
Total:		180	90	540	

b- Elective courses: none

c- Selective: none



٦- محتويات المقررات (راجع توصيف المقررات) : مرفق ٦

- كود أو رقم المقرر
- اسم المقرر :
- المحتويات: (طبقاً لما هو مذكور في اللائحة)

٧ - متطلبات الإلتحاق بالبرنامج : Program admission requirements

مادة (٢٣) : يشترط لقيده الطالب لدرجة الدكتوراه فى الطب أو الجراحة أو العلوم الطبية الأساسية أن يكون حاصلًا على درجة الماجستير فى مادة التخصص بتقدير جيد على الأقل من إحدى جامعات ج . م . ع أو على درجة معادلة لها من معهد علمي آخر معترف به من الجامعة .
• يكون التقدم للقيده لدرجة الدكتوراه مرتين فى السنة خلال شهرى مارس وأكتوبر من كل عام .

مادة (٣٢) : الأوراق والمستندات المطلوبة للتسجيل بالدراسات العليا (دبلوم – ماجستير – دكتوراه)

يقدم كل طالب دوسيه يحتوى على المستندات الآتية :

- ١- طلب التحاق
- ٢- شهادة البكالوريوس موضح بها التقدير العام وشهادة تقديرات
- ٣- شهادة الامتياز
- ٤- شهادة الميلاد أو مستخرج رسمى منها
- ٥- موافقة جهة العمل على التسجيل
- ٦- الموقف من التجنيد
- ٧- عدد ٦ صور فوتوغرافية حديثة
- ٨- بالنسبة للوافدين يحضر الطالب من السفارة التابع لها يتضمن الموافقة على التحاقه بالدراسات العليا ويحدد الجهة التى تتحمل نفقات الدراسة كما يقدم شهادة صحية من وزارة الصحة تفيد خلوه من الأمراض

للمتقدمين لدرجة الدكتوراه يقدم الطالب بخلاف ذلك شهادة الماجستير كما يقدم بروتوكول الرسالة ابتداء من الفصل الدراسى الثانى وبعد انتهاء الساعات المعتمدة بالجزء الأول وبنجاحة فيه .

٨ - القواعد المنظمة لإستكمال البرنامج :

مادة (٢٤) : يشترط فى الطالب لنيله درجة الدكتوراه فى الطب أو الجراحة أو العلوم الطبية الأساسية ما يلى :

- حضور المقررات الدراسية بصفة مرضية طبقاً للساعات المعتمدة .
- أن يقوم ببحث فى موضوع تقره الجامعة بعد موافقة مجلس الكلية والقسم لمدة سنتان على الأقل .
- أن يتقدم بنتائج البحث فى رسالة تقبلها لجنة الحكم بعد مناقشة علنية للرسالة .
- اجتياز الطالب ثلاث دورات فى الحاسب الآلى (دورة فى مقدمة الحاسب الآلى – دورة تدريبية " متوسطة " – دورة فى تطبيقات الحاسب الآلى) . وذلك قبل مناقشة الرسالة .



- اجتياز الطالب اختبار التوفيل بمستوى لا يقل عن ٥٠٠ وحدة وذلك قبل مناقشة الرسالة
- أن يجتاز بنجاح الاختبارات التحريرية والإكلينيكية والشفهية المقررة وفقا لما هو مبين باللائحة
- مادة (٢٥) : على الطالب أن يقيد اسمه للامتحان قبل موعده بشهر على الأقل
- مادة (٢٦) : يشترط لنجاح الطالب فى امتحان الدكتوراه الحصول على الحد الأدنى للنجاح فى جميع الاختبارات المقررة وفى كل جزء من أجزاءها على حدة ذلك بأخذ المتوسط لتقديرات أعضاء اللجنة اذا رسب الطالب فى أى مقرر من المقررات بعد الامتحان فى جميع المقررات
- مادة (٢٧) : يعقد الامتحان التحريرى لدرجة الدكتوراه فى شهرى نوفمبر ومايو من كل عام – لمن يجتاز الامتحان التحريرى فى نفس الدور يتقدم الامتحان الشفهى والاكلينىكى والعملى
- مادة (٢٨) : لا يجوز للطالب أن يبقى مقيدا لدرجة الدكتوراه لأكثر من أربع سنوات دون أن يتقدم لمناقشة الرسالة ويجوز لمجلس الكلية أن يعطى الطالب مهلة لمدة سنتين فى حالة قبول العذر
- مادة (٢٩) : تضاف درجات التحريرى ووصف الحالة لبعضها ويعتبر النجاح والرسوب فى المجموع الكلى للتحريرى (٦٠% على الأقل من الدرجة النهائية.

(١٤)

- للتحريرى) ومن ينجح فى الامتحان التحريرى يصرح له بدخول باقى الامتحانات الإكلينيكية والشفوية والعملية وعدد الرسوب يعيد الطالب الامتحان الشفوى والاكلينىكى
- لا يحق للطالب التقدم للامتحان التحريرى أكثر من أربع مرات
 - مادة (٣٠) : تبين فى شهادة الدكتوراة موضوع الرسالة والمادة أو المواد الاختيارية

٩ - Students Assessment Methods

٩- طرق وقواعد تقييم المتحقيين بالبرنامج

م	الطريقة	ما تقيسة من مخرجات التعلم المستهدفة
1	Written examination	To assess knowledge and understanding & intellectual skills: From 2.a.1.....2.a.10. and b.1.....2.b.٨.
2	Oral examination	To assess knowledge and understanding, intellectual skills & General & transferable skills 2.a.1.....2.a.10., 2.b.1.....2.b.٨., 2.d.1.....2.d.8.
3	Practical & clinical examination	To assess knowledge and understanding, intellectual skills & practical and clinical skills and



General & transferable skills: 2.a.1.....2.a.10., 2.b.1.....2.b.٨., 2.d.1.....2.d.8.2.a.1.....2.a.10., 2.c.1.....2.c.8.		
To assess knowledge and understanding, intellectual skills & practical and clinical skills and General & transferable skills: 2.a.1.....2.a.10., 2.b.1.....2.b.٨., 2.d.1.....2.d.8.2.a.1.....2.a.10., 2.c.1.....2.c.8.	Thesis	4

First part (none)**Second part**

إجمالي	الدرجة				الاختبار	المقرر
	عملي	إكلينيكي	شفهي	تحريري		
1500	450	-	300	750	اختباران تحريريان مدة كل منهما ثلاث ساعات + اختبار شفهي + اختبار عملي	General pathology Systemic pathology
1500						إجمالي الدرجة

Third part, Thesis: Pass or fail according to the committee decision.

10- Evaluation of Program:

١٠ - طرق تقويم البرنامج:

Evaluator	Tools	Sample
مقيّم داخلي Internal evaluator (s)	Report	٢-١ Report
مقيّم خارجي External Evaluator (s)	Report	1-2 Report
طلاب السنة النهائية Senior student (s)	interviews, questionnaires	All
الخريجون Alumni	interviews, questionnaires	عينة لا تقل عن ٥٠% من ط أخر ٣ دفعات
أصحاب العمل Stakeholder (s)	interviews, questionnaires	عينة ممثلة لجميع جهات العمل
طرق أخرى Others	none	



١١ : استراتيجيات التعليم و التعلم علي مستوي البرنامج:

١. استراتيجية التعلم النشط. **Active learning**
٢. استراتيجية التعليم المبني على النتائج. **Outcome-based learning**
٣. استراتيجية التعليم المبني على حل المشكلات. **Problem-based learning**

المسئول عن البرنامج : ا.د. سامية يوسف

التوقيع سامية يوسف

التاريخ : ٢٠١٣/٩

الملحقات :

ملحق ١ : Academic standard of the program

ملحق ٢ : المعايير القياسية العامة للدراسات العليا الصادرة عن الهيئة.

ملحق ٣ : مصفوفة المعايير الأكاديمية للبرنامج مع المعايير القياسية للدراسات العليا الصادرة عن الهيئة.

ملحق ٤ : مصفوفة البرنامج مع المعايير الأكاديمية للبرنامج.

ملحق ٥ : مصفوفة المقررات مع البرنامج Program-Courses ILOs Matrix

ملحق ٦ توصيف المقررات

Second part
١ - General pathology
٢ - Systemic pathology



Benha University

Faculty of Medicine

Department of Pathology .

Course Specification
Course title: Pathology for Doctorate degree
(Code): PATH (701- 721)
Academic Year (2013 – 2014)

A) Basic Information:

- **Department offering the course: ...Pathology Department..**
- **Academic year of (MD) program: ...2013-2014.**
- **Major or minor elements of the program: ...Pathology (major)**
- **Academic level: Doctorate degree.**
- **Date of specification approval: Department council date 9/2013.**
- **Allocated marks: 1500 marks**
- **Course duration: 120 weeks of teaching**
- **Teaching hours: 9 hours/week = 1080 total teaching hours**

	Hours / week	Total hours
1- Lectures	1.25	150
2- Small group teaching / tutorials	1	120
3- Practical	3	360
4- Thesis	3.75	450
Total	9	1080

B) Professional Information:

1- Overall Aim of the Course:

- The overall aims of the course are to
- Update knowledge in surgical pathology, increase skills and develop appropriate professional attitudes
 - Conduct an efficacious research according to the needs of the Egyptian community and be prepared for continuous professional



- development.
- Demonstrate a good working relationships with colleagues and appropriate communication skills
 - Produce competent surgical pathologists able to practice at constant level in their specialty of histopathology and to take personal responsibility of their work and diagnosis; applying the national and international standards of evidence based pathology and complying with the code of medical laboratory ethics.
 - Respect confidentiality of patients and interact with an honest manner

2- Intended Learning Outcomes (ILOs):

2.a. Knowledge and understanding:

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

- 2.a.1. Describe the updates in pathology of most diseases that may affect human body as well as basic mechanisms underlying these disorders (ecology, pathogenesis & natural history) and list the fate & complications of each particular disease.
2. a.2. explain the principles of laboratory processing within surgical pathology particularly the principles of specimen dissection, macroscopic description and block selection in neoplastic and non-neoplastic disease.
- 2.a.3. identify the basic knowledge of preparation and staining techniques for common specimen types as well as be able to identify principles of special histochemical and immunohistochemical methods and principles of common molecular pathology techniques and know when to resort to them.
2. a.4. describe the microscopic features within tissues as well as the major common pathological processes and patterns of disease.
- 2.a.5. Identify features of malignancy in sites commonly investigated with cytopathology for early cancer detection as well as features of specific non-malignant diagnoses, e.g. infection.
- 2.a.6. Discuss the principles of cytopathology and molecular biology.
- 2.a.7. List the panels of antibodies (apply immunohistochemical technique) for particular diagnostic applications, e.g. mesothelioma

2.b. Intellectual Skills:

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

- 2.b. 1. Categorize and compose a pathology report.
- 2.b..2. Correlate the pathological finding with clinical, laboratory and x-rays findings to reach the most accurate diagnosis and effective management of the disease.



- 2.b.3. Choose the most appropriate and cost effective further pathologic diagnostic procedures if necessary.
- 2.b.4. Frame a question, search the literature, collect, analyze, critically appraise and utilize the obtained information to solve a particular clinical problem according to the principles of evidence-based medicine.
- 2.b.5. Evaluate risk in handling infective specimens & using dissection tools and equipments.
- 2.b.6. Correlate the requirements of the Egyptian Ministry of Health and regulations of the Medical syndicate, concerning laboratory ethics and practice of the profession.
- 2.b.7. design a research study, how to use appropriate statistical methods, the principles of research ethics and the structure and function of local research ethics committees and understand the principles of research funding and how to obtain it.

2.c. Practical and Clinical Skills:

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

- 2.c. 1. Perform proper handling of and processing tissue specimens sent for pathological examination.
- 2.c.2. Write adequate pathological request concerning clinical data and main features of gross appearance of the specimen.
- 2.c. 3. Write an accurate pathological report that gives clinicians the information they need.
- 2.c. 4. Initiate and complete a research project by the end of training
- 2.c..4. Diagnose malignancy with confidence in specimens from different body organs and serous fluids.
- 2.c.6. Evaluate histological features of histochemical and Immuno-histochemical stains in normal and diseased tissues.
- 2.c. 7. Perform FNA, spreading and fixing a smear and recognize faults and artifacts in preparation of smears, e.g. air-drying.
- 2.c.8. Apply the rules of laboratory ethics and safety measures while in the lab or in the museum.

2.d. General and transferable Skills:

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

- 2.d.1. Use the sources of biomedical information to remain current with the advances in knowledge & practice.
- 2.d.2. Express themselves freely and adequately.
- 2.d.3. Maintain a professional image in manner, dress, speech and



interpersonal relationships that is consistent with the medical profession's accepted contemporary standards in the community.

2.d.4. Develop the habit of lifelong learning by building on previous undergraduate and general medical training experience -so that relevant knowledge of disease processes is acquired and maintained at a level consistent with the requirements of independent practice in this group of medical specialties.

2.d.5 communicate with other members of the pathology department of the departments and clinical teams.

2.d.6. Communicate effectively with the patients and their relatives, transferring them information about illness in clear and suitable manner.

2.c. 4. Use computers for producing pathology and cytology reports and laboratory statistics to search databases and to access e-mail and internet services.

3- Course contents:

Subject	Lectures (hrs)	Tutorial / Small group discussion (hrs)	Practical (hrs)	Total (hrs)	% of Total
General Pathology (PATH 701)	45	30	120	195	100
1. PATHOLOGY & ITS RELATED DISCIPLINES	1	1	0	2	
2- TECHNICAL POINTS ON SAMPLE HANDLING, SENDING, PROCESSING & REPORTING & QUALITY CONTROL OF SURGICAL BIOPSY MATERIAL	2	2	0	4	
3- INFLAMMATION & REPAIR	5	2	24	31	
4. CELL INJURY & ACCUMULATIONS DEPOSITIONS	6	2	24	32	
5.GROWTH DISTURBANCES & NEOPLASIA	10	6	32	48	



6. FLUID & HEMODYNAMIC DISTURBANCES & GANGRENE	8	6	12	26	
7. VIRAL INFECTION	3	2	0	5	
8.SPECIFIC INFECTIONS- GRANULOMA, & MYCOTIC DISEASES	6	4	24	34	
9. GENETIC, NUTRITIONAL DISORDERS & IONIZING RADIATION EFFECTS	4	2	4	10	
12. HOW TO RESEARCH A TOPIC	0	3	0	3	
Special Pathology	105	90	240	435	100
1.CARDIOVASCULAR (PATH 702)	10	8	10	28	
2. RESPIRATORY (PATH 703)	10	9	15	34	
Oral diseases (PATH 704)	2	2	4	8	
3.GASTROINTESTINAL 4.HEPATOBIILIARY & PANCREATIC (PATH 705)	12	12	36	70	
5.URINARY TRACT & KIDNEY (PATH 706)	10	8	20	38	
6.MALE GENITAL 7.FEMALE GENITAL & BREAST (PATH 707)	10	8	30	48	
8.ENDOCRINE (PATH 713)	5	3	9	17	
Pediatric diseases (PATH 711)	3	1	5	9	
Eye diseases (PATH 712)	2	1	1	4	
9.BLOOD & LYMPHORETICULAR (PATH 710)	6	3	20	29	
10.Musculo-SKELETAL SYSTEM & SOFT TISSUE (PATH 708)	6	6	20	32	



11.PERIPHERAL & CENTRAL NERVOUS system & Head & Neck (PATH 715)	6	2	15	23	
12. Skin diseases (PATH 716)	8	8	15	31	
13.Cytopathology (PATH 717)	6	8	20	34	100
14.Immunohistochemistry (PATH 720)	4	8	20	32	100
15. Immunopathology (PATH 719)	2	1		3	
16. Electron microscopy and flow cytometry (PATH 721)	1	1		2	
17. Molecular biology (PATH 718)	2	1		3	
Total	150	120	360	630	100

4- Teaching and learning methods:

METHODS USED:

- 1- **General lectures:** which start by listening the objectives and are given in either: white board, electronic, slide projector or overhead projector presentation.
- 2- **Small group discussions and case studies** to provide clinical correlation and integration.
- 3- **Practical sessions;** the primary purpose of which is to provide a visual aid to understand of the mechanisms of disease and to correlate with the clinical manifestations and complications of the disease. Therefore learning concepts rather than only memorizing reports is the main aim of practical lessons.
 - **Histopathology slide lab:** are used to examine, recognize and identify prepared histopathologic sections.
 - **Museum of pathology:** is providing jars for inspection and interpretation of gross surgical pathology specimens.
- 4- **Tutorials**
- 5- **Thesis:** provide self learning through collection of specimens, application of different specified pathological techniques, correlation of the resulting data and giving recommendations



TEACHING PLAN:

Lectures: Division of students into one groups
2 hours /week, Time from 9 am to 10am.

Tutorials: once/ week

Practical classes: once/ week

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	twice/week; one hour each between 9 to 10am	150	
Practical	<u>3</u> hours / <u>week</u>	360	
Tutorial	<u>3</u> hours / week	120	
Total		1080	

5- Students Assessment methods:

5-A) ATTENDANCE CRITERIA: Faculty bylaws

5-B) Assessment Tools:

Tool	Purpose (ILOs)
Written examination	To assess knowledge, understanding, intellectual skills
Oral examination	To assess knowledge, understanding, intellectual, general skills
Practical examination	To assess knowledge, understanding, intellectual, practical, general skills

5-C) TIME SCHEDULE: Faculty bylaws

Exam	Week
1- Written exam	On 45 th week
2- Practical exam	On 45 th week
3- Oral exam	On 45 th week
4- Thesis	Discussion on 120 th week
5- Assignments & other activities	

5-D) Weighting System:

Examination	Marks allocated	% of Total Marks
a- Written	750	50%
b- Practical	450	30%
c- Oral	300	20%
1- Thesis	To be discussed and accepted	



4- Assignments & other		
Total	1500	100

- The minimum passing & Passing grades (Faculty bylaws).

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) Examinassions description:

Examination	Description
1- Second part:	. MCQs, shorts assay, long essay, case reports, problem solving.....
a- Written	
b- Practical	Slides 2hrs: histopathology., cytology and immuno-stained slides with questions Gross 1 hour: gross samples for cutting & description. Autopsy 2 hours: Performing an autopsy & discussion with examiner
c- Oral	c-One session, many evaluators
3- Thesis:	Discussion by internal and external evaluators
6- Assignments & other activities	e.g. Assignments, projects, seminars, workshops,
Total	

6- List of references:

6.1- Basic materials:

- Rosai and Ackerman's Surgical Pathology Juan Rosai, Mosby 2010
- Sternberg's Diagnostic surgical Pathology 4th edition, Lippincott Williams and Wilkins
- Kumar V ,Abbas AK ,Fausto N:Robbins and Cotran Pathologic Basis of Disease ,7th ed.;2013, Elsevier Saunders. Available at faculty bookshops & main library.
- Museum notebook.
- Slide boxes

6.3- Periodicals, Web sites, ... etc:

<http://www.pathmax.com/> <http://www-medlib.med.utah.edu/WebPath/LABS/LABMENU.html#2>
<http://www.med.uiuc.edu/PathAtlas/titlePage.html>



<http://www.medscape.com/pathologyhome>

<http://www.gw> hyperlink <http://umc.edu/dept/path/2>
umc.edu/dept/path/2F

7- Facilities required for teaching and learning:

Facilities used for teaching this course include:

- Lecture hall
- Small group class
- Histopathology Laboratory, immunohistochemistry unit, early detection of cancer unit
- Information technology (Data show & Overhead projector & multi-head microscopes
- Museum specimens
- Library containing text books and slide boxes
- Surgical specimens

Course coordinator: Prof Dr. Samia A. Yousef

Head of Department: Prof Dr. Abd Allatif El-Balshy

Date: 9/2013



ملحق ١: Academic standard of the program

جامعه بنها
كلية طب بنها
قسم الباثولوجي

وثيقة المعايير الأكاديمية المرجعية لبرنامج الدكتوراة

1- Academic Reference Standards for MD Degree in pathology

1- Graduate Attributes:-

By the end of the MD program, the graduate should be able to:

- 1.١. Master the basic principles and methodology in surgical pathology (tissue handling, preservation, gross description, processing, microscopic examination, diagnosis, reporting, discussion of the case with clinical specialties).
- 1.٢. Work continuously to add to knowledge in the field of surgical pathology.
- 1.٣. Apply updated analytical methods in the field of surgical pathology and other related fields.
- 1.٤. Integrate specialized pathological knowledge and with related clinical knowledge and develop relations between them (e.g. relations to patient's survival).
- 1.٥. Update his knowledge in different practical pathology fields and be aware of current pathological problems and recent concepts in the field of surgical pathology.
- 1.٦. Determine clinicopathological problems and create new solutions for perfect diagnosis for seek of patient.
- 1.٧. Demonstrate proficiency in a wide range of specialized pathological skills by using different methods in assessment of the biopsies e.g. immunohistochemistry, FNAC, immunoflourescent microscopy
- 1.٨. Show orientation towards developing new methods, tools and techniques for professional practice both in teaching to undergraduates and inside pathology laboratory.
- 1.٩. Use appropriate technological methods that are required for running of a histopathology laboratory considering health and safety regulations.
- 1.١٠. Demonstrate appropriate communication skills, good working relationships with colleagues and leading team works in different professional contexts.
- 1.١١. Make informed pathological decisions according to available clinical and pathological data.
- 1.١٢. Use available resources (e.g. microscopes, microtomes, tissue



processors, special stains, pathology museum.....)wisely, develop them and work to find new ones.

1.١٣. Conduct an efficacious research according to the needs of the Egyptian community in general and Kalybia governorate specially, and be prepared for continuous professional development.

1.١٤. Master the principles and methodologies of scientific research and the use of its various tools.

1.١٥. Respect confidentiality of patients and interact with an honest manner.

1.١٦. Commit to continuous self-development and transfer his experience to colleagues.

2- Academic standards:

2.١ Knowledge and Understanding:

By the end of the MD program, the graduate should be able to recognize and understand the following:

- 2.١.1. Discussion of the updates in pathology of the most disease categories affecting human body and new techniques used in order to reach an accurate diagnosis.
- 2.١.2. Recognition of the principles, methodologies and ethics of medical research study, how to use appropriate statistical methods.
- 2.١.3. Identification the ethical and legal principles of professional practice in the field of pathology
- 2.١.4. Recognition of the fundamentals of quality in the professional practice in the field of pathology
- 2.١.5. Determination of the value of early cancer detection on decreasing the incidence of cancer in surrounding area and widening the area that benefit from this service.

2.٢ Intellectual Skills:

By the end of the MD program the graduate should be able to recognize and mastering the following:

2.٢.1. Interpretation of data effectively with other members of the pathology department, other departments and with clinicians and decision making according to all available data.

2.٢.2. Make differential diagnosis for problematic cases according to given clinical and pathological data.

2.٢.3. Analysis of medical research about specified medical problem (thesis) in large extended manner than the master degree.



- 2.٢.4. Outline basis of performing medical research paper.
- 2.٢.5. Assessment of risk in professional practices in surgical pathology.
- 2.٢.6. Development of the habit of lifelong learning and improvement of performance in the field of surgical pathology.
- 2.٢.7. Making a professional decision in various pathological problems with categorization and composition of an accurate pathology report.
- 2.٢.8. Demonstration of creativity.
- 2.٢.9. Conduction of discussion based on facts and evidences.

2.٣ Practical & Professional Skills:-

By the end of MD the program, the graduate should accept & apply the following skills:

- 2.٣.1. Dealing in professional manner with received tissue specimens throughout all steps from handling and processing until reaching diagnosis.
- 2.٣.2. Writing an accurate pathological report that gives clinicians the information they need.
- 2.٣.3. Evaluation of histochemical and immunohistochemical stains in normal and diseased tissues and variety of molecular pathology techniques.
- 2.٣.4. Using new techniques as immunofluorescence microscopy to reach a more accurate diagnosis when indicated (in renal biopsies).
- 2.٣.5. Supervision of the practical work of technical staff in preparing pathological slides.

2.٤ general and transferable skills

By the end of the MD program graduate should accept the following skills:

- 2.٤.1. **Communicating** clearly, sensitively and effectively with their colleagues and with the patients and their relatives.
- 2.٤.2. Using the sources of information technology to remain current with the advances in knowledge & practice.
- 2.٤.3. Assessment of the performance of undergraduate students in practical lessons and technical staff in surgical pathology laboratory.
- 2.٤.4. Application of self-evaluation and demonstration of independent and continuous learning.
- 2.٤.5. Use the available sources of biomedical information for continuous retrieval of knowledge.



- 2.4.6. Respect team working and do his role well in different situations (member/ leader).
- 2.4.7. Management of seminars and scientific meetings regarding topics presented and time allowed for each topic.

اعتماد مجلس القسم ٢٠١٣/٦
اعتماد مجلس الكلية ٣٥٤ ٢٠١٣/٦

ملحق 2: المعايير القياسية العامة للدراسات العليا الصادرة عن الهيئة

برامج الدكتوراة

١ - مواصفات الخريج :

- خريج برنامج الدكتوراة في اي تخصص يجب ان يكون قادرا على
- ١-١ اتقان اساسيات ومنهجيات البحث العلمي
 - ٢-١ العمل المستمر على الاضافة للمعارف في مجال التخصص
 - ٣-١ تطبيق المنهج التحليلي والناقد للمعارف في مجال التخصص والمجالات ذات العلاقة
 - ٤-١ دمج المعارف المتخصصة مع المعارف ذات العلاقة مستتبطا ومطورا للعلاقات البينية بينها
 - ٥-١ اظهار وعيا عميقا بالمشاكل الجارية والنظريات الحديثة في مجال التخصص
 - ٦-١ تحديد المشكلات المهنية وايجاد حلولاً مبتكرة لحلها
 - ٧-١ اتقان نطاقا واسعا من المهارات المهنية في مجال التخصص
 - ٨-١ التوجه نحو تطوير طرق وادوات واساليب جديدة للمزاولة المهنية
 - ٩-١ استخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسة المهنة
 - ١٠-١ التواصل بفاعلية وقيادة فريق عمل في سياقات مهنية مختلفة
 - ١١-١ اتخاذ القرار في ضل المعلومات المتاحة
 - ١٢-١ توظيف الموارد المتاحة بكفاءة وتنميتها والعمل على ايجاد موارد جديدة
 - ١٣-١ الوعي بدوره في تنمية المجتمع والحفاظ على البيئة
 - ١٤-١ التصرف بما يعكس الالتزام بالنزاهة والمصداقية وقواعد المهنة
 - ١٥-١ الالتزام بالتنمية الذاتية المستمرة ونقل علمه وخبراته للاخرين

٢ - المعايير القياسية

١-٢ المعرفة والفهم

- بانتهاء دراسة برنامج الدكتوراة يجب ان يكون الخريج قادرا على الفهم والدراسة بكل من
- ١-١-٢ النظريات والاساسيات والحديث من المعارف في مجال التخصص والمجالات ذات العلاقة
 - ٢-١-٢ اساسيات ومنهجيات واخلاقيات البحث العلمي وادواته المختلفة
 - ٣-١-٢ المبادئ الاخلاقية والقانونية للممارسة المهنية في مجال التخصص
 - ٤-١-٢ مبادئ واساسيات الجودة في الممارسة في مجال التخصص
 - ٥-١-٢ المعارف المتعلقة بأثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها

٢-٢ المهارات الذهنية

- بانتهاء دراسة برنامج الدكتوراه يجب ان يكون الخريج قادرا على
- ١-٢-٢ تحليل وتقييم المعلومات في مجال التخصص والقياس عليها والاستنباط منها
 - ٢-٢-٢ حل المشاكل المتخصصة استنادا على المعطيات المتاحة
 - ٣-٢-٢ اجراء دراسات بحثية تضيف الى المعارف
 - ٤-٢-٢ صياغة أوراق علمية
 - ٥-٢-٢ تقييم المخاطر في الممارسات المهنية
 - ٦-٢-٢ التخطيط لتطوير الاداء في مجال التخصص
 - ٧-٢-٢ اتخاذ القرارات المهنية في سياقات مهنية مختلفة
 - ٨-٢-٢ الابتكار/الابداع

٩-٢-٢ الحوار والنقاش المبني على البراهين والادلة

٣-٢ المهارات المهنية

- بانتهاء دراسة برنامج الدكتوراه 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 وتطوير الطرق والادوات القائمة فى مجال التخصص
- ٤-٣-٢ استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية
- ٥-٣-٢ التخطيط لتطوير الممارسة المهنية وتنمية اداء الاخرين

٤-٢ المهارات العامة والمنتقلة

- بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على
- ١-٤-٢ التواصل الفعال بأنواعه المختلفة
- ٢-٤-٢ استخدام تكنولوجيا المعلومات بما يخدم تطوير الممارسة المهنية
- ٣-٤-٢ تعليم الاخرين وتقييم ادائهم
- ٤-٤-٢ التقييم الذاتى والتعليم المستمر
- ٥-٤-٢ استخدام المصادر المختلفة للحصول على المعلومات والمعارف
- ٦-٤-٢ العمل فى فريق وقيادة فرق العمل
- ٧-٤-٢ ادارة اللقاءات العلمية والقدرة على ادارة الوقت

ملحق ٣: مضاهاة المعايير الأكاديمية المتبناة للبرنامج مع المعايير القياسية للدراسات العليا الصادرة عن الهيئة لدرجة الدكتوراة.

مواصفات الخريج بالمعايير الأكاديمية لبرنامج الدكتوراة فى الباثولوجي	مواصفات الخريج بالمعايير القياسية العامة لبرامج الدراسات العليا لدرجة الدكتوراة
1.١٤. Master the principles and methodologies of scientific research and the use of its various tools.	Master the principles ١-١ and methodologies of scientific research
1.٢. Work continuously to add to knowledge in the field of surgical pathology.	work continuously to 2-1 add knowledge in the field of (specialty)
1.٣. Apply updated analytical methods in the field of surgical pathology and other related fields.	apply analytical and -١ critical methodology for appraisal of knowledge in the field of (specialty) and other related disciplines
1.٤. Integrate specialized pathological knowledge and with related clinical knowledge and develop relations between them (e.g. relations to patient's survival).	integrate specialized and related ٤-١ knowledge deducing and developing relations between them
1.٥. Update his knowledge in different practical pathology fields and be aware of current pathological problems and recent concepts in the field of surgical pathology.	Show deep ٥-١ awareness of current problems and new concepts in the field of (specialty)
1.٧. Demonstrate proficiency in a significant range of specialized pathological skills by using different methods in assessment of the biopsies e.g. special stains, immunohistochemistry.....	٦-١ identify professional problems and propose creative solutions to address them
1.١. Master the basic principles and	show proficiency in -٧-١ a wide range of

<p>methodology in surgical pathology (tissue handling, preservation, gross description, processing, microscopic examination, diagnosis, reporting, discussion of the case with clinical specialties).</p> <p>1.٧. Demonstrate proficiency in a wide range of specialized pathological skills by using different methods in assessment of the biopsies e.g. immunohistochemistry, FNAC, immunoflourescent microscopy</p>	<p>professional skills in the field of (specialty)</p>
<p>1.٨. Show orientation towards developing new methods, tools and techniques for professional practice both in teaching to undergraduates and inside pathology laboratory.</p>	<p>show orientation towards ٨-١ developing new methods, tools and techniques for professional practice</p>
<p>1.٩. Use appropriate technological methods that are required for running of a histopathology laboratory considering health and safety regulations.</p>	<p>٩-١ use appropriate technological methods that serve his/her professional practice</p>
<p>1.١٠. Demonstrate appropriate communication skills, good working relationships with colleagues and leading team works in different professional contexts.</p>	<p>١٠-١ communicate effectively and lead work teams in different professional contexts</p>
<p>1.١١. Make informed pathological decisions according to available clinical and pathological data.</p>	<p>١١-١ make decisions in light of available information</p>
<p>1.١٢. Use available resources (e.g. microscopes, microtomes, tissue processors, special stains, pathology museum.....)wisely, develop them and work to find new ones.</p>	<p>١٢-١ employ available resources effectively, develop them, and work to find new resources</p>
<p>1.١٣. Conduct an efficacious research according to the needs of the Egyptian community in general</p>	<p>١٣-١ show awareness of his/her role in community development and environmental and preservation</p>

and Kalybia governorate specially, and be prepared for continuous professional development.	
1.١٥. Respect confidentiality of patients and interact with an honest manner.	١٤-١ conduct himself/herself in a manner that reflects integrity and sincerity and follow the ethical code of practice
1.١٦. Commit to continuous self-development and transfer his experience to colleagues.	١٥-١ commit to continuous self development and the transfer of knowledge and experience to others
المعرفة و الفهم	
2.1 Knowledge and Understanding:	
2.١.1. Discussion of the updates in pathology of the most disease categories affecting human body and new techniques used in order to reach an accurate diagnosis.	the theories , ١-١-٢ fundamentals and new knowledge in the field of (specialty) and in related disciplines
2.١.2. Recognition of the principles, methodologies and ethics of medical research study, how to use appropriate statistical methods.	the principles, ٢-١-2 methodologies, ethics and various tools of scientific research
2.١.3. Identification the ethical and legal principles of professional practice in the field of pathology	the ethical and legal ٣-١-٢ principles of professional practice in the field of (specialty)
2.١.4. Recognition of the fundamentals of quality in the professional practice in the field of pathology	the principles and ٤-١-٢ fundamentals of quality in professional practice in the field of (specialty)
2.١.5. Determination of the value of early cancer detection on decreasing the incidence of cancer in surrounding area and widening the area that benefit from this	the environmental impact of ٥-١-٢ professional practice and the methods for environmental preservation and development

service.	
المهارات الذهنية	
2.2 Intellectual Skills:	
2.2.1. Interpretation of data effectively with other members of the pathology department, other departments and with clinicians and decision making according to all available data.	analyze and assess ١-٢-2 information in the field of (specialty), applying it to deducing from it
2.2.2. Make differential diagnosis for problematic cases according to given clinical and pathological data.	solve specialized ٢-٢-٢ problems based on available data
2.2.3. Analysis of medical research about specified medical problem (thesis) in large extended manner than the master degree.	conduct research ٣-٢-٢ studies that add to knowledge
2.2.4. Outline basis of performing medical research paper.	formulate scientific ٤-٢-٢ papers
2.2.5. Assessment of risk in professional practices in surgical pathology.	assess risks in ٥-٢-٢ professional practices
2.2.6. Development of the habit of lifelong learning and improvement of performance in the field of surgical pathology.	plan for the ٦-٢-٢ development of performance in the field of (specialty)
2.2.7. Making a professional decision in various pathological problems with categorization and composition of an accurate pathology report.	make professional ٧-٢-٢- decision in variety of professional situations

2.2.8. Demonstration of creativity.	demonstrate ٨-٢-٢ creativity and innovation
2.2.9. Conduction of discussion based on facts and evidences.	conduct dialogues ٩-٢-٢ and debates based on facts and evidence
ج - مهارات مهنية وعملية : 2. ٣. Practical Skills:-	
2.٣.1. Dealing in professional manner with received tissue specimens throughout all steps from handling and processing until reaching diagnosis.	master basic and up ١-٣-٢ to date professional skills in the field of (specialty)
2.٣.2. Writing an accurate pathological report that gives clinicians the information they need.	write and evaluate ٢-٣-٢ professional reports
2.٣.3. Evaluation of histochemical and immunohistochemical stains in normal and diseased tissues and variety of molecular pathology techniques.	evaluate and develop ٣-٣-٢ existing methods and tools in the field of (specialty)
2.٣.4. Using new techniques as immunofluorescence microscopy to reach a more accurate diagnosis when indicated (in renal biopsies).	use modern ٤-٣-٢ technologies to serve the professional practice
2.٣.5. Supervision of the practical work of technical staff in preparing pathological slides.	plan for the ٥-٣-٢ development of the professional practice and the performance of others
د. مهارات عامة : 2. ٤. General and transferable skills:	
2.٤.1. Communicating clearly, sensitively and effectively with their colleagues and with the patients and their relatives.	communicate effectively ١-٤-٢ using a variety of methods

2.4.2. Using the sources of information technology to remain current with the advances in knowledge & practice.	use information ٢-٤-٢ technology in a manner that serve the development of professional practice
2.4.3. Assessment of the performance of undergraduate students in practical lessons and technical staff in surgical pathology laboratory.	instruct others and ٣-٤-٢- evaluate their performance
2.4.4. Application of self-evaluation and demonstration of independent and continuous learning.	exercise autonomy in ٤-٤-٢ self evaluation and continuous learning
2.4.5. Use the available sources of biomedical information for continuous retrieval of knowledge.	use various resources for ٥-٤-٢ the retrieval of information and knowledge
2.4.6. Respect team working and do his role well in different situations (member/ leader).	work effectively in a ٦-٤-٢ team as leader or member
2.4.7. Management of seminars and scientific meetings regarding topics presented and time allowed for each topic.	manage scientific ٧-٤-٢ meetings and manage time effectively

ملحق ٤:

مصفوفة مضاهاة المعايير الأكاديمية لبرنامج دكتوراة الباثولوجي مع
أهداف ونواتج تعلم البرنامج

أهداف البرنامج	المعايير الأكاديمية لبرنامج دكتوراة الباثولوجي. (مواصفات الخريج)
1.١.	<p>1.١. Master the basic principles and methodology in surgical pathology (tissue handling, preservation, gross description, processing, microscopic examination, diagnosis, reporting, discussion of the case with clinical specialties).</p> <p>1.٢. Work continuously to add to knowledge in the field of surgical pathology.</p> <p>1.٣. Apply updated analytical methods in the field of surgical pathology and other related fields.</p> <p>1.٤. Integrate specialized pathological knowledge and with related clinical knowledge and develop relations between them (e.g. relations to patient's survival).</p> <p>1.٥. Update his knowledge in different practical pathology fields and be aware of current pathological problems and recent concepts in the field of surgical pathology.</p> <p>1.٦. Determine clinicopathological problems and create new solutions for perfect diagnosis for seek of patient.</p> <p>1.٧. Demonstrate proficiency in a wide range of specialized pathological skills by using different methods in assessment of the biopsies e.g. immunohistochemistry, FNAC, immunoflourescent microscopy</p> <p>1.٨. Show orientation towards developing new methods, tools and techniques for professional practice both in teaching to undergraduates and inside pathology laboratory.</p> <p>1.٩. Use appropriate technological methods that are required for running of a histopathology laboratory considering health and safety regulations.</p> <p>1.١١. Make informed pathological decisions according to available clinical and pathological data.</p> <p>1.١٢. Use available resources (e.g. microscopes, microtomes, tissue processors, special stains, pathology museum.....)wisely, develop them and work to find new ones.</p> <p>1.١٦. Commit to continuous self-development and transfer</p>

	his experience to colleagues.
1.٢.	1.١٣. Conduct an efficacious research according to the needs of the Egyptian community in general and Kalybia governorate specially, and be prepared for continuous professional development. 1.١٤. Master the principles and methodologies of scientific research and the use of its various tools
1.٣.	1.١٠. Demonstrate appropriate communication skills, good working relationships with colleagues and leading team works in different professional contexts. 1.١٦. Commit to continuous self-development and transfer his experience to colleagues.
1.٤.	1.١٥. Respect confidentiality of patients and interact with an honest manner.

نواتج تعلم البرنامج										المعايير الأكاديمية للبرنامج
المعرفة والفهم										
2.a.9	2.a.8	2.a.7	2.a.6	2.a.5	2.a.4	2.a.3	2.a.2	2.a.1		
			√	√	√		√	√		2.1.1. Discussion of the updates in pathology of the most disease categories affecting human body and new techniques used in order to

										reach an accurate diagnosis.
			√							2.1.2. Recognition of the principles, methodologies and ethics of medical research study, how to use appropriate statistical methods.
		√								2.1.3. Identification the ethical and legal principles of professional practice in the field of pathology
√										2.1.4. Recognition of the fundamentals of quality in the professional practice in the field of pathology
							√			2.1.5. Determination of the value of early cancer detection on decreasing the incidence of cancer in surrounding area and widening the area that benefit from this service.

نواتج تعلم البرنامج										المعايير الأكاديمية للبرنامج
القدرات الذهنية										
2.b.9	2.b.8	2.b.7	2.b.6	2.b.5	2.b.4	2.b.3	2.b.2	2.b.1		
								√	√	2.2.1. Interpretation of data effectively with other members of the pathology department, other departments and with clinicians and decision making according to all available data.
							√			2.2.2. Make differential diagnosis for problematic cases according to given clinical and pathological data.
				√						2.2.3. Analysis of medical research about specified medical problem (thesis) in large extended manner than the master degree.
			√	√						2.2.4. Outline basis of performing medical research paper.
		√								2.2.5. Assessment of risk in professional practices in surgical pathology.
	√									2.2.6. Development of the habit of lifelong learning and improvement of

										performance in the field of surgical pathology.
					√	√				2.2.7. Making a professional decision in various pathological problems with categorization and composition of an accurate pathology report.
	√		√	√						2.2.8. Demonstration of creativity.
								√		2.2.9. Conduction of discussion based on facts and evidences

نواتج تعلم البرنامج										المعايير الأكاديمية للبرنامج
مهارات مهنية وعملية										
	2.c.8	2.c.7	2.c.6	2.ac.5	2.c.4	2.c.3	2.c.2	2.c.1		
	√			√		√	√	√		2.3.1. Dealing in professional manner with received tissue specimens throughout all steps from handling and processing until reaching diagnosis
					√					2.3.2. Writing an accurate pathological report that gives clinicians the information they need.
			√	√						2.3.3. Evaluation of histochemical and immunohistochemical stains in normal and diseased tissues and variety of molecular pathology techniques.
				√						2.3.4. Using new techniques as immunofluorescence microscopy to reach a more accurate diagnosis when indicated (in renal biopsies).
		√								2.3.5. Supervision of the practical work of technical staff in preparing pathological slides.
نواتج تعلم البرنامج										المعايير الأكاديمية للبرنامج
مهارات عامة ومنتقلة										
2.d.10	2.d.9	2.d.8	2.d.7	2.d.6	2.d.5	2.d.4	2.d.3	2.d.2	2.d.1	
√								√	√	2.4.1. Communicating clearly, sensitively

										and effectively with their colleagues and with the patients and their relatives
		√					√			2.4.2. Using the sources of information technology to remain current with the advances in knowledge & practice.
			√	√						2.4.3. Assessment of the performance of undergraduate students in practical lessons and technical staff in surgical pathology laboratory
					√					2.4.4. Application of self-evaluation and demonstration of independent and continuous learning.
		√				√				2.4.5. Use the available sources of biomedical information for continuous retrieval of knowledge.
√	√									2.4.6. Respect team working and

										do his role well in different situations (member/ leader).
	√									2.4.7. Management of seminars and scientific meetings regarding topics presented and time allowed for each topic.