جامعة بنها
كلية الطب البشرى
قسم الانسجه وبيولوجيا الخليه

توصيف برنامج ماجستير الهستولوجى(عام 2013-2014)

* معلومات أساسية : Administrative information

١ ـ اسم البرنامج: Histology and cell biology **. Master degree of**

٢ ـ طبيعة البرنامج : (single)

٣- القسم/ الأقسام المسئولة عن البرنامج: - الانسجه -وبيولوجيا الخليه----------

٤- تاريخ إقرار البرنامج فى مجلس القسم :5 / ٩ / ٢٠١٣

٥- تاريخ إقرار البرنامج فى مجلس الكلية: 25 / ٩ / ٢٠١٣

٦- مسؤل البرنامج: : د/ أميمه كامل هلال **Prof. Dr**

٧- **المراجة الداخلية للبرنامج:.....Magdy Mohamed Zaky… Prof. Dr**

8- المراجعة الخارجية للبرنامج: ا.د/ هدى عنان (جامعة الزقازيق) **Prof. Dr**

* معلومات متخصصة: Professional information

١ ـ الأهداف العامة للبرنامج :

1- Overall Aims of the Program:

The overall aims of the program are:

1.a. Efficient in carrying out the basis in methodology of scientific research in histology.

1.b. Applying the analytical course and critical apprasial of knowledge in histological speciality and its related fields.

1.c. Showing a awarness with the ongoing problems , theories, and science in histology .

1.d. Determination of the professional problems and creating solutions

for them.

1.e. Demonstrate proficiency in a wide range of specialized histological skills by using different methods in assessment of the biopsies e.g. immunohistochemistry, FNAC, immunoflourescent microscopy ……

1.f. Use appropriate technological methods that are required for running of a histopathology laboratory considering health and safety regulations.

1.g. Demonstrate appropriate communication skills, good working relationships with colleagues and leading team works in different professional contexts.

1.h. Decision making through the avaliable information

1.i. Use available resources (e.g. microscopes, microtomes, tissue processors, special stains, pathology museum…….)wisely, develop them and work to find new ones.

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

1.k. Behave in a way which reflect his credibility, accountability and responsibility

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

1.m. Keeping continous self development and transfer his experiences and knowledge to others by

٢ ـ المخرجات التعليمية المستهدفة من البرنامج :

2-Intended Learning Outcomes (ILOS):

2.a. Knowledge and Understanding ٢.أ ـ المعرفة والفهم :

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

2.a.1. Describe the basict knowledge of histological structure of different body tissues and organs.

2.a.2. Illustrate the function of different cells , tissues and organs in relation to their microscopic and cell biology.

2.a.3. recognize the ethics in in research regarding the human and the experimental animals

2.a.4. understand the fundamentals of quality in the professional practice in the fieldof histology

2.a.5. Determine the value of early research in histology and cell biology and widening the area that benefit from this service.

2.b. Intellectual Skills: ٢. ب ـ القدرات الذهنية :-

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

2.b.1. Interpret data effectively with other members of the histology department.

2.b.2. Make differential diagnosis for problematic cases according to

given .histological data.

2.b.3. Analyize of medical research about specified medical problem (thesis) in large extended manner than the master degree.

2.b.4. Outline basis of performing medical research paper.

2.b.5. Assess risk in professional practices in histology.

2.b.6. Develop the habit of lifelong learning and improvement of performance in the field of histology.

2.b.7. Make a professional decision in various broblemsrecent histological .

2.b.8. create tools .

2.b.9. Conduct discussion based on facts and evidences.

2.c. Practical & Clinical Skills: **٢.ج . مهارات مهنية وعملية :-**

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

. **2.c.1.** Prepare solutions used in micro technique wnd different stsins perfectly.

2.c.2. Perform all the methods of administration to lab animals..

2.c.3. Evaluat histochemical and immunohistochemical stains in normal and diseased tissues and variety of molecular pathology techniques.

2.c.4. Use techniques as immunoflourescence microscopy to reach a more accurate diagnosis .

٢.د . 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. Use the sources of biomedical information and communication technology to remain current with advances in knowledge and practice

2.d.2. Establish effective inter-personal relationship to communicate ideas and arguments.

2.d.3 **Establish** life-long self-learning required for continuous professional development.

2.d.4. Work within the rules and limits of knowledge and experience

2.d.5. Communicate respectively with all patients irrespective of their socio-economic levels &cultural or religious beliefs.

2.d.6. Manage Retrieve, and manipulate information by all means, including electronic means.

2.d.7. Present information clearly in written, electronic and oral forms.

.

2.d.8. Explain to the patient or the relatives the nature of illness and the plan of management.

2.d.9. Work in ateam in different professional situations

2.d.10 **Establish** srandards and indicators for assessing the performance of

3- Academic Standards ٣ ـ المعايير الأكاديمية للبرنامج:

- **Academic Reference Standards (ARS) of Master Program of Histology and cell biology,** approved in 6 / 2013. **(ملحق ١)**

4- Reference standards 4- العلامات المرجعية:

a) المعايير القياسية العامة لبرامج الدراسات العليا (درجة الماجستير) (مارس ٢٠٠٩)

Generic academic standards, which were issued by the National Authority for Quality Assurance & Accreditation **(ملحق ٢)**

(5): Program structure and contents 5 ـ هيكل ومكونات البرنامج :

أ ـ مدة البرنامج : 96- weeks

Two years to pass master degree:

- **1st part: -** One Semester (6 months).
- **2nd part: -** Two Semester (1 year).
- **Thesis:-** One Semester (6 months).

ب ـ هيكل البرنامج:

- **Total hours of program 36.h.....**
- **Theoretical ……20…h…….**
- **Practical ……5h 20h…**
- **…compulsory 12h**
- **…elective 5h**
- **Selective 2h……..**

□ **مقررات العلـوم الأساسـية**

ج- مستويات البرنامج:

البند	المقررات	الكود	الساعات المعتمدة
متطلبات	للجامعة والكلية	UNIV 601	٦ ساعات
الجزء الأول	يشمل الآتي: دراسه نظريه و عمليه في أحد المواد الاتيه:		6ساعات
	الباثولوجي	HIST 601	
	كمياء الانسجة	HIST 602	
	علم الاجنه	HIST 603	
	علم وراثه الخليه	HIST 604	
الجزء الثاني	يشمل الآتي:		١٣ ساعة
	الجزء النظرى ويشمل مقدمه عن تركيب الميكرسكوب للخلايا	HIST 605	
	طرق تحضير العينات لفحصها بالميكرسكوب الضوئى	HIST 606	
	بيولوجيا الخليه ويشمل :التركيب المجهري للنواه والسيتوبلازم ،طرق انقسام الخلايا مع نبذه عن الامراض الوراثيه	HIST 607	
	دراسه الانسجه المختلفه	HIST 608	
	دراسه اجهزة الجسم المختلفه	HIST 609	
	الجزء العملى:تحضير عينات الميكرسكوب الضوئى والالكترونى والتدريب على انواع الصبغات	HIST 6010	
		UNIV601	٥ ساعات
كراسه الانشطة			

رسالة ماجستير			٦ ساعات
الإجمالي			36 ساعة

First part (one semester):

a- Elective courses:

Course Title	Course Code	NO. of Teaching hours per week			Total teaching hours/ One Semester
		Theoretical	practical	Total/W	
PATHOLOGY	HIST 601	.2.5		2.5	2.5
HISTOCHEMISTRY	HIST 602	3		3	3
EMBIRYOLOGY	HIST603	2	0.5	2.5	2.5
CYTOGENETIC	HIST 604	1	0.5	1.5	1.5

b- Compulsory courses: none

Second part (2 semesters):

a- Compulsory courses:

Course Title	Course Code	NO. of Teaching hours per week			Total teaching hours / **2 semesters**
		Theoretical	**practical**	**Total/ Week**	
ويشمل مقدمه عن تركيب الميكرسكوب للخلايا	HIST 605	9	4	13	13+ رسالة ماجستير6 +٥ كراسة انشطة

طــرق تحضــير العينـات لفحصـها بالميكرســـــكوب الضوئى	HIST606		
بيولوجيا الخليه ويشمل :التركيب المجهري للنواه والسيتوبلازم ،طرق انقسام الخلايا مع نبذه عن الامراض الوراثيه	HIST 607		
دراسه الانسجه المختلفه	HIST 608		
دراسه اجهزة الجسم المختلفه	HIST 609		

الجزء العملى:تحضير عينات الميكرسكوب الضوئى والالكترونى والتدريب على انواع الصبغات	HIST 610		

b- Elective courses: none

د : استراتيجيات التعليم و التعلم:

تتبني كلية طب بنها الأاستراتيجيات الأتية:

١. استراتيجية التعلم النشط. Active learning

٢. استراتيجية التعليم المبنى على النتائج. Outcome-based learning

٣. استراتيجية التعليم المبنى على حل المشكلات. Problem-based learning

- **و من أمثلة طرق التعليم المستعملة:**

1. Small group discussions.
2. Problem solving.
3. Case study.
4. Practical & clinical classes.
5. Workshops , Lectures and demonstrations.
6. conferences

6 ـ متطلبات الإلتحاق بالبرنامج : (6): Program admission requirements

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

أ- أن يكون حاصلا 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.

مادة (٥): يكون التقدم للقيد لدرجة الماجستير مرة واحدة فى السنة خلال شهري يوليو وأغسطس من كل عام. ,تبدأ الدراسة لدرجة الماجستير فى شهر أكتوبر من كل عام

.

٧ ـ 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 اكلينيكى 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 التويفل بمستوى لايقل 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.

8- Students Assessment Methods: 8- طرق وقواعد تقييم الملتحقين بالبرنامج

م	الوسيلة	مخرجات التعلم المستهدفة
1	Written examination (**including problem solving**)	To assess knowledge and understanding & intellectual skills: **2.a.1…….2.a.10., 2.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 examination	To assess knowledge and understanding, intellectual skills & General & transferable skills& practical and clinical 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.**
4	MCQ examination	To assess knowledge and understanding, intellectual skills: **2.a.1…….2.a.10., 2.b.1……2.b.٨.,**

Final exam:

First part

المقرر	الاختبار	الدرجة			إجمالي
		تحريري	شفهي	عملي+logbook	
HIST 601-604	اختبار تحريري مدته ثلاث ساعات + اختبار شفهي+عملي	١٠٠	١٠٠	١٠٠	٣٠٠

Second part

المقرر	الاختبار	الدرجة			إجمالي
		تحريري	شفهي	عملي+logbook	
HIST 6051-610	اختبار تحريري مدته ثلاث ساعات + اختبار شفهي+عملي	300	١٠٠	200	600

9- Evaluation of Program: 9 ـ طرق تقويم البرنامج:

Evaluator	Tools	Evidence samples
Internal evaluator (s) مقييم داخلى	Focus group discussion Meetings	Report
External Evaluator (s) مقييم خارجى	Reviewing according to external evaluator checklist report.	Report
Senior student (s)	مقابلات , استبيان	جميع الطلبة
Alumni الخريجون	مقابلات ،استبيان	عينة ٥٠% من طلبة أخر ٣ دفعات
Stakeholder (s) أصحاب العمل	مقابلات ،استبيان	جميع الجهات العمل
Others طرق أخرى	none	

الملحقات :

ملحق ١: Academic standard of the program

ملحق ٢:المعايير القياسية العامة لبرامج قطاع الدراسات العليا.

ملحق ٣: مقارنة المعايير الأكاديمية للبرنامج مع المعايير القياسية العامة.

ملحق ٤: مقارنة ما يقدمه البرنامج من نتائج تعليمية مستهدفة مع المعايير الأكاديمية للبرنامج.

ملحق ٥: توصيف المقررات التابعة للبرنامج.

ملحق ٦: Program-Courses ILOs Matrix

We certify that all information required to deliver this program is contained in the above specification and will be implemented. All course specification for this program are in place.	
Program coordinator: Prof Dr **Omayma Kamel**	Signature & date:
Head of department: Prof Dr **Omayma Kamel**	Signature & date:

Academic standard of the program: ملحق ١

جامعة بنها
كلية الطب
قسم الجراحة العامة

وثيقة المعايير الأكاديمية المرجعية لبرنامج الماجستير

Academic Reference Standards (ARS) for Master Degree in Histology and Cell Biology

1. Attributes of gratitude:

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

1.a. Efficient in carrying out the basis in methodology of scientific research in histology.

1.b. Applying the analytical course and critical apprasial of knowledge in histological speciality and its related fields.

1.c. Showing a awarness with the ongoing problems , theories, and science in histology .

1.d. Determination of the professional problems and creating solutions for them.

1.e. Demonstrate proficiency in a wide range of specialized histological skills by using different methods in assessment of the biopsies e.g. immunohistochemistry, FNAC, immunoflourescent microscopy ……

1.f. Use appropriate technological methods that are required for running of a histopathology laboratory considering health and safety regulations.

1.g. Demonstrate appropriate communication skills, good working relationships with colleagues and leading team works in different professional contexts.

1.h. Decision making through the avaliable information

1.i. Use available resources (e.g. microscopes, microtomes, tissue processors, special stains, pathology museum…….)wisely, develop them and work to find new ones.

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

1.k. Behave in a way which reflect his credibility, accountability and responsibility

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

1.m. Keeping continous self development and transfer his experiences and knowledge to others by

2- Academic standards:

2.a Knowledge and Understanding:

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

2.a.1. Describe the basict knowledge of histological structure of different body tissues and organs.

2.a.2. Illustrate the function of different cells , tissues and organs in relation to their microscopic and cell biology.

2.a.3. List the ethics in in research regarding the human and the experimental animals

2.a.4. Recognition of the fundamentals of quality in the professional practice in the fieldof histology

2.a.5. Determination of the value of early research in histology and cell biology and widening the area that benefit from this service.

2.b Intellectual Skills:

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

2.b.1. Interpretation of data effectively with other members of the histology department.

2.b.2. Make differential diagnosis for problematic cases according to given .histological data.

2.b.3. Analysis of medical research about specified medical problem (thesis) in large extended manner than the master degree.

2.b.4. Outline basis of performing medical research paper.

2.b.5. Assessment of risk in professional practices in histology.

2.b.6. Development of the habit of lifelong learning and improvement of performance in the field of histology.

2.b.7. Making a professional decision in various broblemsrecent histological .

2.b.8. Demonstration of creativity.

2.b.9. Conduction of discussion based on facts and evidences.

2.c Practical & Professional Skills:-

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

2.c.1. Prepare solutions used in micro technique wnd different stsins perfectly.

2.c.2. Perform all the methods of administration to lab animals..

2.c.3. Evaluation of histochemical and immunohistochemical stains in normal and diseased tissues and variety of molecular pathology techniques.

2.c.4. Using techniques as immunoflourescence microscopy to reach a more accurate diagnosis .

2.d Communication and transferable skills

By the end of the master program graduate should be able

.2d.1 .Communicating clearly, sensitively and effectively with their colleagues and with the patients and their relatives.

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

2.d.3. Assessment of the performance of undergraduate students in practical lessons and technical staff in surgical pathology laboratory.

2.d.4. Application of self-evaluation and demonstration of independent and continuous learning.

2.d.5. Use the available sources of biomedical information for continuous retrieval of knowledge.

2.d.6. Respect team working and do his role well in different situations (member/ leader).

2.d.7. Management of seminars and scientific meetings regarding topics presented and time allowed for each topic.

اعتماد مجلس القسم رقم (.....) ، بتاريخ .../...../.....

رئيس مجلس القسم

ملحق 2:المعايير القياسية العامة لبرامج الدراسات العليا

برامج الماجستير

١- موصفات الخريج

خريج برنامج الماجستير فى أي تخصص يجب أن يكون قادرا على :

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

2- المعايير القياسية العامة

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

٢-٢ المهارات الذهنية :
بانتهاء دراسة برنامج الماجستير يجب ان يكون الخريج قادرا على :
٢-٢-١ تحليل وتقيم المعلومات فى مجال التخصص والقياس عليها لحل المشاكل
٢-٢-٢ حل المشاكل المتخصصة مع عدم توافر بعض المعطيات
٢-٢-٣ الربط بين المعارف المختلفة لحل المشاكل المهنية
٢-٢-٤ اجراء دراسة بحثية او كتابة دراسة علمية منهجية حول مشكلة بحثية
٢-٢-٥ تقييم المخاطر فى الممارسات المهنية فى مجال التخصص
٢-٢-٦ التخطيط لتطوير الاداء فى مجال التخصص
٢-٢-٧ اتخاذ القرارات المهنية فى سياقات مهنية متنوعة
٢-٣ المهارات المهنية
بانتهاء دراسة برنامج الماجستير يجب ان يكون الخريج قادرا على :
٢-٣-١ اتقان المهارات المهنية الاساسية والحديثة فى مجال التخصص

٢-٣-٢ كتابة وتقييم التقارير المهنية
٢-٣-٣ تقييم الطرق والادوات القائمة فى مجال التخصص

٢-٤ المهارات العامة والمنتقلة :
بانتهاء دراسة برنامج الماجستير يجب ان يكون الخريج قادرا على :
٢-٤-١ التواصل الفعال بأنواعة المختلفة
٢-٤-٢ استخدام تكنولوجيا المعلومات بما يخدم الممارسة المهنية
٢-٤-٣ التقييم الذاتى وتحديد احتياجاته التعليمية
٢-٤-٤ استخدام المصادر المختلفة لحصول على المعلومات والمعارف
٢-٤-٥ وضع قواعد ومؤشرات تقييم اداء الاخارين
٢-٤-٦ العمل فى فريق سياقات كهنية مختلفة
٢-٤-٧ ادارة الوقت بكفاءة
٢-٤-٨ التعلم الذاتى والمستمر

ملحق 4: مصفوفة المعايير الأكاديمية للبرنامج مع المعايير القياسية العامة

- **مواصفات الخريج:**

المعايير الأكاديمية للبرنامج	المعايير القياسية العامة (Generic) لبرامج الدراسات العليا (درجة الماجستير)
مواصفات الخريج	
١-١إتقان أساسيات ومنهجيات البحث العلمى واستخدام الأدوات المتاحة لتطبيقه.	١-١اتقان اساسيات ومنهجيات البحث العلمى
١-٢ الإضافة المستمرة للمعارف والمهارات المتعلقة بالانسجه والخلايا	١-٢ العمل المستمر على الاضافة للمعارف فى مجال التخصص
١-٣التعامل بكفاءة مع المشاكل المعمليه والنظريات الحديثة فى مجال الانسجه والخلايا وخاصة الميكرسكوب الالكترونى.	١-٣ تطبيق المنهج التحليلى والناقد للمعارف فى مجال التخصص والمجالات ذات العلاقة
١-٤تحليل المشكلات المتعلقة بالانسجه وبيولوجيا الخلية وطرح حلول مبتكرة.	١-٤ اظهار وعيا عميقا بالمشاكل الجارية والنظريات الحدية فى مجال التخصص
١-٥ممارسة كافة المهارات الأساسية والمهارات المتخصصة واستخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته في النسجه وبيولوجيا الخليه.	١-٥ تحديد المشكلات المهنية وايجاد حلولا مبتكرة لحلها
١-٦ تنمية قدراته أكاديميا ومهنيا لتطوير طرق وأدوات جديدة أثناء مزاولة مهنة البحث وقادرا على التعلم المستمر.	١-٦ اتقان نطاقا واسعا من المهارات المهنية فى مجال التخصص, استخدام الوسائل التكنولوجية المناسبة بما يخدم ممارستة المهنية
١-٧استخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته لمهنة التدريس فى الانسجه وبيولوجيا الخليه	
١-٨ القدرة على قيادة فرق العمل بمختلف المجالات والتواصل بفاعلية مع كافة الفئات المساعدة	١-٧ التواصل بفاعلية وقيادة فريق عمل فى سياقات مهنية مختلفة
١-٩ اتخاذ القرار المناسب فى ظل المعلومات المتاحة والمكتسبة وفى ظل السياقات المختلفة.	١-٨ اتخاذ القرار فى ظل المعلومات المتاحة
١-١٠ توظيف الموارد المتاحة بما يحقق أعلى استفادة داخل المعامل والعمل على ايجاد موارد جديدة والحفاظ عليها عن طريقالاالتبرعات العينية مما يغطى الاحتياجات داخل و خارج قاعات التدريس والدرس	
١-١١القيام بدوره فى تنمية المجتمع والحفاظ على البيئة فى ضوء المتغيرات العالمية والاقليمية	
١-١٢الالتزام بالنزاهة والمصداقية والالتزام بقواعد	

مهنة الطب بصورة عامة وقواعد مهنة التدريس . ١-١٣الالتزام بالتنمية الذاتية المستمرة ونقل علمه وخبرته للاخرين ١-١٤تطبيق المنهج التحليلى واستخدامه فى مجال الانسجه وبيولوجيا الخليه	١-٩ توظيف الموارد المتاحة بكفاءة وتنميتها والعمل على ايجاد موارد جديدة ١-١٠ الوعى بدوره فى تنمية المجتمع والحفاظ على البيئة ١-١١ التصرف بما يعكس الالتزام بالنزاهة والمصداقية وقواعد المهنة ١-١٢الالتزام بالتنمية الذاتية المستمرة ونقل علمه وخبراته للاخرين

المعرفة والفهم	المعرفة والفهم
٢-١-١أن يكون ملما بكافة النظريات والاساسيات المتعلقة بمجال التعلم والأساسيات في الانسجه وبيولوجيا الخليه.	٢-١-١ النظريات والاساسيات والحديث من المعارف فى مجال التخصص والمجالات ذات العلاقة
٢-١-٢ان يكون ملما باساسيات ومنهجيات واخلاقيات البحث العلمى واداواته المختلفة والقواعد الإرشادية الدولية والمحلية لأخلاقيات البحث العلمى.	٢-١-٢ اساسيات ومنهجيات واخلاقيات البحث العلمى واداواته المختلفة
٢-١-٣ان يكون ملما بالمبادئ الاخلاقية والقانونية للممارسة المهنية فى مجال في الانسجه وبيولوجيا الخليه والتخصصات المتعلقة بها.	٢-١-٣ المبادئ الاخلاقية والقانونية للممارسة المهنية فى مجال التخصص
٢-١-٤ان يكون ملما بمبادئ واساسيات الجودة فى الممارسة المهنية فى مجال الطب و في الانسجه وبيولوجيا الخليه والتخصصات المتعلقة بها .	٢-١-٤ مبادئ واساسيات الجودة فى الممارسة فى مجال التخصص
٢-١-٥ ان يكون ملما بالمعارف المتعلقة بمهنة الجراحة العامة و أثارها على المرضى والمجتمع .	٢-١-٥ المعارف المتعلقة بأثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها
٢-١-٦ ان يكون ملما بالتطورات العلمية فى مجال الجراحة العامة والخاصة وجراحة المناظير.	
٢-١-٧ان يكون ملما بالمعارف المتعلقةبأثار ممارسة الانسجه وبيولوجيا الخليه على البيئة وطرق تنمية البيئة وصيانتها	

٢-٢ المهارات الذهنية **٢-٢-١ تحليل وتقييم المعلومات فى مجال في الانسجه وبيولوجيا الخليه والقياس عليها والإستنباط منها لحل المشاكل الطارئة او المعقدة التى قد تواجهه** **٢-٢-٢ حل المشاكلالمعمليه بناءا على الخصائص المتاحه** **٢-٢-٣ اعداد دراسات بحثية تنتج معارف تساعد بالعملية التعليميةالمتعلقة بمجالات الانسجه وبيولوجيا الخليه** **٢-٢-٤ صياغة الأوراق العلمية والربط بين المعارف المختلفة لحل المشاكل المهنية المتعلقة في الانسجه وبيولوجيا الخليه** **٢-٢-٥ تقييم المخاطر فى الممارسات المهنية فى مجال في الانسجه وبيولوجيا الخليه وكيفية الوقاية من الإصابة بالعدوي.** **٢-٢-٦ التخطيط لتطوير الاداء فى مجال في الانسجه وبيولوجيا الخليه** **٢-٢-٧ ابتكار طرق تشخيصية وعلاجية جديدة** **٢-٢-٩ الحوار والنقاش المبنى على البراهين والادلة العلمية المتعلقة في الانسجه وبيولوجيا الخليه و تخصصاتها الدقيقة.**	**٢-٢-١ تحليل وتقيم المعلومات فى مجال التخصص والقياس عليها لحل المشاكل** **٢-٢-٢ حل المشاكل المتخصصة مع عدم توافر بعض المعطيات** **٢-٢-٣ الربط بين المعارف المختلفة لحل المشاكل المهنية** **٢-٢-٤ اجراء دراسة بحثية او كتابة دراسة علمية منهجية حول مشكلة بحثية** **٢-٢-٥ تقييم المخاطر فى الممارسات المهنية فى مجال التخصص** **٢-٢-٦ التخطيط لتطوير الاداء فى مجال التخصص** **٢-٢-٧ اتخاذ القرارات المهنية فى سياقات مهنية متنوع**

٢-٣ المهارات المهنية **٢-٣-١ أداء المهارات المهنية الاساسية والحديثة فى مجال في الانسجه وبيولوجيا الخليه .** **٢-٣-٢ كتابة وتقييم التقارير الطبية الحالات** **٢-٣-٣ تطوير الطرق والادوات القائمة فى مجال تشخيص واجراء في الانسجه وبيولوجيا الخليه.** **٢-٣-٤ استخدام الوسائل التكنولوجية بما يخد الانسجه وبيولوجيا الخليه.** **٢-٣-٥ التخطيط لتطوير ممارسة مهنة الجراحة العامة وتنمية اداء الجراحين.**	**٢-٣-١ اتقان المهارات المهنية الاساسية والحديثة فى مجال التخصص** **٢-٣-٢ كتابة وتقييم التقارير المهنية** **٢-٣-٣ تقيـيم الطـرق والادوات القائمــة فــى مجــال التخصص**
٢-٤ المهارات العامة والمنتقلة **٢-٤-١ التواصل الفعال بأنواعة المختلفة** **٢-٤-٢ استخدام تكنولوجيا المعلومات بهدف سهولة الحصول على المعلومات والمعارف المتعلقة في الانسجه وبيولوجيا الخليه واستخدامها** **٢-٤-٣ القدرة على تعليم الأخرين وتقييم أدائهم بهدف رفع كفائتهم .** **٢-٤-٤ التقييم الذاتى وتحديد احتياجاته التعليمية مع التعليم المستمرمع المستشفيات الجامعية والتعليمية.** **٢-٤-٥ استخدام المصادر المختلفة للحصول على المعلومات والمعارف في الانسجه وبيولوجيا الخليه.** **٢-٤-٦ العمل فى فريق وقيادة فرق العمل فى سياقات مهنية مختلفة .** **٢-٤-٧ ادارة الوقت بكفاءة وعمل ندوات علمية للإطلاع على أحدث طرق.** **٢-٤-٨ وضع قواعد ومؤشرات تقييم اداء الاخرين** **٢-٤-٩ التعلم الذاتى والمستمر**	**٢-٤-١ التواصل الفعال بأنواعة المختلفة** **٢-٤-٢ استخدام تكنولوجيا المعلومات بما يخدم الممارسة المهنية** **٢-٤-٣ التقييم الذاتى وتحديد احتياجاته التعليمية** **٢-٤-٤ استخدام المصادر المختلفة لحصول على المعلومات والمعارف** **٢-٤-٥ وضع قواعد ومؤشرات تقييم اداء الاخارين** **٢-٤-٦ العمل فى فريق سياقات كهنية مختلفة** **٢-٤-٧ ادارة الوقت بكفاءة** **٢-٤-٨ التعلم الذاتى والمستمر**

ملحق ٥: مصفوفة مضاهاة المعايير الأكاديمية للبرنامج و أهداف و نواتج تعلم البرنامج

أهداف البرنامج	المعايير الأكاديمية للبرنامج (مواصفات الخريج):
-1.1.	1.1demonstrate the principles and methodology of scientific research
1.2	1.3Apply and Integrate specialized and related knowledge deducing and development relations between them 1.4Show deep awareness of current problems and new concepts in the field of Histology and cell biology.
1.3	1.7 Communicate effectively and lead work teams in different professional contexts
1.4.	1.2 Apply analytical and critical methodology for the appraisal of knowledge in the field of Histology and cell biology
1.5.	1.6 Show orientation towards developing new methods, tools and techniques for professional practice Use appropriate technological methods that serve his professional practice
1.6.	1.7 Communicate effectively and lead work teams in different professional contexts
1.7	1.11 Conduct himself in a manner that reflects integrity and sincerity and follow the ethical code of practice
1.8.	1.6Show orientation towards developing new methods, tools and techniques for professional practice

	Use appropriate technological methods that serve his professional practice 1.12 Commit to continuous self-development and the transfer of knowledge and experience to others
1.9.	1.5 Determine professional problems and propose creative solutions to address them
1.10.	1.10 Show awareness of his role in community development and environmental preservation
1.11.	1.9 Employ available resources effectively, develop them and work to find new resources
1.12.	1.1demonstrate the principles and methodology of scientific research 1.4Show deep awareness of current problems and new concepts in the field of general surgery
1.13.	1.1demonstrate the principles and methodology of scientific research

المعايير الأكاديمية للبرنامج	نواتج تعلم البرنامج											
المهارات الذهنية	Intellectual skills											
	2.b.1.	2.b.2.	2.b.3	2.b.4	2.b.5	2.b.6						
2.a.1.	√											
2.a.2.	√											
2.a.3.	√											
2.a.4.	√			√								
2.a.5..	√			√								
2.a.6 .				√								
2.a.7.		√										
2.a..						√						

			√					**2.a.9**
						√		**2.a.10**
					√			**2.a.11**
			نواتج تعلم البرنامج					المعايير الأكاديمية للبرنامج
			Intellectual skills					المهارات الذهنية
2.b.7		**2.b.6**	**2.b.5**	**2.b.4**	**2.b.3**	**2.b.2.**	**2.b.1.**	

			√			√	***By the end of Master program, candidate should be able to recognize the followings:*** **1.2.1** ***Design*** a list of initial diagnostic hypotheses (differential diagnosis) for each problem.
		√			√		**1.2.2** ***Analyze*** all sources of information in Such sources include family or friends, medical records and other health care professionals, to overcome limitations regarding information.
				√			**1.2.3 asses** risks in professional practice
		√				√	**1.2.4** ***Construct*** a diagnostic hypothesis
			√				**1.2.5** ***Correlate*** the application of medical statistics for collecting, presenting, analyzing and interpreting medical data precisely
					√	√	**1.2.6** ***Interpret*** patient symptoms and physical findings in terms of their anatomic, pathologic and functional diagnostic significances
						√	**1.2.7** the diagnosis by appropriate instrumental& radiological and laboratory tests.

					√		**1.2.8** ***Solve*** the diagnosis by appropriate instrumental& radiological and laboratory tests.
√							**1.2.9** ***Construct*** the clinical and investigational database to be proficient in clinical problem solving:
√							**1.2.10 Classify** factors that place individuals at risk for disease or injury, to determine strategies for appropriate response
	√				√	√	**1.2. 11*Design*** an initial course of managemen stabilization of patients with serious illnesses.
			√			√	**1.2.12** ***Establish*** lifelong learning in order to be able to retrieve, analyze, and evaluate relevant and current data from literature, using information technologies and library resources, in order to help solve a clinical problem based on evidence (EBM
		√					**1.2.13 Balance** the advantages and disadvantages of different methods.

نواتج تعلم البرنامج			المعايير الأكاديمية للبرنامج المهارات المهنية
Practical/Professional skills			
2.c.3	2.c.2.	2.c.1.	
		√	***By the end of Master program, candidate should accept the followings skills:*** . 1.3.1
	√	√	1.3.2
√		√	1.3.3
		√	1.3.
	√		1.3.5.
		√	1.3.6
		√	1.3.7
		√	1.3.8

		√	1.3.9.
		√	1.3.10
		√	1.3.11
		√	1.3.12
		√	1.3.

نواتج تعلم البرنامج								المعايير الأكاديمية للبرنامج
General and transferable skill								المهارات العامة والمنتقلة
2.d.8	2.d.7	2.d.6	2.d.5	2.d.4	2.d.3	2.d.2.	2.d.1.	
								By the end of Master program, candidate should accept the following skills:
				√		√		1.4.1 ***Use*** the sources of biomedical information and communication technology to remain current with advances in knowledge and practice
		√					√	1.4.2 ***Establish*** effective inter-personal relationship to communicate ideas and arguments.
√	√							1.4.3 **Establish** life-long self-learning required for continuous

								professional development.
					√		√	1.4.4 ***Work*** within the rules and limits of knowledge and experience
	√	√					√	1.4.5 ***Communicate*** respectively with all patients irrespective of their socio-economic levels &cultural or religious beliefs
						√		1.4.6 ***Manage*** Retrieve, and manipulate information by all means, including electronic means
				√		√		1.4.7 **Present** information clearly in written, electronic and oral forms.
							√	1.4.8 **Explain** to the patient or the relatives the nature of illness and the plan of management
		√						1.4.9 ***Work*** in ateam in different professional situations
√					√			1.4.10**Establish** srandards and indicators for assessing the performance of

ملحق ٦: توصيف المقررات التابعة للبرنامج

Program courses

First part
الباثولوجي
كمياء الانسجة
علم الاجنه
علم وراثه الخليه
Second part
General histology and cell biology
Special histology and cell biology

Program courses

Benha University
Faculty of Medicine
Department of Histology & Cell Biology

Course Specifications

Course title: *Histology & Cell Biology*

(Code): HIST 601

Academic Year (2013 – 2014)

- **Department offering the course:** Histology & Cell Biology
- **Academic year of master degree 1st part pathology program: 2013 -2014**
- **Date of specification approval: 2013 _ 2014.**
- **Department council date 8/9/2013**
- **Faculty council date 15/9/2013**

A) Basic Information:

- **Allocated marks:** 300 marks
- **Course duration:** 24 weeks of teaching
- **Teaching hours:** 10_hours/week = 150 total teaching hours

	Hours / week	Total hours
1- Lectures/ small group discussion /self learning	4 h/week	60 h
2- Practical	6h/week	90 h
Total	10 h/week	150 h

B) Professional Information:

1- *Overall Aim of the Course:*

The aim of this program is to provide:

1. Scientific knowledge essential for practice of Clinical Pathology according to
the international standards.
2. Skills necessary for proper practice in the field of Clinical Pathology including
diagnostic, problem solving and decision making skills.
3. Ethical principles related to the practice in this specialty.
4. Active participation in community needs assessment and problem solving.
5. Maintenance of learning abilities necessary for continuous medical education.
6. Maintenance of research interest and abilities.

2. Intended Learning Outcomes of Courses (ILOs)

a) Knowledge and understanding:

By the end of this course the student should be able to

a1. Mention the recent - advances in diagnosing various hematological disorders as bone marrow transplantation, bleeding and coagulation disorders.

a2. Identify different techniques for semen analysis

a3. Identify recent methods of histocopatability tests.

a4. List different methods for collection of various tissue samples.

b) Intellectual skills:

By the end of this course the student should be able to:

b1. interpret lab investigations as blood picture, bone marrow examination, results of lymph node, spleen biopsy, and tests for coagulation disorders.

b2. Evaluate and interpret any morphological abnormalities in the examined slides by light microscope.

B3. Differentiate between samples of tissue obtained through exfoliative cytology.

B4. Evaluate evidence based scientific discussions in at least ten seminars.

B5. Analyze and criticize scientific research papers.

c) Professional and Practical Skills:

By the end of the course the student should able to:

c1. Perform the steps of immunohistochemistery perfectly and independently.

c2. Examine and photograph experimental slides by light microscope perfectly and independently.

c3. Write professional reports on any haematological slide

c4. Use computer soft wares to analyze slides (image analysis) or analyze research data.

c5. Examine semen for different abnormalities.

d) General and Transferable Skills

By the end of the course the student should able to:

d1. Communicate effectively by all types of effective communication.

d2. Use information technology to serve the development of professional practice.

d3. Use the web sites, medical journals, personal communications ,digital libraries to gain knowledge.

d4. Assess his performance and improve it continuously.

d5. Work coherently and successfully as a part of a team or as a leader.

d6. Administer scientific activities as seminars, journal clubs ,scientific meetings or conferences.

3. Contents

Clinical haematology:

- Indications for blood transfusion.
- Hazards of blood transfusion.

-Anemias:

-Iron deficiency anemia

-Megaloplastic anemia

-Hemolytic anemias

-Aplastic anemia.

- Total and differential blood picture.
- Manual blood cells count

Normal haemostasis.

Anticoagulants

Clinical Chemistry:

- Carbohydrates.
- Proteins
- lipid
- Liver function.

-Kidney function

-Urine and stool analysis

Semen analysis

Clinical microbiology:

- Methods of collecting samples and criteria of rejection.
- Staining and culture media.
- Exfoliative cytology.

Clinical immunology:

- Types of antigen and antibody reactions.
- Histocombatability tests
- Immunological aspects of different diseases

4. Teaching and Learning METHODS USED:

4.1.Lectures

4.2.Small group discussions: Museum specimens, demonstration (slides photographs and video films), models and case study.

4.3.Tutorials.

4.4.Practical classes.

4.5.Seminars.

4.6.self learning

TEACHING PLAN:

Lectures: Division of students into 3 groups
20 h /week, Time from 9.00 am to 3.00 pm .

Tutorials: 10 h/week.

Practical classes: 18 h/week.

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	20 h /week; one hour each between to	1920 hours	
Practical	18 hours / week	1728 hours	
Tutorial	10 hours / week	960 hours	
Total	48 hours/week	3608 hours	

***5- Students Assessment methods*:**

5-A) ATTENDANCE CRITERIA: Faculty bylaws

5-B) Assessment TOOLS:

Tool	Purpose (ILOs)
Written examination	To assess knowledge acquisition
Oral examination	To assess understanding and stability of knowledge given, attitude and presentation.
Practical examination	To assess practical skills.

5-C) TIME SCHEDULE:

Exam	Week
1- First part examination	24 weeks
2- Second part examination	72 weeks
3-thesis	
4-assignment and other activites	

5-D) Weighting System:

Examination	**Marks allocated**	**% of Total Marks**
1- First part exam	1200	70.5%
2- Second part exam: a _Written b- Practical c- Oral	500 300 100 100	29.4%
6- Assignments & other activities	____	_____
Total	**1700**	**100%**

-the minimum passing and passing grades(faculty by law)

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) Examinassions description:

Examination	**Description**
1- First part exam	Objectively structured questions
5- Final exam: a- Written b- Practical c- Oral	 e.g. select (MCQs) & Supply (Short essay) questions e.g. Do, identify e.g. How many sessions
6- Assignments & other activities	e.g. Assignments, projects, practical books etc
Total	_

6- List of references:

6.1. Basic materials:

- Theory & practice of histological techniques: ***Bancroft, J.D. and Gamble, M.*** (eds); 6th ed. Charchill livingstone of Elsevier, Philadelphia **(2009)**.

- **Turnpenny, P. and Ellard, S. (2007):** Emery's elements of medical genetics, 12th ed. Elsevier Saunders, Philadelphia.

6.2. <u>Essential books (text books)</u>:

- ***Alberts, B.; Dennis, B. ; Karen, H.; Alexander, J.; Julian, L.; Martin, R.; Keith, R. and Peter, W. (2010):*** Essential Cell Biology. 3th Edition . Garland Science, New York and London.

- ***Ovalle, W.K. and Nahirney, P.C. (2008):*** Netter's Essential Histology. 1st ed. Elsevier Saunders, Philadelphia.

6.3. <u>Recommended books</u>:

- ***Mescher, A.L. (2010):*** Junqueira's Basic Histology, Text and Atlas. 12th ed. McGraw – Hill Companies, United States of America.

6.4. <u>Periodicals, Web sites, etc</u>:

6.4.1.http://www.medscape.com.
6.4.2.http://www.pubmed.com.
6.4.3.http://master.emedicine.com/maint/cme.asp.
6.4.4.http://www.science direct.com.

7- <u>Facilities required for teaching and learning</u>:

Facilities used for teaching this course include:

- Lecture halls: 2
- Museum hall:6th floor
- Department lab

Course coordinator: Prof Dr. Omayma Kamel Helal

Head of Department: Prof Dr. Omayma Kamel Helal

Date: 2013 _ 2014.

Benha University
Faculty of Medicine
Department of Histology & Cell Biology

Course Specifications

Course title: *Histology & Cell Biology*

(Code): HIST 604

Academic Year (2013 – 2014)

- **Department offering the course:** Histology & Cell Biology
- **Academic year of master degree 1st part genetics program: 2013 - 2014**
- **Date of specification approval: 2013 _ 2014.**
- **Department council date 8/9/2013**
- **Faculty council date 15/9/2013**

A) Basic Information:

- **Allocated marks:** 300 marks
- **Course duration:** 24 weeks of teaching
- **Teaching hours:** 10_hours/week = 150 total teaching hours

	Hours / week	Total hours
1- Lectures/ small group discussion /self learning	4 h/week	60 h
2- Practical	6h/week	90 h
Total	10 h/week	150 h

B) Professional Information:

1- *Overall Aim of the Course:*

The aim of this program is to provide the postgraduate student with the medical

knowledge and skills essential for the practice of specialty and necessary to gain:
1- Scientific knowledge essential for practice of Genetics **according** to the international standards.
2- Skills necessary for proper practice in the field of Genetics **including** diagnostic,
problem solving and decision making skills.
3- Ethical principles related to the practice in this specialty.
4- Active participation in community needs assessment and problems solving.
5- Maintenance of learning abilities necessary for continuous medical education.
6- Maintenance of research interest and abilities.

2- Intended Learning Outcomes (ILOs):

2.a. Knowledge and understanding:

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

1.a.1.describe cell cycle and cell division.

1.a.2.Define mitosis and meiosis

1.a.3. Describe Gametogensis (oogenesis &spermatogenesis).

1.a.4.Decribe structure of chromosomes.

1.a.5.Discuss chromosomal study.

1.a.6.Define *karyotyping.*

1.a.7. Describe chromosomal bands.

1.a.8. Desribe fluorescence *in situ hybridization.*

1.a.9. Describe Sex chromatin (Barr body).

1.a.10. Discuss polymerase chain reaction.

1.a.11.Decribe *DNA replication.*

1.a.12.Define lyon hypothesis.

1.a.13.Describe DNA repair.

1.a.14.Define genes.

1.a.15.Discuss role of cytoplasm in cell division.

1.a.16. outline chromosomal aberrations.

1.a.17. Discuss aneuploidy (*monosomy,trisomy).*

1.a.18. Discuss polyploidy (*triploidy , tetraploidy,* endoreduplication) .

1.a.19. Discuss translocation

1.a.20. Discuss deletion.

1.a.21. Discuss inversion.

1.a.22. Discuss insertion.

1.a.23. Discuss isochromosome

1.a.24. Discuss dicentric chromosome.

1.a.25. Discuss ring chromosome.

1.a.26. Discuss duplication.

1.a.27. Discuss fragile x chromosome.

1.a.28.Outline recombinant DNA technology.

1.a.29.outline clinical correlations with cytogenetic disorders.

2.b.Intellectual skills:

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

2.b.1. justify the technical and investigational database to be proficient in histological problem solving.

2.b.2. Generate a list of initial technical hypotheses for each problem.

2.b.3 Analyzes all sources of information to Interpret and evaluate the tissue samples

2.c. Professional and practical skills:

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

2.c.1. Adopt an empathic and holistic approach to the researches and their problems.

2.c.2 Demonstrate Respect for right researches' and involve them and /or their in management decisions.

2.c.3 Demonstrate the more recent in researches in stem cells.

2.c.4. Respect the role and the contributions of other health care professionals regardless their degrees or rank (top management, subordinate or colleague)..

2.c.5. Complies with the requirements of the national code of ethics issued by the Egyptian Medical Syndicate.

2.c.6. Conduct counseling sessions for more advances in researches.

2.c.7. Reflect critically on their own performance and that of others, to recognize personal limitations regarding skills and knowledge to refer their student's facility at the appropriate stage.

2.d. **General and transferable skills**:

By the end of the course, students should 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.

2.d.5.Establish effective interpersonal relationship to Communicate ideas and arguments .

2.d.6. Work effectively as a member or a leader of an interdisciplinary team .

2.d.7. Apply the principles of statistical methods for collection,

3- Course contents:

TOPIC	Total No. of	practical	Tutorial/Practical	

	hours			
IV-Cytogenetics 1-cell cycle and cell division (mitosis meiosis) 2-Gametogenesis(oogenesis &spermatogenesis) 3-structure of chromosomes 4-chromosomal study& *karyotyping* *5-chromosomal bands: G banding*, fluorescence *in situ hybridization* 6-Sex chromatin (Barr body) 7-chromosomal aberrations: a-numerical abnormalities: i-aneuploidy (*monosomy,trisomy)* ii-polyploidy (*triploidy* , *tetraploidy,* endoreduplication) b-structural abnormalities: 1- translocation 2- deletion. 3- inversion. 4- insertion. 5- isochromosome6- dicentric chromosome. 7- ring chromosome. 8- duplication. 9- fragile x chromosome clinical correlations with cytogenetic disorders	12	6	6	

4- <u>Teaching and learning methods</u>:

<u>METHODS USED:</u>

4.1.Lectures

4.2.Small group discussions: Museum specimens, demonstration (slides photographs and video films), models and case study.

4.3.Tutorials.

4.4.Practical classes.

4.5.Seminars.

4.6.self learning

TEACHING PLAN:

Lectures: Division of students into 3 groups
20 h /week, Time from 9.00 am to 3.00 pm .

Tutorials: 10 h/week.

Practical classes: 18 h/week.

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	20 h /week; one hour each between to	1920 hours	
Practical	18 hours / ___ week	1728 hours	
Tutorial	10 hours / week	960 hours	
Total	48 hours/week	3608 hours	

***5- Students Assessment methods*:**

5-A) ATTENDANCE CRITERIA: Faculty bylaws

5-B) Assessment TOOLS:

Tool	Purpose (ILOs)
Written examination	To assess knowledge acquisition
Oral examination	To assess understanding and stability of knowledge given, attitude and presentation.
Practical examination	To assess practical skills.

5-C) TIME SCHEDULE:

Exam	Week
1- First part examination	24 weeks
2- Second part examination	72 weeks
3-thesis	
4-assignment and other activites	

5-D) Weighting System:

Examination	Marks allocated	% of Total Marks
1- First part exam	1200	70.5%
2- Second part exam: a _Written b- Practical c- Oral	500 300 100 100	29.4%
6- Assignments & other activities	____	_____
Total	**1700**	**100%**

-the minimum passing and passing grades(faculty by law)

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) Examinassions description:

Examination	Description
1- First part exam	Objectively structured questions
5- Final exam: a- Written b- Practical c- Oral	 e.g. select (MCQs) & Supply (Short essay) questions e.g. Do, identify e.g. How many sessions
6- Assignments & other activities	e.g. Assignments, projects, practical books etc
Total	_

6- List of references:

6.1. Basic materials:

- Theory & practice of histological techniques: ***Bancroft, J.D. and Gamble, M.*** (eds); 6th ed. Charchill livingstone of Elsevier, Philadelphia **(2009)**.

- **Turnpenny, P. and Ellard, S. (2007):** Emery's elements of medical genetics, 12th ed. Elsevier Saunders, Philadelphia.

6.2. Essential books (text books):

- ***Alberts, B.; Dennis, B. ; Karen, H.; Alexander, J.; Julian, L.; Martin, R.; Keith, R. and Peter, W. (2010):*** Essential Cell Biology. 3th Edition . Garland Science, New York and London.

- ***Ovalle, W.K. and Nahirney, P.C. (2008):*** Netter's Essential Histology. 1st ed. Elsevier Saunders, Philadelphia.

6.3. <u>Recommended books</u>:

- ***Mescher, A.L. (2010):*** Junqueira's Basic Histology, Text and Atlas. 12th ed. McGraw – Hill Companies, United States of America.

6.4. <u>Periodicals, Web sites, etc</u>:

6.4.1.http://www.medscape.com.
6.4.2.http://www.pubmed.com.
6.4.3.http://master.emedicine.com/maint/cme.asp.
6.4.4.http://www.science direct.com.

7- <u>Facilities required for teaching and learning</u>:

Facilities used for teaching this course include:

- Lecture halls: 2
- Museum hall:6th floor
- Department lab

Course coordinator: Prof Dr. Omayma Kamel Helal

Head of Department: Prof Dr. Omayma Kamel Helal

Date: 2013 _ 2014.

Benha University
Faculty of Medicine
Department of Histology & Cell Biology

Course Specifications

Course title: *Histology & Cell Biology*

(Code): HIST 605

Academic Year (2013– 2014)

- **Department offering the course:** Histology & Cell Biology
- **Academic year of master degree 2nd part microscopy program: 2013-2014**
- **Date of specification approval: 2013_ 2014**
- **Department council, date 8/9/2013**
- **Faculty council, date 15/9/2013**

A) Basic Information:

- **Allocated marks:** 600 marks
- **Course duration:** 48 weeks of teaching
- **Teaching hours:** 23_hours/week = 690 total teaching hours

	Hours / week	Total hours
1- Lectures/ small group discussion /self learning	8 h/week	240 h
2- Practical	15h/week	450 h
Total	23 h/week	690 h

B) Professional Information:

1- *Overall Aim of the Course:*

The overall goals of the course are to

1.1. Advanced scientific knowledge essential to practice Histology & Cell Biology dealing with tissue processing & imaging procedures by light &electron microcopies.

1.2. Advanced scientific knowledge essential l for establishing & maintaining good researchers.

1.3. Advanced scientific knowledge essential for following the rules of medical ethics.

1.4. Diagnostic, problem solving and decision making as well as communication skills necessary for proper evaluation and management of health problems &researches.

1.5. Appropriate ethical and professional education necessary for demonstrating appropriate attitudes with students and colleagues.

1.6. Life long learning competencies necessary for continuous professional development.

1.7. Research education as related to medical practice &more advanced scientific researches.

1.8. Advanced administrative skills necessary for delivery of research service.

2- Intended Learning Outcomes (ILOs):

2.a. Knowledge and understanding:

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

2.a.1.Define types of microscopes.

2.a.2. Describe different types of microscopes.

2.a.3. Describe préparation of sections for Light microscope &Electron microscope.

2.b.Intellectual skills:

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

2.b.1. justify the technical and investigational database to be proficient in histological problem solving.

2.b.2. Generate a list of initial technical hypotheses for each problem.

2.b.3 Analyzes all sources of information to Interpret and evaluate the tissue samples

2.c. <u>Professional and practical skills</u>:

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

2.c.1. Adopt an empathic and holistic approach to the researches and their problems.

2.c.2 Demonstrate Respect for right researches' and involve them and /or their in management decisions.

2.c.3 Demonstrate the more recent in researches in stem cells.

2.c.4. Respect the role and the contributions of other health care professionals regardless their degrees or rank (top management, subordinate or colleague)..

2.c.5. Complies with the requirements of the national code of ethics issued by the Egyptian Medical Syndicate.

2.c.6. Conduct counseling sessions for more advances in researches.

2.c.7. Reflect critically on their own performance and that of others, to recognize personal limitations regarding skills and knowledge to refer their student's facility at the appropriate stage.

2.d. **<u>General and transferable skills</u>**:

By the end of the course, students should 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.

2.d.5.Establish effective interpersonal relationship to Communicate ideas and arguments .

2.d.6. Work effectively as a member or a leader of an interdisciplinary team .

2.d.7. Apply the principles of statistical methods for collection,

3- Course contents:

TOPIC	Total No. of hours	practical	Tutorial/Practical	
Microscopy 1-types of microscopes 2-préparation of sections for Light microscope &Electron microscope	4	2	2	

4- Teaching and learning methods:

METHODS USED:

4.1.Lectures

4.2.Small group discussions: Museum specimens, demonstration (slides photographs and video films), models and case study.

4.3.Tutorials.

4.4.Practical classes.

4.5.Seminars.

4.6.self learning

TEACHING PLAN:

Lectures: Division of students into 3 groups
20 h /week, Time from 9.00 am to 3.00 pm .

Tutorials: 10 h/week.

Practical classes: 18 h/week.

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	20 h /week;	1920 hours	

	one hour each between to		
Practical	18 hours / ___week	1728 hours	
Tutorial	10 hours / week	960 hours	
Total	48 hours/week	3608 hours	

***5- Students Assessment methods*:**

5-A) <u>ATTENDANCE CRITERIA</u>: Faculty bylaws

5-B) <u>Assessment TOOLS:</u>

Tool	Purpose (ILOs)
Written examination	To assess knowledge acquisition
Oral examination	To assess understanding and stability of knowledge given, attitude and presentation.
Practical examination	To assess practical skills.

5-C) <u>TIME SCHEDULE</u>:

Exam	Week
1- First part examination	24 weeks
2- Second part examination	72 weeks
3-thesis	
4-assignment and other activites	

5-D) <u>Weighting System:</u>

Examination	**Marks allocated**	**% of Total Marks**
1- First part exam	1200	70.5%
2- Second part exam: a _Written b- Practical c- Oral	500 300 100 100	29.4%
6- Assignments & other activities	____	_____

Total	**1700**	**100%**

-the minimum passing and passing grades(faculty by law)

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) Examinassions description:

Examination	Description
1- First part exam	Objectively structured questions
5- Final exam: a- Written b- Practical c- Oral	 e.g. select (MCQs) & Supply (Short essay) questions e.g. Do, identify e.g. How many sessions
6- Assignments & other activities	e.g. Assignments, projects, practical books etc
Total	_

6- List of references:

6.1. Basic materials:

- ***Alberts, B.; Dennis, B. ; Karen, H.; Alexander, J.; Julian, L.; Martin, R.; Keith, R. and Peter, W. (2010):*** Essential Cell Biology. 3th Edition . Garland Science, New York and London.

- ***Mescher, A.L. (2010):*** Junqueira's Basic Histology, Text and Atlas. 12th ed. McGraw – Hill Companies, United States of America.

6.2. Essential books (text books):

- ***Ovalle, W.K. and Nahirney, P.C. (2008):*** Netter's Essential Histology. 1st ed. Elsevier Saunders, Philadelphia.

6.3. Recommended books:

- ***Gamble, M. (2008):*** Theory & practice of histological techniques: ***Bancroft, J.D. and Gamble,M.*** (eds) ; 6th ed. Charchill livingstone of Elsevier, Philadelphia.

6.4. Periodicals, Web sites, etc:

6.4.1.http://www.medscape.com.

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6.4.3.http://master.emedicine.com/maint/cme.asp.

6.4.4.http://www.science direct.com.

7- <u>Facilities required for teaching and learning</u>:

Facilities used for teaching this course include:

- Lecture halls: 2
- Museum hall:6th floor
- Department lab

Course coordinator: Prof Dr. Omayma Kamel Helal

Head of Department: Prof Dr. Omayma Kamel Helal
Date: 2013 _ 2014.

Benha University
Faculty of Medicine
Department of Histology & Cell Biology

Course Specifications

Course title: *Histology & Cell Biology*

(Code): HIST 606

Academic Year (2013– 2014)

- **Department offering the course:** Histology & Cell Biology
- **Academic year of master degree 2nd part microtechnique program: 2013-2014**
- **Date of specification approval: 2013_ 2014**
- **Department council, date 8/9/2013**
- **Faculty council, date 15/9/2013**

A) Basic Information:

- **Allocated marks:** 600 marks
- **Course duration:** 48 weeks of teaching
- **Teaching hours:** 23_hours/week = 690 total teaching hours

	Hours / week	Total hours
1- Lectures/ small group discussion /self learning	8 h/week	240 h
2- Practical	15h/week	450 h
Total	23 h/week	690 h

B) Professional Information:

1- *Overall Aim of the Course:*

The overall goals of the course are to

1.1. Advanced scientific knowledge essential to practice Histology & Cell Biology dealing with tissue processing & imaging procedures by light &electron microcopies.

1.2. Advanced scientific knowledge essential l for establishing & maintaining good researchers.

1.3. Advanced scientific knowledge essential for following the rules of medical ethics.

1.4. Diagnostic, problem solving and decision making as well as communication skills necessary for proper evaluation and management of health problems &researches.

1.5. Appropriate ethical and professional education necessary for demonstrating appropriate attitudes with students and colleagues.

1.6. Life long learning competencies necessary for continuous professional development.

1.7. Research education as related to medical practice &more advanced scientific researches.

1.8. Advanced administrative skills necessary for delivery of research service.

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 methods of preparation of microscopic sections .

2.a.2. Describe préparation of sections for different types of microscopes

2.b.Intellectual skills:

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

2.b.1. justify the technical and investigational database to be proficient in histological problem solving.

2.b.2. Generate a list of initial technical hypotheses for each problem.

2.b.3 Analyzes all sources of information to Interpret and evaluate the tissue samples

2.c. <u>Professional and practical skills</u>:

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

2.c.1. Adopt an empathic and holistic approach to the researches and their problems.

2.c.2 Demonstrate Respect for right researches' and involve them and /or their in management decisions.

2.c.3 Demonstrate the more recent in researches in stem cells.

2.c.4. Respect the role and the contributions of other health care professionals regardless their degrees or rank (top management, subordinate or colleague)..

2.c.5. Complies with the requirements of the national code of ethics issued by the Egyptian Medical Syndicate.

2.c.6. Conduct counseling sessions for more advances in researches.

2.c.7. Reflect critically on their own performance and that of others, to recognize personal limitations regarding skills and knowledge to refer their student's facility at the appropriate stage.

2.d. **<u>General and transferable skills</u>**:

By the end of the course, students should 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.

2.d.5.Establish effective interpersonal relationship to Communicate ideas and arguments .

2.d.6. Work effectively as a member or a leader of an interdisciplinary team .

2.d.7. Apply the principles of statistical methods for collection,

3- Course contents:

TOPIC	Total No. of hours	practical	Tutorial/Practical	
I-Microtechnique 1-methods of preparation of microscopic sections. 2-steps of preparation and aim of each step. 3-advantage &disadvantage of each method. 4-principle of staining with H&E. 5-other staining methods.	8	4	4	

4- Teaching and learning methods:

METHODS USED:

4.1.Lectures

4.2.Small group discussions: Museum specimens, demonstration (slides photographs and video films), models and case study.

4.3.Tutorials.

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4.5.Seminars.

4.6.self learning

TEACHING PLAN:

Lectures: Division of students into 3 groups
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Time plan:

Item	Time schedule	Teaching hours	Total hours

Lectures	20 h /week; one hour each between to	1920 hours	
Practical	18 hours / ___week	1728 hours	
Tutorial	10 hours / week	960 hours	
Total	48 hours/week	3608 hours	

***5- Students Assessment methods*:**

5-A) <u>ATTENDANCE CRITERIA</u>: Faculty bylaws

5-B) <u>Assessment TOOLS:</u>

Tool	Purpose (ILOs)
Written examination	To assess knowledge acquisition
Oral examination	To assess understanding and stability of knowledge given, attitude and presentation.
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5-C) <u>TIME SCHEDULE</u>:

Exam	Week
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5-D) <u>Weighting System:</u>

Examination	Marks allocated	% of Total Marks
1- First part exam	1200	70.5%
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6- Assignments & other	____	_____

activities		
Total	**1700**	**100%**

-the minimum passing and passing grades(faculty by law)

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) <u>Examinassions description:</u>

Examination	Description
1- First part exam	Objectively structured questions
5- Final exam: a- Written b- Practical c- Oral	 e.g. select (MCQs) & Supply (Short essay) questions e.g. Do, identify e.g. How many sessions
6- Assignments & other activities	e.g. Assignments, projects, practical books etc
Total	_

6- <u>List of references</u>:

6.1. <u>Basic materials</u>:

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6.4. <u>Periodicals, Web sites, etc</u>:

6.4.1.http://www.medscape.com.

6.4.2.http://www.pubmed.com.

6.4.3.http://master.emedicine.com/maint/cme.asp.
6.4.4.http://www.science direct.com.

7- Facilities required for teaching and learning:

Facilities used for teaching this course include:

- Lecture halls: 2
- Museum hall:6th floor
- Department lab

Course coordinator: Prof Dr. Omayma Kamel Helal

Head of Department: Prof Dr. Omayma Kamel Helal
Date: 2013 _ 2014.

Benha University
Faculty of Medicine
Department of Histology & Cell Biology

Course Specifications

Course title: *Histology & Cell Biology*

(Code): HIST 607

Academic Year (2013– 2014)

- **Department offering the course:** Histology & Cell Biology
- **Academic year of master degree 2nd part cytology and cytogenetics program: 2013-2014**
- **Date of specification approval: 2013_ 2014**
- **Department council, date 8/9/2013**

- **Faculty council, date 15/9/2013**

A) Basic Information:

- **Allocated marks:** 600 marks
- **Course duration:** 48 weeks of teaching
- **Teaching hours:** 23 hours/week = 690 total teaching hours

	Hours / week	Total hours
1- Lectures/ small group discussion /self learning	8 h/week	240 h
2- Practical	15h/week	450 h
Total	23 h/week	690 h

B) Professional Information:

1- *Overall Aim of the Course:*

The overall goals of the course are to

1.1. Advanced scientific knowledge essential to practice Histology & Cell Biology dealing with tissue processing & imaging procedures by light &electron microcopies.

1.2. Advanced scientific knowledge essential l for establishing & maintaining good researchers.

1.3. Advanced scientific knowledge essential for following the rules of medical ethics.

1.4. Diagnostic, problem solving and decision making as well as communication skills necessary for proper evaluation and management of health problems &researches.

1.5. Appropriate ethical and professional education necessary for demonstrating appropriate attitudes with students and colleagues.

1.6. Life long learning competencies necessary for continuous professional development.

1.7. Research education as related to medical practice &more advanced scientific researches.

1.8. Advanced administrative skills necessary for delivery of research service.

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 structure and function of cell membrane.

2.a.2.Discuss membrane trafficking .

2.a3. Discuss cell signaling.

2.a.4.Discuss structure, function and abnormalities of cell organelles (rough endoplasmic reticulum , smooth endoplasmic reticulum,Golgi apparatus, mitochondria, lysosomes, peroxisomes, proteosomes and annulate lamellae , ribosomes).

2.a.5. Discuss structure, function and abnormalities of microtubules ,centrioles, cilia , flagella *and* microfilaments.

2.a.6.Describe cell inclusions.

2.a.7.Describe structure ,abnormalities and function of nucleus.

2.a.8. Describe DNA and RNA..

2.a.9.Define physiological cell death.

2.a.10.Define mitosis and meiosis .

2.a.11.Describe Gametogenesis(oogenesis &spermatogenesis)

2.a.12.Discuss structure and abnormalities of chromosomes.

2.a.13.Define chromosomal study& *karyotyping.*

2.a.14.Define Sex chromatin (Barr body).

2.a.15 . Outlines major clinical applications of cytogenetic diseases

2.b.Intellectual skills:

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

2.b.1. justify the technical and investigational database to be proficient in histological problem solving.

2.b.2. Generate a list of initial technical hypotheses for each problem.

2.b.3 Analyzes all sources of information to Interpret and evaluate the tissue samples

2.c. Professional and practical skills:

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

2.c.1. Adopt an empathic and holistic approach to the researches and their problems.

2.c.2 Demonstrate Respect for right researches' and involve them and /or their in management decisions.

2.c.3 Demonstrate the more recent in researches in stem cells.

2.c.4. Respect the role and the contributions of other health care professionals regardless their degrees or rank (top management, subordinate or colleague)..

2.c.5. Complies with the requirements of the national code of ethics issued by the Egyptian Medical Syndicate.

2.c.6. Conduct counseling sessions for more advances in researches.

2.c.7. Reflect critically on their own performance and that of others, to recognize personal limitations regarding skills and knowledge to refer their student's facility at the appropriate stage.

2.d. **General and transferable skills**:

By the end of the course, students should 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.

2.d.5.Establish effective interpersonal relationship to Communicate ideas and arguments .

2.d.6. Work effectively as a member or a leader of an interdisciplinary team .

2.d.7. Apply the principles of statistical methods for collection,

3- <u>Course contents</u>:

TOPIC	Total No. of hours	practical	Tutorial/Practical	
- Cytology 1-LM&EM picture ,function and molecular biology of cytoplasmic organelles: -membranous(cell membrane, rough endoplasmic reticulum, smooth endoplasmic reticulum, Golgi apparatus, mitochondria, lysosomes, peroxisomes, proteosomes and annulate lamellae) -non membranous organelles(ribosomes, microtubules ,centrioles, cilia , flagella *and* microfilaments)	28	14	14	

2-inclusions 3-nucleus: structure by LM&EM ,function 4-DNA 5-types of RNA 6-physiological cell death				
-Cytogenetics 1-cell cycle and cell division (mitosis meiosis) 2-Gametogenesis(oogenesis &spermatogenesis) 3-structure of chromosomes 4-chromosomal study& *karyotyping* *5-chromosomal bands: G banding*, fluorescence *in situ hybridization* 6-Sex chromatin (Barr body) 7-chromosomal aberrations: a-numerical abnormalities: i-aneuploidy (*monosomy,trisomy)* ii-polyploidy (*triploidy* , *tetraploidy,* endoreduplication) b-structural abnormalities: 1- translocation 2- deletion. 3- inversion. 4- insertion. 5- isochromosome6- dicentric chromosome. 7- ring chromosome. 8- duplication. 9- fragile x chromosome	12	6	6	

4- <u>Teaching and learning methods</u>:

<u>METHODS USED:</u>

4.1.Lectures

4.2.Small group discussions: Museum specimens, demonstration (slides photographs and video films), models and case study.

4.3.Tutorials.
4.4.Practical classes.
4.5.Seminars.
4.6.self learning

TEACHING PLAN:

Lectures: Division of students into 3 groups
20 h /week, Time from 9.00 am to 3.00 pm .

Tutorials: 10 h/week.

Practical classes: 18 h/week.

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	20 h /week; one hour each between to	1920 hours	
Practical	18 hours / week	1728 hours	
Tutorial	10 hours / week	960 hours	
Total	48 hours/week	3608 hours	

***5- Students Assessment methods*:**

5-A) ATTENDANCE CRITERIA: Faculty bylaws

5-B) Assessment TOOLS:

Tool	Purpose (ILOs)
Written examination	To assess knowledge acquisition
Oral examination	To assess understanding and stability of knowledge given, attitude and presentation.
Practical examination	To assess practical skills.

5-C) TIME SCHEDULE:

Exam	Week
1- First part examination	24 weeks
2- Second part examination	72 weeks

3-thesis	
4-assignment and other activites	

5-D) <u>Weighting System:</u>

Examination	**Marks allocated**	**% of Total Marks**
1- First part exam	1200	70.5%
2- Second part exam: a _Written b- Practical c- Oral	500 300 100 100	29.4%
6- Assignments & other activities	____	_____
Total	**1700**	**100%**

-the minimum passing and passing grades(faculty by law)

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) <u>Examinassions description:</u>

Examination	**Description**
1- First part exam	Objectively structured questions
5- Final exam: a- Written b- Practical c- Oral	 e.g. select (MCQs) & Supply (Short essay) questions e.g. Do, identify e.g. How many sessions
6- Assignments & other activities	e.g. Assignments, projects, practical books etc
Total	_

6- <u>List of references</u>:

6.1. <u>Basic materials</u>:

- ***Alberts, B.; Dennis, B. ; Karen, H.; Alexander, J.; Julian, L.; Martin, R.; Keith, R. and Peter, W. (2010):*** Essential Cell Biology. 3th Edition . Garland Science, New York and London.

- ***Mescher, A.L. (2010):*** Junqueira's Basic Histology, Text and Atlas. 12th ed. McGraw – Hill Companies, United States of America.

6.2. <u>Essential books (text books)</u>:

- ***Ovalle, W.K. and Nahirney, P.C. (2008):*** Netter's Essential Histology. 1st ed. Elsevier Saunders, Philadelphia.

6.3. <u>Recommended books</u>:

- ***Gamble, M. (2008):*** Theory & practice of histological techniques: ***Bancroft, J.D. and Gamble,M.*** (eds) ; 6th ed. Charchill livingstone of Elsevier, Philadelphia.

6.4. <u>Periodicals, Web sites, etc</u>:

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Course coordinator: Prof Dr. Omayma Kamel Helal

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Date: 2013 _ 2014.

Benha University
Faculty of Medicine
Department of Histology & Cell Biology

Course Specifications

Course title: *Histology & Cell Biology*

(Code): HIST 608

Academic Year (2013– 2014)

- **Department offering the course:** Histology & Cell Biology
- **Academic year of master degree 2nd part body tissues program: 2013-2014**
- **Date of specification approval: 2013_ 2014**
- **Department council, date 8/9/2013**
- **Faculty council, date 15/9/2013**

A) Basic Information:

- **Allocated marks:** 600 marks
- **Course duration:** 48 weeks of teaching
- **Teaching hours:** 23 hours/week = 690 total teaching hours

	Hours / week	Total hours
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Total	23 h/week	690 h

B) Professional Information:

1- *Overall Aim of the Course:*

The overall goals of the course are to

1.1. Advanced scientific knowledge essential to practice Histology & Cell Biology dealing with tissue processing & imaging procedures by light &electron microcopies.

1.2. Advanced scientific knowledge essential l for establishing & maintaining good researchers.

1.3. Advanced scientific knowledge essential for following the rules of medical ethics.

1.4. Diagnostic, problem solving and decision making as well as communication skills necessary for proper evaluation and management of health problems &researches.

1.5. Appropriate ethical and professional education necessary for demonstrating appropriate attitudes with students and colleagues.

1.6. Life long learning competencies necessary for continuous professional development.

1.7. Research education as related to medical practice &more advanced scientific researches.

1.8. Advanced administrative skills necessary for delivery of research service.

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 Properties ,types and Functional importance of epithelium .

2.a.2.Describe Modification of epithelial cell surfaces.

2.a.3. Outlines major clinical applications of epithelial tissue diseases

2.a.4. Describe the basic principles of histochemistry.

2.a.5.Describe general characters and constituents of connective tissue proper.

2.a.6. Describe structure , types and staining properties of CT fibers.

2.a.7. Describe types of connective tissue proper(loose (areolar), white fibrous. yellow elastic, adipose and mucoid)

2.a.8. Outlines major clinical applications of connective tissue diseases

2.a.9. Describe histological features of cartilage cells, fibers & matrix and its types.

2.a.10. Outlines major clinical applications of cartilage diseases.

2.a.11. Describe general microscopic features of bone (cells and Intercellular substance) and how it can be studied histologically.

2.a.12.Describe types of bone.

2.a.13. Describe the development and ossification of bone .

2.a.14. Outlines major clinical applications of bone diseases.

2.a.15. Describe red blood corpuscles (histological structure &function).

2.a.16. Describe histological structure ,function and abnormalities of granular and non granular leucocytes.

2.a.17.Define differential leucocytic count.

2.a.18.Describe blood platelets (histological structure &function).

2.a.19. Discuss haemopoiesis.

2.a.20. Describe myeloid tissue.

2.a.21. Outlines major clinical applications of blood diseases.

2.a.22. Describe general features &types of skeletal muscle fibers-skeletal muscle .

2.a.23. Describe organization of skeletal muscle.

2.a.24. Describe functional ultrastructure of myofibrils& sarcomere and molecular structure of actin and myosin.

2.a.25. Describe cardiac muscle (general structure and functional relations).

2.a.26. Describe Conducting system of the heart and moderator band..

2.a.27. Describe general structure of smooth muscle muscle

2.a.28. Describe muscle contraction& innervation of three types of muscles.

2.a.29. Describe comparative study of three types of muscles.

2.a.30. Describe growth and regenerative ability of muscular tissue .

2.a.31. Outlines major clinical applications of muscle diseases .

2.a32. Describe Structure(LM&EM) of neuron cell body and Compare between axon and dendrites.

2.a.33.Outline types of nerve cells.

2.a.34. Describe types , structure and organization of nerve fibers.

2.a.35. Describe mylination of CNS&PNS.

2.a36. Describe types &structure of nerve ganglia.

2.a.37. Describe structure and types of synapses.

2.a.38. Describe degeneration and regeneration of neurons.

2.a.39. Define stains used to study nervous tissue .

2.a.40. Describe Neuroglia structure and their functions.

2.a.41. Describe Types and structure of nerve endings .

2.a.42.disuss ation potential and nerve Condution .

2.a.43. Outlines major clinical applications of nervous tissue diseases.

2.a.44. Describe general structure of the wall of blood vessels.

2.a45. Describe histological structure &function of Large , Medium-Sized& small Arteries.

2.a46. Describe histological structure &function of Large , Medium-Sized& small Veins.

2.a.47. Describe histological structure of specialized arteries &veins.

2.a.48. Describe histological structure and function of Capillaries.

2.a.49. Describe Sinusoids .

2.a.50. Describe arteriovenous anastomosis.

2.a.51. Describe histological structure of epicardium ,myocardium ,endocardium and valves of the heart.

2.a.52.Outlines major clinical applications of Cardiovascular diseases.

2.a.53. Describe structure of lymph vessels.

2.a.54.Disuss types of immunity.

2.a.55. Describe histological structure &function of lympoid organs (Lymph Nodes, Spleen andThymus)

2.a.56. Describe histological structure &function of Tonsils and Mucosal immune system.

2.a.57.Describe Cells involved in the immune system

2.a.58. Describe histological structure &function of Mononuclear phagocytes and Antigen presenting cells.

2.a59.Outlines major clinical applications of immune system diseases.

2.b.Intellectual skills:

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

2.b.1. justify the technical and investigational database to be proficient in histological problem solving.

2.b.2. Generate a list of initial technical hypotheses for each problem.

2.b.3 Analyzes all sources of information to Interpret and evaluate the tissue samples

2.c. Professional and practical skills:

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

2.c.1. Adopt an empathic and holistic approach to the researches and their problems.

2.c.2 Demonstrate Respect for right researches' and involve them and /or their in management decisions.

2.c.3 Demonstrate the more recent in researches in stem cells.

2.c.4. Respect the role and the contributions of other health care professionals regardless their degrees or rank (top management, subordinate or colleague)..

2.c.5. Complies with the requirements of the national code of ethics issued by the Egyptian Medical Syndicate.

2.c.6. Conduct counseling sessions for more advances in researches.

2.c.7. Reflect critically on their own performance and that of others, to recognize personal limitations regarding skills and knowledge to refer their student's facility at the appropriate stage.

2.d. **General and transferable skills**:

By the end of the course, students should 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.

2.d.5.Establish effective interpersonal relationship to Communicate ideas and arguments .

2.d.6. Work effectively as a member or a leader of an interdisciplinary team .

2.d.7. Apply the principles of statistical methods for collection,

3- Course contents:

TOPIC	Total No. of hours	practical	Tutorial/Practical	
Epithelial tissue: 1-Properties of epithelium . 2-Types of epithelium:(covering -glandular - neuro epithelium & myoepithelium) 3-Examples and sites of each type. 4-Functional importance. 5-Modification of epithelial cell surfaces.	8	4	4	
Connective tissue 1-general character of connective tissue proper. 2-constituents of CT (ground substance, fibers, cells). 3-structure , types and staining properties of CT fibers. 4-types of connective tissue proper and site of each: 1. loose (areolar) connective tissue . 2. white fibrous or tendinous connective tissue . 3. yellow elastic connective tissue 4. adipose connective tissue 5. reticular connective tissue 6. mucoid (myxomatous) connective tissue	8	4	4	
Cartilage : 1-histological features of cartilage cells, fibers & matrix. 2-Types of cartilage and their specific histological features. a-hyaline cartilage.				

b. yellow elastic cartilage. c. white fibro-cartilage.				
Bone 1-General microscopic features of bone and how it can be studied histologically 2-Types (compact & spongy bone): structure, sites, and function. 3-Bone cells :structure (LM&EM) and functions . 4-Intercellular substance of bone . 5-The development and ossification	12	6	6	
Blood 1-red blood corpuscles (histological structure &function). 2- histological structure &function of granular leucocytes(neutrophil ,eosinophil , basophils). 3- histological structure &function of non granular leucocytes (lymphocytes& monocytes). 4-differential leucocytic count 5-blood platelets (histological structure &function). 6-haemopoiesis. 7-myeloid tissue(inactive yellow bone marrow& active red bone marrow).	12	6	6	
-Muscle tissue 1-General character and types . 2-skeletal muscle: -general features &types of skeletal muscle fibers . -organization of skeletal muscle.	12	6	6	

-functional ultrastructure of myofibrils& sarcomere. -molecular structure of actin and myosin -muscle contraction -innervation of skeletal muscle -cardiac muscle -general structure and functional relations. -Intercalated discs -Conducting system of the heart -moderator band 3-smooth muscle : general structure, muscle contraction& innervation. 4- comparative study of three types of muscles. 5- growth and regenerative ability of muscular tissue .				
-Nervous tissue 1-Structure of neuron (LM&EM) cell body, axon, ,dendrites 2- types of nerve cells 3-types and structure of nerve fibers 4-organization of nerve fibers mylination of CNS&PNS 6-nerve ganglia (types &structure). 7-synapses(structure and types) 8-degeneration and regeneration of neurons 9-stain used to study nervous tissue including those of degeneration 10-Neuroglia structure and their functions 11-Types and structure of nerve endings (receptors and effector)	12	6	6	
CARDIOVASCULAR SYSTEM 1-general structure of the wall of blood vessels 2-Arteries: Large , Medium-Sized& small (histological structure &function)	8	4	4	

3-Veins ;Large , Medium-Sized& small(histological structure &function) 4-histological structure of specialized arteries &veins. 5-arteriovenous connections : a-Capillaries histological structure and function b- Sinusoids c-arteriovenous anastomosis 6-Heart; histological structure of epicardium ,myocardium ,endocardium and valves				
THE IMMUNE SYSTEM AND LYMPHOID ORGANS 1-structure of lymph vessels 2-distribution and structure of lymphoid tissue . 3-lymphatic organs: a- Lymph Nodes (histological structure &function) b-Spleen(histological structure &function& microcirculation) c-Tonsils(histological structure &function) d-Thymus(histological structure &function) e-Mucosal immune system (histological structure &function) 4-Mononuclear phagocytes 5-Cells involved in the immune system 6- Antigen presenting cells	8	4	4	

4- <u>Teaching and learning methods</u>:

<u>METHODS USED:</u>

4.1.Lectures

4.2.Small group discussions: Museum specimens, demonstration (slides photographs and video films), models and case study.
4.3.Tutorials.
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***5- Students Assessment methods*:**

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Tool	Purpose (ILOs)
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5-C) TIME SCHEDULE:

Exam	Week

1- First part examination	24 weeks
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3-thesis	
4-assignment and other activites	

5-D) <u>Weighting System:</u>

Examination	**Marks allocated**	**% of Total Marks**
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6- Assignments & other activities	____	_____
Total	**1700**	**100%**

-the minimum passing and passing grades(faculty by law)

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) <u>Examinassions description:</u>

Examination	**Description**
1- First part exam	Objectively structured questions
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7- <u>Facilities required for teaching and learning</u>:

Facilities used for teaching this course include:

- Lecture halls: 2
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Course coordinator: Prof Dr. Omayma Kamel Helal

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Date: 2013 _ 2014.

Benha University
Faculty of Medicine
Department of Histology & Cell Biology

Course Specifications

Course title: *Histology & Cell Biology*

(Code): HIST 609

Academic Year (2013– 2014)

- **Department offering the course:** Histology & Cell Biology
- **Academic year of master degree 2nd part body systems program: 2013-2014**
- **Date of specification approval: 2013_ 2014**
- **Department council, date 8/9/2013**

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A) Basic Information:

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1- *Overall Aim of the Course:*

The overall goals of the course are to

1.1. Advanced scientific knowledge essential to practice Histology & Cell Biology dealing with tissue processing & imaging procedures by light &electron microcopies.

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1.6. Life long learning competencies necessary for continuous professional development.

1.7. Research education as related to medical practice &more advanced scientific researches.

1.8. Advanced administrative skills necessary for delivery of research service.

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 histological structure &function of epidermis and dermis..

2.a.2 compare between types of skin.

2.a.3.Describe pigmentation of skin.

2.a.4.Describe Immune response in skin.

2.a.5.Describe skin appendages.

2.a.6.Describe Sensory receptors of skin.

2.a.7.Disuss clinical correlations with skin .

2.a.8.Discuss histological structure and function of conducting portion of respiratory system**.**

2.a.9.Discuss histological structure and function of respiratory portion of respiratory system**.**

2.a.10.Describe structure of pleura.

2.a.11.Describe structure of foetal lung.

2.a.12.Discuss non respiratory function of lung.

2.a.13.Describe Bronchus associated lymphoid tissue.

2.a.14.Outline Clinical correlations of respiratory system.

2.a.15. Discuss structure of Oral cavity(Lip, cheeks, Tongue).

2.a.16. Discuss classification and structure of salivary glands.

2.a.17. Discuss structure of palate and pharynx.

2.a.18.Describe structure and function of four layers of digestive tube from oesophagus until to anal Canal.

2.a.19.Describe Gastro-Oesophageal Junction.

2.a.20.Describe Gastroduodenal Junction.

2.a. 21.Describe Rectoanal Junction.

2.a.22.Discuss histological structure of Appendix.

2.a.23.Discuss histological structure and function of Liver and Gall Bladder.

2.a. 24.Discuss histological structure and function of pancreas.

2.a.25.Outline Clinical correlations of digestive system.

2.a.26.Discuss histological structure ,development and function of Pituitary Gland .

2.a.27.Discuss histological structure ,development and function of Thyroid and Parathyroid Glands.

2.a.28.Discuss histological structure ,development and function of Adrenal (Suprarenal) Glands.

2.a.29.Discuss histological structure and function of pineal body.

2.a.30.Discuss histological structure and function of diffuse neuroendocrine system.

2.a.31.Outline Clinical correlations of endocrine system.

2.a.32. Discuss the histological structure and function of Kidneys.

2.a.33. Discuss the histological structure and function of The Ureter and Urinary Bladder

2.a34. Discuss the histological structures of male and female urethra.

2.a.35. Outline the clinical correlations of urinay system .

2.a.36. Discuss the histological structure and function of The Testis.

2.a.37.Discuss the histological structure and function of male genital ducts (tubuli recti ,rete testis ,epididymis ,Vas Deferensand ejaclaulatory ducts).

2.a.38.DescribeThe spermatic Cord.

2.a.39.Discuss the histological structure and function of accessory male genital glands .

2.a.40.DescribeThe Penis.

2.a.41.Outline the clinical correlations of the male genital system.

2.a.42. Discuss the histological structure and function of Ovaries.

2.a.43. Discuss the histological structure and function of the Uterus and the Uterine Tubes

2.a.44.Discuss cyclic changes of endometrium.

2.a.45. Discuss the histological structure and function of the cervix and the vagina.

2.a.46. Discuss the histological structure and function of Placenta.

2.a.47. Desribe female external genitalia.

2.a.48.Discuss the histological structure and function of Mammary Glands and Compare between Resting & Lactating Mammary Gland .

2.a.149.Outline the clinical correlations of the female genital system.

2.a.50.Discuss the histological structure and function of sclera and Cornea and describe corneoscleral junction..

2.a.51.Discuss the histological structure and function of the Uvea

2.a52.Discuss the histological structure and function of Retina

2.a.53. Describe refractive media of the eye.

2.a.54. Define chambers of the eye.

2.a.55.Discuss the histological structure and function of conjunctiva and eye lid.

2.a.56.Discuss lacrimal glands .

2.a.57.Outline the clinical correlations of the eye.

2.a58. Describe the structure of the external ear.

2.a.59. Describe the structure of the middle ear .

2.a.60.Discuss the histological structure and function of auditory tube.

2.a.61. Discuss inner ear(Bony Labyrinth and membranous Labyrinth)

2.a.62.Outline the clinical correlations of the ear.

2.a.63. Describe meninges and CSF.

2.a.64. Describe various levels of sections in spinal cord.

2.a.65.Describe pathways of ascending and descending tracts.

2.a.66.Describe the levels of Brain stem.

2.a.67.Discuss the histological structures and function of cerebrum.

2.a.68.Discuss the histological structures and function of cerebellum.

2.a.69.Outline the clinical correlations of the Central nervous system.

2.b.Intellectual skills:

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

2.b.1. justify the technical and investigational database to be proficient in histological problem solving.

2.b.2. Generate a list of initial technical hypotheses for each problem.

2.b.3 Analyzes all sources of information to Interpret and evaluate the tissue samples

2.c. <u>Professional and practical skills</u>:

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

2.c.1. Adopt an empathic and holistic approach to the researches and their problems.

2.c.2 Demonstrate Respect for right researches' and involve them and /or their in management decisions.

2.c.3 Demonstrate the more recent in researches in stem cells.

2.c.4. Respect the role and the contributions of other health care professionals regardless their degrees or rank (top management, subordinate or colleague)..

2.c.5. Complies with the requirements of the national code of ethics issued by the Egyptian Medical Syndicate.

2.c.6. Conduct counseling sessions for more advances in researches.

2.c.7. Reflect critically on their own performance and that of others, to recognize personal limitations regarding skills and knowledge to refer their student's facility at the appropriate stage.

2.d. **<u>General and transferable skills</u>**:

By the end of the course, students should 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.

2.d.5.Establish effective interpersonal relationship to Communicate ideas and arguments .

2.d.6. Work effectively as a member or a leader of an interdisciplinary team .

2.d.7. Apply the principles of statistical methods for collection,

3- Course contents:

TOPIC	Total No. of hours	LECTURES	PRACTICAL

THE INTEGUMENTARY SYSTEM 1-structure and function of the skin 2-histological structure &function of epidermis, dermis (papillary and reticular layer) 3-Different types of cells present in the epidermis (keratinocytes, melanocytes, langerhan's cells, Merkel's cells) 4-Types of skin and their sites :Thick Skin& Thin Skin. 5-pigmentation of skin 6-Immune response in skin 7-Sweat glands 8-Hair &hair follicles 9-Sebaceous glands and erector pili muscles 10-Sensory receptors of skin	8	4	4
THE RESPIRATORY SYSTEM 1- conducting portion of respiratory system (histological structure and function) nasal cavity, nasal conchae, olfactory area, paranasal sinuses, nasopharynx, pharyngeal tonsils, larynx, epiglottis, trachea, bronchial tree, bronchioles) 2- respiratory portion respiratory (histological structure and function) bronhioles, alveolar ducts, alveolar sacs, alveoli	8	4	4

,interalveolar wall) 3-structure of pleura 4-structure of foetal lung 5-Non respiratory function of lung 6-Bronchus associated lymphoid tissue			
THE DIGESTIVE SYSTEM 1-Oral cavity(Lip, cheeks, Tongue) salivary glands(classification, typesof acini ,parotid ,sublingual& submandibular) palate and pharynx 2-Digestive tube : General features (structure and function of four layers) 3-Oesophagus 4-Gastro-Oesophageal Junction 5-Stomach (cardiac ,Fundus , Pylorus) 6-Gastroduodenal Junction 7-Small Intestine *8-Large Intestine* *9-Appendix* *10-rectum and anal Canal* *11-Pancreas* *12- Liver &-Gall Bladder*	24	12	12
THE URINARY SYSTEM 1-Kidneys 2-The Ureter 3-Urinary Bladder 4-male urethra 5-female urethra	8	4	4
THE ENDOCRINE SYSTEM 1-Pituitary Gland	12	6	6

2-Thyroid Gland 3-Parathyroid Glands 4-Adrenal (Suprarenal) Glands 5- pineal body 6-islet's of pancreas 7-difuse neuroendocrine system			
THE MALE REPRODUCTIVE SYSTEM 1-The Testis 2-Male genital ducts (histological structure &function)of tubuli recti, rete testis ,epididymis, Ductus Deferens (Vas Deferens) & spermatic Cord 3-sccessory male genital tracts (histological structure &function) seminal vesicles ,Prostate. bulbourethral glands of Cowper 4-The Penis	8	4	4
THE FEMALE REPRODUCTIVE SYSTEM 1-Ovaries(histological structure &function) 2-The Uterine Tubes 3-The Uterus (histological structure &function) 4-cyclic changes of endometrium 5-cervix(histological structure &function) 6-Placenta 7-vagina(histological structure &function) 8-external genitalia 9- Mammary Glands (Resting & Lactating Mammary Gland)	8	4	4
THE EYE 1-wall of the eye 2-external fibrous coat : histological	8	4	4

structure &function of(sclera, Cornea, corneoscler junction) 3-middle vascular coat histological structure &function of (choroids,ciliary body ,iris) 4- Retina (inner nervous coat)histologic structure &function. 5 refractive media of the eye , lens ((histological structure &function chambers of the eye 7-vitreous body 8-accessory structure of the eye (conjunctiva ,eye lid, lacrimal glands)			
THE EAR 1-external ear (Auricle ,external auditory meatus ,tympanic membrane) 2-middle ear (tympanic cavity, auditory ossicles, windows ,auditory tube) 3-inner ear :Bony Labyrinth &membranous Labyrinth	8	4	4

-CNS 1- Anatomical consideration of CNS 2- meninges 3- spinal cord 4- medulla oblongata 5- pons 6- mid brain 7- cerebellum 8- dinencephalon 9- cerebral cortex	12	6

4- <u>Teaching and learning methods</u>:

<u>METHODS USED:</u>

4.1.Lectures

4.2.Small group discussions: Museum specimens, demonstration (slides photographs and video films), models and case study.

4.3.Tutorials.

4.4.Practical classes.

4.5.Seminars.

4.6.self learning

<u>TEACHING PLAN:</u>

Lectures: Division of students into 3 groups
20 h /week, Time from 9.00 am to 3.00 pm .

Tutorials: 10 h/week.

Practical classes: 18 h/week.

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	20 h /week; one hour each between to	1920 hours	
Practical	18 hours / ___week	1728 hours	
Tutorial	10 hours /	960 hours	

	week		
Total	48 hours/week	3608 hours	

***5- Students Assessment methods*:**

5-A) <u>ATTENDANCE CRITERIA</u>: Faculty bylaws

5-B) <u>Assessment TOOLS:</u>

Tool	Purpose (ILOs)
Written examination	To assess knowledge acquisition
Oral examination	To assess understanding and stability of knowledge given, attitude and presentation.
Practical examination	To assess practical skills.

5-C) <u>TIME SCHEDULE</u>:

Exam	Week
1- First part examination	24 weeks
2- Second part examination	72 weeks
3-thesis	
4-assignment and other activites	

5-D) <u>Weighting System:</u>

Examination	**Marks allocated**	**% of Total Marks**
1- First part exam	1200	70.5%
2- Second part exam: a _Written b- Practical c- Oral	500 300 100 100	29.4%
6- Assignments & other activities	____	_____
Total	**1700**	**100%**

-the minimum passing and passing grades(faculty by law)

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) Examinassions description:

Examination	Description
1- First part exam	Objectively structured questions
5- Final exam: a- Written b- Practical c- Oral	 e.g. select (MCQs) & Supply (Short essay) questions e.g. Do, identify e.g. How many sessions
6- Assignments & other activities	e.g. Assignments, projects, practical books etc
Total	_

6- List of references:

6.1. Basic materials:

- ***Alberts, B.; Dennis, B. ; Karen, H.; Alexander, J.; Julian, L.; Martin, R.; Keith, R. and Peter, W. (2010):*** Essential Cell Biology. 3th Edition . Garland Science, New York and London.

- ***Mescher, A.L. (2010):*** Junqueira's Basic Histology, Text and Atlas. 12th ed. McGraw – Hill Companies, United States of America.

6.2. Essential books (text books):

- ***Ovalle, W.K. and Nahirney, P.C. (2008):*** Netter's Essential Histology. 1st ed. Elsevier Saunders, Philadelphia.

6.3. Recommended books:

- ***Gamble, M. (2008):*** Theory & practice of histological techniques: ***Bancroft, J.D. and Gamble,M.*** (eds) ; 6th ed. Charchill livingstone of Elsevier, Philadelphia.

6.4. Periodicals, Web sites, etc:

6.4.1.http://www.medscape.com.
6.4.2.http://www.pubmed.com.
6.4.3.http://master.emedicine.com/maint/cme.asp.
6.4.4.http://www.science direct.com.

7- Facilities required for teaching and learning:

Facilities used for teaching this course include:

- Lecture halls: 2

- Museum hall:6th floor
- Department lab

Course coordinator: Prof Dr. Omayma Kamel Helal

Head of Department: Prof Dr. Omayma Kamel Helal
Date: 2013 _ 2014.

ملحق (٥) مصفوفة المعارف والمهارات للبرنامج الدراسى

ملحق (7) مصفوفة المعارف والمهارات للبرنامج الدراسى

ILOs / Courses & codes / Courses		Knowledge & Understanding المعارف									
		a.1.٢	a.2.٢	a.3.٢	a.4.٢	a.5.٢	a.6.٢	a.72.	a.8.٢	a.9.٢	a.10.٢
الباثولوجي	HIST 601	*							*		*
كمياء الانسجة	HIST 602	*							*		*
علم الاجنه	HIST 603	*							*		*
علم وراثه الخليه	HIST 604	*							*		*
يشمل الآتي:	HIST 606	*	*	*	*	*	*	*	*	*	*
الجزء النظرى ويشمل مقدمه عن تركيب الميكرسكوب للخلايا	HIST7										
طرق تحضير العينات لفحصها	HIST 608	*		*					*	*	*

بالميكرسكوب الضوئى											
بيولوجيا الخليه ويشمل :التركيب المجهري للنواه والسيتوبلازم ،طرق انقسام الخلايا مع نبذه عن الامراض الوراثيه	HIST609										
دراسه الانسجه المختلفه	HIST610										
دراسه اجهزة الجسم المختلفه											
الجزء العملى:تحضير عينات الميكرسكوب الضوئى والالكترونى والتدريب على انواع الصبغات											