

Peer Revision

Reviewers	University	Date of Revision
- Prof. Dawlat Salem	Cairo	10/12/2011
- Prof. Ahmad K. Mansur	Mansura	28/11/2011

Program Specification of Master Degree in Pathology

Sohag University

Faculty of Medicine

A. Basic Information

1. Program Title: Master Degree in Pathology
2. Program Type: Single
3. Faculty: Faculty of Medicine
4. Department: Pathology
5. Coordinator: Dr: Afaf Al Nashar
6. Assistant coordinator: Fatma El-Zahra Salah El-Deen
7. External Evaluator(s) Prof. Dr. Thaana Helal
8. Last date of program specifications approval: Faculty council No. "317",
decree No. "1533" dated 17/12/2018.

B. Professional Information

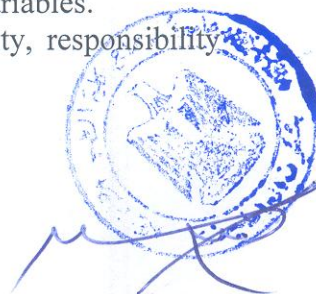
1. Program Aims:

The aim of this program is to provide the postgraduate with the basic medical knowledge and skills essential for the practice of pathology and necessary to gain further training and practice in the field of pathology through providing:

1. Scientific knowledge essential for practice of pathology according to the international standards
2. Basic skills necessary for proper processing and diagnosis of submitted tissue specimens including problem solving and decision-making skills
3. Ethical principles related to handling tissue specimens of the patients
4. Developing learning abilities necessary for continuous medical education & research interest and abilities

2. Attributes of the student:

1. Mastering the basics of scientific research methodologies in Pathology.
2. The application of the analytical method and used in the field of pathology.
3. The application of specialized knowledge and integrate it with the relevant knowledge in practice.
4. Be aware of the problems and has modern visions in the field of pathology.
5. Identify problems in the field of pathology and find solutions to them.
6. Mastery of professional skills in this specialty and use of the appropriate recent technologies supporting these skills.
7. Communicate effectively and the ability to lead work teams.
8. Decision-making in his professional contexts.
9. To employ and preserve the available resources to achieve the highest benefit.
10. Awareness of his role in the community development and preservation of the environment at the lights of both international and regional variables.
11. Reflects the commitment to act with integrity and credibility, responsibility and commitment to rules of the profession.



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11. Reflects the commitment to act with integrity and credibility, responsibility and commitment to rules of the profession.

12. Academic and professional self development and be capable of continuous learning.

3. Program Intended Learning Outcomes (ILOs)

a) Knowledge and understanding skills

By the end of the study of Master Program in Pathology the Graduate should be able to:

- a1. Mention the basis of etiology, pathogenesis and mechanisms, complications and fate of cell injury, cell death, inflammation, factors affecting repair, circulatory disturbances, microbial infections, basic immunology, immunopathology, extra & intracellular deposits, abnormalities of cell growth and neoplasia)
- a2. Enumerate perfectly the basics principles of genetic disorders.
- a3. Mention the basic principles of Systemic Pathology and Cytopathology
- a4. Mention perfectly the etiology, pathogenesis and mechanisms of diseases affecting different organs and body systems
- a5. Enumerate the gross and microscopic features and complications of diseases of the different body systems
- a6. List factors affecting fate and prognosis of different diseases and pathological disorders
- a7. Mention the basis of evaluation and diagnosis of cytology of different body fluids & aspirates
- a8. Enumerate common diagnostic and laboratory techniques necessary to establish diagnosis of different pathological disorders
- a9. Mention basic applications in the fields of Molecular Pathology, Tumor markers, and Immunohistochemistry
- a10. Mention the ethical and legal principles of professional practice in the field of pathology and ethics of scientific research

b) Intellectual skills

By the end of the study of Master Program in Pathology the Graduate should be able to:

- b1. Correlate as possible the clinical data obtained through the received hospital reports with finding of gross and microscopic examination to reach a final diagnosis or to list a differential diagnosis for further advanced investigations
- b2. Suggest from the different available special techniques the ones that can help reaching a final diagnosis, without burden the patient or waste the time and money of the department and the patient
- b3. Identify possible causes of misinterpretation of the microscopic findings and how to make the right decision
- b4. Assess risks in professional practices in the field of pathology
- b5. Plan for the development of performance in the field of pathology
- b6. Link between knowledge for Professional problems' solving
- b7. Conduct a research study and/or write a scientific study on a research problem
- b8. Formulate scientific papers in the area of pathology
- b9. Analyze researches and issues related to the pathology
- b10. Upgrading research interest and abilities

c) Professional and Practical Skills

By the end of the study of Master program in pathology the Graduate should be able to:

- c1. Perform tissue dissection, fixation, tissue selection, trimming, for making paraffin blocks and manual and automated tissue processing of different surgically removed specimens
- c2. Perform tissue slide staining, and cover slipping
- c3. Set up and operate a microscope with its different magnifications effectively
- c4. Recognize very well the microscopic features of tissue structure in normality and disease, as appropriate to one's level of experience
- c5. Write a gross description report and put differential diagnosis depending on microscopic findings
- c6. Identification of pathology problems and find solution
- c7. Plan to improve performance in the field of pathology
- c8. Assess methods and tools existing in the area of pathology
- c9. Manage scientific discussion administration based on scientific evidences and proofs
- c10. Criticize researches related to the field of pathology

d) General and Transferable Skills

By the end of the study of Master Program in Pathology the Graduate should be able to:

- d1. Manipulate computer programs; do web researches, to write an essay about recent subjects of pathology
- d2. Use information technology to serve the development of professional practice
- d3. Use different sources to obtain information and knowledge
- d4. Communicate effectively; assess himself/herself to identify the personal learning needs
- d5. Work coherently and successfully in a team, and team's leadership in various professional contexts
- d6. Develop rules and indicators for assessing the performance of others.
- d7. Manage time efficiently
- d8. Learn himself/herself continuously

4. Academic Standards

Sohag Faculty of Medicine adopted the general National Academic Reference Standards (NARS) provided by the National Authority for Quality Assurance and Accreditation of Education (naquee) for postgraduate programs. This was approved by the Faculty Council decree NO. 6854, in session NO.177 dated: 18/5/2009. Based on these NARS, Academic Reference Standards (ARS) were suggested for this program. These ARS were revised by the external evaluator, and approved by the Faculty Council decree NO. 7528, in its session NO.191, dated: 15/3/2010. The adoption of NARS and the suggested ARS were approved by University council degree No 587, in its session No.60. dated 26-12-2011.

5. Curriculum Structure and Contents

5.a. **Program Duration:** 6 semesters (3 years)

5.b. **Program Structure:**

5.b.i. No. of hours per week:

Subject	Hours /Week	
	Lectures	Practical/ Tutorial
<u>First Part:</u>		

General Pathology	9 hours	8 hours
Biostatistics, computer and research methodology	1 hours	2 hours
Second Part:		
Systemic Pathology	6.6 hours	6.6 hours

code	Item	No	%	
b.i	Total credit hours	Compulsory	50	100
		Elective	0	0
		Optional	0	0
b.iii	credit hours of basic sciences courses	13	26	
b.iv	credit hours of courses of social sciences and humanities	0	0	
b.v	credit hours of specialized courses:	24	48	
b.vi	credit hours of other course	4	8	
b.vii	Practical/Field Training	0	0	
b.viii	Program Levels (in credit-hours system):			
	Level 1: 1 st part	10	20	
	Level 2: 2 nd Part	24	48	
	Level 3: Thesis	6	12	

6. Program Courses

Three courses are compulsory

6.c1. Level of Program:

	Course Title	Total No. of hours	No. of hours /week		Program ILOs Covered
			Lect.	Lab.	
FIRST PART					
<u>a-Compulsory:</u>	General Pathology	17	9	8	a1, a2, a7, a8, a9, a10, b4, b5, b6, b8, c1, c2, c3, c4, c8, d1, d2, d3
	Biostatistics & computer and research methodology	3	1	2	a8, b1, b4, b5, b7, b9, b10, c1, c3, d1, d2, d3, d4, d6, d7, d8
SECOND PART					
<u>a-Compulsory:</u>	Systemic Pathology	11.2	4.6	6.6	a3, a4, a5, a6, a7, a8, a9, a10, b1, b2, b3, c5, c6, c7, c9, d1, d2, d3, d5, d6, d7, d8

7. Program Admission Requirements

I- General Requirements.

- Candidate should have either:
 - MBBch degree from any Egyptian Faculty of Medicine or
 - Equivalent Degree from Medical Schools abroad approved by the ministry of high Education.
- Candidate should pass the house office training year.
- Those who are not university hospital residents should pass a training for at least 12 months in one of the known hospitals.

4. Follow postgraduate bylaw Regulatory rules of Sohag Faculty of Medicine approved by the ministerial decree No. (44), dated 6/1/2010.

II- Specific Requirements.

1. Candidates graduated from Egyptian Universities should have at least "Good Rank" in their final year/ cumulative years examination, and grade "Good Rank" in Pathology course too.
2. Candidate should know how to speak & write English well
3. Candidate should have computer skills

8. Regulations for Progression and Program Completion

Duration of program is 50 credit hours (≥ 4 semesters ≥ 3 years), starting from registration till 2nd part exam; divided to:

First Part: (15 Credit hours ≥ 6 months ≥ 1 semester):

- Program-related basic & clinical sciences & research Methodology, Ethics & medical reports, Biostatistics and computer.
- At least six months after registration should pass before the student can ask for examination in the 1st part.
- Two sets of exams: 1st in October — 2nd in April.
- At least 50% of the written exam is needed to pass in each course.
- For the student to pass the first part exam, a score of at least 60% (Level D) in each course is needed.
- Those who fail in one course need to re-exam it only for the next time only, and if re-fail, should register for the course from the start.

Thesis/Essay(6 Credit hours ≥ 6 months=1 semester):

- Completion of the 1st part credit hours and passing the exams are pre requisites for documentation of the **Thesis/Essay** subject.
- Should be completed, defended and accepted after passing the 1st part examination, and at least one month before allowing to enter 2nd part final examination.
- Accepting the thesis is enough to pass this part.

Second Part: (24 Credit hours ≥ 18 months= 3 semesters):

- Program related specialized sciences of Pathology courses.
- Completion of the 1st part credit hours and passing the exams are pre requisites for documentation of the 2nd part courses.
- After passing at least:
- Practical training: 36 months training in the department of Pathology
- The students should pass the 1st part before asking for examination in the 2nd part.
- Fulfillment of the requirements in each course as described in the template and registered in the log book (5 Credit hours; with obtaining $\geq 75\%$ of its mark) is a prerequisite for candidates to be assessed and undertake part 1 and part 2 examinations; the credit hours of the logbook are calculated as following:
 - Each Cr. Hr.= 60 working Hrs.
 - Logbook= 5 Cr. Hr. X 60 working Hrs = 300 Working Hrs.
 - Collection of working Hrs. is as following:

Activity	Hrs
Grand rounds	اجتماع علمي موسع ٦

Training courses	دورات تدريبية	12/ day
Conference attendance	حضور مؤتمرات علمية داخلي خارجية	١٢/day 18/day
Thesis discussion	حضور مناقشات رسائل	٦
Workshops	حضور ورش عمل	١٢/day
Journal club	ندوة الدوريات الحديثة	٦
Seminars	لقاء علمي موسع	٦
Morbidity and Mortality conference	ندوة تحليل المخاطر المرضية أوالوفاة	٦
Self education program	برنامج التعليم الذاتي	٦

Two sets of exams: 1st in October - 2nd in April.

- At least 50% of the written exam is needed to pass in each course.
- For the student to pass the 2nd part exam, a score of at least 60% (Level D) in each course is needed.

9. Methods of student assessments:

Method of assessment	weight	The assessed ILOs
1-Activities		- General transferable skills, intellectual skills
2-Written Exams: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	50%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills
3-OSCE/ OSPE	50%	-Practical skills, intellectual skills, general transferable skills
4-Structured Oral Exams		- Knowledge, Intellectual skills, General transferable skills

Assessment schedule:

Part I:

- General Pathology: Written Exam (3 hours) + structured oral Exam +OSPE
- Biostatistics & Computer and Research Methodology: Written Exam (2 hours) + Structured oral Exam+ OSPE

Part II:

- Systemic Pathology: two written exams (3 hours each) + structured oral Exam +OSPE

10. Evaluation of Program Intended Learning Outcomes

Evaluators	Tool	Sample
1. Senior students	questionnaire	10
2. Alumni	questionnaire	4
3. Stakeholders (Employers)	questionnaire	15
4. External Evaluator(s) (External Examiner(s))	Report	1
5. Other		

Course Specification of General Pathology of Master Degree in Pathology

Sohag University

Faculty of Medicine

1. Program on which the course is given: master degree
2. Major or minor element of program: Minor
3. Department offering the program: Pathology
4. Department offering the course: Pathology
5. Academic year / Master Degree in Pathology, 1st part
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: General Pathology of Master Degree in Pathology

Code: PAT 0525. 200

Total hours:

Lectures	Practical	Tutorial	Total hour	Credit hours
135	120	-	255	13

B. Professional Information

1. Overall Aims of Course

By the end of the course the post graduate students should be able to have the professional knowledge of the pathology of medical diseases

2. Intended Learning Outcomes of Course (ILOs):

According to the intended goals of the faculty

a) **Knowledge and Understanding:**

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

- a1. Mention the etiology, pathogenesis and mechanisms, complications and fate of cell injury, cell death, inflammation, factors affecting repair, circulatory disturbances, microbial infections, basic immunology, immunopathology, extra & intracellular deposits, abnormalities of cell growth and neoplasia)
- a2. Enumerate adequately the basic principles of genetic disorders
- a3. Describe gross and histopathology of different disease categories and correlate it with the clinical basis of diseases.
- a4. Mention perfectly the prognosis of different disease categories
- a5. Mention the basis of evaluation and diagnosis of cytology of different body fluids & aspirates
- a6. Mention the basics principles of genetic disorders
- a7. Enumerate common diagnostic and laboratory techniques necessary to establish diagnosis of different pathological disorders
- a8. List basic applications in the fields of Molecular Pathology, Tumor markers, and Immunohistochemistry

- a9. Mention the ethical and legal principles of professional practice in the field of pathology and ethics of scientific research

b) Intellectual Skills:

By the end of the study of Master Program in Pathology the Graduate should be able to:

- b1. Correlate as possible the clinical data obtained through the received hospital reports with finding of gross and microscopic examination to reach a final diagnosis or to list a differential diagnosis for further advanced investigations
- b2. Suggest from the different available special techniques the ones that can help reaching a final diagnosis, without burden the patient or waste the time and money of the department and the patient
- b3. Identify possible causes of misinterpretation of the microscopic findings and how to make the right decision
- b4. Assess risks in professional practices in the field of pathology
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- b8. Formulate scientific papers in the area of pathology
- b9. Analyze researches and issues related to the pathology
- b10. Upgrading research interest and abilities

c) Professional and Practical Skills:

By the end of the study of Master program in pathology the Graduate should be able to:

- c1. Perform tissue dissection, fixation, tissue selection, trimming, for making paraffin blocks and manual and automated tissue processing of different surgically removed specimens
- c2. Perform tissue slide staining, and cover slipping
- c3. Set up and operate a microscope with its different magnifications effectively
- c4. Recognize very well the microscopic features of tissue structure in normality and disease, as appropriate to one's level of experience
- c5. Write a gross description report and put differential diagnosis depending on microscopic findings
- c6. Identification of pathology problems and find solution
- c7. Plan to improve performance in the field of pathology
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- c10. Criticize researches related to the field of pathology

d) General and Transferable Skills:

By the end of the study of Master Program in Pathology the Graduate should be able to:

- d1. Manipulate computer programs; do web researches, to write an essay about recent subjects of pathology
- d2. Use information technology to serve the development of professional practice
- d3. Use different sources to obtain information and knowledge

- d4. Communicate effectively; assess himself/herself to identify the personal learning needs
- d5. Work coherently and successfully in a team, and team's leadership in various professional contexts
- d6. Develop rules and indicators for assessing the performance of others
- d7. Manage time efficiently
- d8. Learn himself/herself continuously

3. Course contents:

Topics	No. of hours	Lecture	Practical/Tutorial
1- <u>Basics of General Pathology:</u>			
1.1. Cellular adaptation to cell injury, cell death & aging	16	9	7
1.2. Acute and chronic inflammation	24	13	11
1.3. Tissue renewal and repair; regeneration healing and fibrosis	14	7	7
1.4. Hemodynamic disorders, thromboembolic disease and shock	16	9	7
1.5. Environmental and nutritional pathology	12	7	5
1.6. Intracellular accumulation & pathologic calcification	11	7	4
1.7. Immunity & immunological disorders	18	11	7
1.8. Infectious diseases	22	11	11
1.9. Disturbances of cellular growth.	14	7	7
1.10. Neoplasia and tumors	30	15	15
1.11. Diseases of infancy and childhood	16	7	9
1.12. Principles of genetic diseases	16	9	7
2- <u>Cytology and cytopathology</u>	18	9	9
3- <u>Handling & processing of surgical specimens</u>	14	7	7
4- <u>Special techniques in surgical Pathology</u>	14	7	7
Total	255	135	120
Credit hour	13	9	4

4. Teaching and Learning Methods

- 4.1. Lectures.
- 4.2. Practical lessons: Gross and histopathology (Jars & slides)
- 4.3. Assignments
- 4.4. Attending and participating in scientific conferences, workshops and thesis discussion to acquire the general and transferable skills needed

5. Student Assessment Methods

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2- Written Exam: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills,
5.3- Structured Oral Exam	- Knowledge, Intellectual skills, General

	transferable skills
5.4-OSPE	-Practical skills, intellectual skills
5.5 assignment	-General transferable skills, intellectual skills

Assessment Schedule

Assessment 1: Review:	week 8
Assessment 1: Review:	week 12
Assessment 2: Final written exam:	week 24-26
Assessment 3: OSPE:	week 24-26
Assessment 4: Final Structured Oral:	week 24-26

Weighting of Assessments

Final-term Written examination	50 %
OSPE	30 %
Final Structured Oral	20 %
Total	100%

Formative only assessment: simple research assignments, and attendance and absenteeism

6. List of References

6.1- Essential Books (Text Books):

- Muir's text book of Pathology, 14th edition, 2008.
- Robbins Pathologic Basis of Diseases, 9th edition, 2010.

6.2- Recommended Books:

- Rosai & Ackerman text book of Pathology, 10th edition, 2010.
- Sternberg text book of Pathology, 5th edition, 2010.

6.3- Periodicals:

- Journal of Pathology
- Human Pathology
- Modern Pathology
- Histopathology
- American Journal of Pathology.

Web Sites: <http://www.ncbi.nlm.nih.gov/pubmed/>

- <http://www.uscap.org>
- <http://www.aacr.org>
- <http://www.ascp.org>

7. Facilities Required for Teaching and Learning:

1. Adequate infrastructure including teaching places (teaching class, teaching halls, teaching laboratory, museum), well equipped research laboratory comfortable desks, good sources of aeration, bathrooms, good illumination and safety and security tools
2. Teaching tools including screens computers, data shows, projectors, flip charts, white boards video player, digital video camera, scanner, copier, colored and laser printers

Course Coordinator: Dr. Fatma Al Zahara

Head of Department: Dr. Afaf Taha Elnshar

Date: 18/12/2011, **Revised:**1/9/2012, **Revised:**1/12/2013, **Revised:**1/12/2018

Course Specifications of Applied biostatistics (with computer use) and Research Methodology in Master degree of pathology

Sohag University

Faculty of Medicine

1. Program title : Master degree in pathology
2. Major/minor element of the program : Minor
3. Department offering the course: Community Medicine and public Health Dep.
4. Department offering the program: pathology
5. Academic year /level : 1st part
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Master degree in pathology Statistics and Computer use for health services
and Research Methodology

Code: COM: 0525-200

Total Hours:

Title	Lectures	Practical/ surgical	Total	credit
Applied biostatistics and computers & Research methodology	15	30	45	2

B. Professional Information

Applied Biostatistics Module:

1. Overall Aims of Course

- a. To influence the students to adopt an analytical thinking for evidence based medicine.
- b. To use precisely the research methodology in researches and computer programs SPSS, Epi Info and Excel in data analysis.

Research Methodology Module:

1. Overall Aims of Course

The aim of this course is to provide the postgraduate student with the advanced medical knowledge and skills essential for the mastery of practice of specialty and necessary to provide further training and practice in the field of Public health and Community Medicine through providing:

1. Recent scientific knowledge essential for the mastery of practice of Public Health and Community Medicine according to the international standards.

2. Skills necessary for preparing for proper diagnosis and management of community problems, skills for conducting and supervising researches on basic scientific methodology.
3. Ethical principles related to the practice in this specialty.
4. Active participation in community needs assessment and problems identification.
5. Maintenance of learning abilities necessary for continuous medical education.
6. Upgrading research interest and abilities.

2. Intended Learning Outcomes of Courses (ILOs)

Applied Biostatistics Module:

a) Knowledge and understanding:

By the end of the course, the student is expected to be able to:

- a1. Mention different programs of analysis of data and statistical packages
- a2. Define the recent advances of sources of data and methods of collection.
- a3. Summarize data, construct tables and graphs
- a4. Calculate measures of central tendency and measures of dispersion
- a5. Describe the normal curves and its uses
- a6. Illustrate selected tests of significance and the inferences obtained from such tests
- a7. Illustrate selected tests of significance for parametric and non parametric inferences
- a8. Identify factor analysis and discrimination analysis.

b) Intellectual Skills

By the end of the course, the student is expected to be allowed to:

- b1. Mention how to collect and verify data from different sources
- b2. Interpret data to diagnose prevalent problems pathology

c) Professional and Practical Skills:

By the end of the course, the student is expected to practice the following:

- c1. Perform recent advanced technological methods in collection, analysis and interpretation of data and in management of prevalent problems in pathology

d) General and Transferable Skills:

By the end of the course, the student is expected to be able to:

- d1. Use appropriate computer program packages.
- d2. Use of different sources for information and knowledge about biostatistics.

Research Methodology Module:

2. Intended Learning Outcomes of Courses (ILOs)

a) Knowledge and understanding:

By the end of the course, the student is expected to be able to:

- a1. Define the recent advances of screening tests pertinent to selected diseases and the at-risk approach in the application of screening tests.
- a2. Explain the usefulness of screening tests, and calculate sensitivity, specificity, and predictive values.
- a3. Describe the study design, uses, and limitations.

- a4. Mention the recent advances of principles, methodologies, tools and ethics of scientific research.
- a5. Explain the strategies and design of researches.
- a6. Describe bias and confounding.
- a7. Describe sampling techniques and list advantages of sampling
- a8. Identify principles of evidence based medicine.

b) Intellectual Skills

By the end of the course, the student is expected to be able to:

- b1. Conduct research studies that adds to knowledge.
- b2. Formulate scientific papers in the area of public health and community medicine
- b3. Innovate and create researches to find solutions to prevalent community health problems
- b4. Criticize researches related to public health and community medicine

c) Professional and Practical Skills:

By the end of the course, the student is expected to be able to:

- c1. Enumerate the basic and modern professional skills in conducting researches in the area of public health and community medicine.
- c2. Design new methods, tools and ways of conducting researches. .

d) General and Transferable Skills:

By the end of the course, the student is expected to be able to:

- d1. Use of different sources for information and knowledge to serve research.
- d2. Work coherently and successfully as a part of a team and team's leadership in conducting researches and field studies.

3. Contents

Topic	No. of hours	Lecture	Tutorial/ Practical
Applied Biostatistics Module:			
Recent advances in collection, analysis and interpretation of data	3	1	2
-Details of Tests of significance: Proportion test	3	1	2
-Chi-square test	1.5	.5	1
-Student T test	1.5	.5	1
-Paired T test	1.5	.5	1
-Correlation	1.5	.5	1
-Regression	2	1	1
-ANOVA test	3	1	2
-Discrimination analysis	3	1	2
-Factor analysis	3	1	2
-Parametric and non parametric tests	4.5	.5	4
Research Methodology Module:			
Details of epidemiological studies (case control, cohort and cross sectional)	3	1	2
Clinical trials, Quasi experimental study	3	1	2
Bias and errors	2	1	1
Setting a hypothesis	1.5	.5	1

Recent advances in screening	1.5	.5	1
- Evidence – based Medicine: Concept and examples Applicability Scientific writing: A protocol A curriculum	3	1	2
Setting an objective - Critical thinking	2	1	1
Formulation of papers	1.5	.5	1
Total hours	45	15	30
Total Credit hours	2	1	1

4. Teaching and Learning Methods

- 4.1- Lectures
- 4.2- Practical sessions
- 4.3- Computer search assignments
- 4.4- Computer application

5. Student Assessment Methods

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exams: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills, - Practical skills, intellectual skills
5.3-Structured Oral Exams	- Knowledge
5.4Computer search assignment	- general transferable skills, intellectual skills

Assessment Schedule

- Assessment 1....Final written exam Week: 24
- Assessment 2....Final oral exam Week: 24
- Assessment 3 Attendance and absenteeism throughout the course
- Assessment 4 Computer search assignment performance throughout the course

Weighting of Assessments

Final-term written examination	50%
Final oral Examination	50%
Total	100%

Formative only assessments: attendance and absenteeism and Computer search assignments performance.

6. List of References

Applied Biostatistics Module:

6.1- Essential Books (Text Books)

- 1-Maxy-Rosenau Public health and preventive medicine, 2008.,Robert Wallace, publisher McGraw-Hill Medical; 15 edition.

6.2- Recommended

Books

- 1- Dimensions of Community Based projects in Health Care, 2018. Arxer, Steven L., Murphy, John W.; 1st edition.
- 2- Parks Text Book of Preventive & Social Medicine. 2017., K. Park. BanarsidasBhanot Publishers; 23 edition.
- 3- Clinical Epidemiology: The Essentials, 2013, Robert F., Suzanne W. Fletcher, Grant S., publisher Lippincott Williams & Wilkins; 5 edition.

6.3- Periodicals, Web Sites, ...etc

- 1-American Journal of Epidemiology
- 2-British Journal of Epidemiology and Community Health
- 3- WWW. CDC and WHO

sites

Research Methodology Module:

1. List of References

6.1- Essential Books (Text Books)

- 1-Maxy-Rosenau Public health and preventive medicine, 2008.,Robert Wallace, publisher McGraw-Hill Medical; 15 edition.

6.2- Recommended

Books

- 1- Dimensions of Community Based projects in Health Care, 2018. Arxer, Steven L., Murphy, John W.; 1st edition.
- 2- Parks Text Book of Preventive & Social Medicine. 2017., K. Park. BanarsidasBhanot Publishers; 23 edition.
- 3- Clinical Epidemiology: The Essentials, 2013, Robert F., Suzanne W. Fletcher, Grant S., publisher Lippincott Williams & Wilkins; 5 edition.

6.3- Periodicals, Web Sites, ...etc

- 1-American Journal of Epidemiology
- 2-British Journal of Epidemiology and Community Health
- 3- WWW. CDC and WHO

sites

7. Facilities Required for Teaching and Learning:

Applied Biostatistics Module:

- Adequate conditioned space for staff and assistants.
- Adequate conditioned teaching facilities.
- Audiovisual Aids: Data show, overhead and slide projectors and their requirements.

Research Methodology Module:

- ADEQUATE INFRASTRUCTURE: including teaching places (teaching class, teaching halls, teaching laboratory), comfortable desks, good source of aeration, bathrooms, good illumination, and safety & security tools.
- TEACHING TOOLS: including screens, computers including cd (rw), data shows, projectors, flip charts, white boards, video player, digital video camera, scanner, copier, color and laser printers.

Course Coordinator: Dr/ Rasha Abd El-Hameed

Head of Department: Prof/Ahmed Fathy Hammed

Date: 18/12/2011, Revised:1/9/2012, Revised:1/12/2013, Revised:1/12/2018

Course Specification of Systemic Pathology for Master Degree in Pathology

Sohag University

Faculty of Medicine

1. Program on which the course is given: Postgraduate study
2. Major or minor element of program: Major
3. Department offering the program: Pathology
4. Department offering the course: Pathology
5. Academic year / Master Degree in Pathology, 2nd part
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: systemic pathology for Master Degree in Pathology

Code: PAT 0525. 200

Total Hours:

Lectures	practical	Tutorial	Total hour	Credit hours
٢١٠	300	-	510	24

B. Professional Information

1. Overall Aims of Course

By the end of the course the post graduate students should be able to have the professional knowledge of the pathology of medical diseases

2. Intended Learning Outcomes of Course (ILOs):

According to the intended goals of the faculty

a) **Knowledge and Understanding:**

By the end of the study of Master Program in Pathology the Graduate should be able to:

- a1. Mention the basic principles of Systemic Pathology and Cytopathology
- a2. Mention etiology, pathogenesis and mechanisms of diseases affecting different organs and body systems
- a3. Mention the gross and microscopic features and complications of diseases of the different body systems
- a4. List factors affecting fate and prognosis of different diseases and pathological disorders
- a5. Mention how to evaluate and diagnose cytopathology of different body organs & systems
- a6. Enumerate common diagnostic and laboratory techniques necessary to establish diagnosis of different pathological disorders
- a7. Mention the basic applications in the fields of Molecular Pathology, Tumor markers, and Immunohistochemistry
- a8. Mention the ethical and legal principles and of professional practice in the field of pathology and ethics of scientific research

b) Intellectual Skills:

By the end of the study of Master Program in Pathology the Graduate should be able to:

- b1. Correlate as possible the clinical data obtained through the received hospital reports with finding of gross and microscopic examination to reach a final diagnosis or to list a differential diagnosis for further advanced investigations
- b2. Suggest from the different available special techniques the ones that can help reaching a final diagnosis, without burden the patient or waste the time and money of the department and the patient
- b3. Identify possible causes of misinterpretation of the microscopic findings and how to make the right decision
- b4. Assess risks in professional practices in the field of pathology
- b5. Plan for the development of performance in the field of pathology
- b6. Link between knowledge for Professional problems' solving
- b7. Conduct a research study and/or write a scientific study on a research problem
- b8. Formulate scientific papers in the area of pathology
- b9. Analyze researches and issues related to the pathology
- b10. Upgrading research interest and abilities

c) Professional and Practical Skills:

By the end of the study of Master program in pathology the Graduate should be able to:

- c1. Perform tissue dissection, fixation, tissue selection, trimming, for making paraffin blocks and manual and automated tissue processing of different surgically removed specimens
- c2. Perform tissue slide staining, and cover slipping
- c3. Set up and operate a microscope with its different magnifications effectively
- c4. Recognize very well the microscopic features of tissue structure in normality and disease, as appropriate to one's level of experience
- c5. Write a gross description report and put differential diagnosis depending on microscopic findings
- c6. Identification of pathology problems and find solution
- c7. Plan to improve performance in the field of pathology
- c8. Assess methods and tools existing in the area of pathology
- c9. Manage scientific discussion administration based on scientific evidences and proofs
- c10. Criticize researches related to the field of pathology

d) General and Transferable Skills:

By the end of the study of Master Program in Pathology the Graduate should be able to:

- d1. Manipulate computer programs; do web researches, to write an essay about recent subjects of pathology
- d2. Use information technology to serve the development of professional practice
- d3. Use different sources to obtain information and knowledge
- d4. Communicate effectively; assess himself/herself to identify the personal learning need

- d5. Work coherently and successfully in a team, and team's leadership in various professional contexts
- d6. Develop rules and indicators for assessing the performance of others.
- d7. Manage time efficiently
- d8. Learn himself/herself continuously

3. Course Contents:

Topic	No. of hours	Lecture	Practical/ Tutorial
<u>1. Diseases of Blood vessels:</u>	18	12	6
1.1. Atherosclerosis	5	3	2
1.2. Hypertension	2	2	0
1.3. Vasculitis	4	2	2
1.4. Aneurysms	3	2	1
1.5. Thrombophelbitis & phelibothrombosis	3	2	1
1.6. Varicose veins	1	1	0
<u>2. Diseases of the Heart:</u>	28	18	10
2.1. Endocardium & rheumatic fever	8	4	4
2.2. Ischemic heart diseases	6	4	2
2.3. Myocarditis	1	1	0
2.4. Valvular heart diseases	3	2	1
2.6. Congenital heart diseases	3	2	1
2.5. Hypertensive heart diseases	1	1	0
2.6. Cardiac dysfunction & heart failure	2	2	0
2.7. Pericardial effusions & pericarditis	4	2	2
<u>3. Diseases of the Respiratory system:</u>	44	20	24
3.1. Chronic obstructive airway diseases	6	4	2
3.2. Pneumonias and lung infections	7	3	4
3.3. Chronic suppurative lung diseases	9	4	5
3.4. Atelectasis and lung collapse	4	2	2
3.5. Pulmonary hypertension	4	2	2
3.6. Pleural effusions & empyema	3	1	2
3.7. Tumors of the lung.	11	4	7
<u>4. Diseases of the Gastrointestinal tract:</u>	56	20	36
4.1. Esophagitis.	3	1	2
4.2. Esophageal varices & hematemesis	1	1	0
4.3. Esophageal tumors	4	1	3
4.4. Acute gastritis, chronic gastritis	5	2	3
4.5. Peptic ulcers	5	2	3
4.6. Gastric tumors	10	3	7
4.7. Enterocolitis	5	2	3
4.8. Inflammatory bowel diseases	8	2	6
4.9. Melena & rectal bleeding	2	2	0
4.10. Tumors of the small and large intestine	10	3	7
4.11. Diseases of the appendix	3	1	2
<u>5. Diseases of the Liver & Biliary system:</u>	28	12	16
5.1. Hepatitis and liver cirrhosis.	11	5	6
5.2. Portal hypertension and liver cell	7	5	2

failure.			
5.3. Tumors of the liver.	10	2	8
<u>6. Diseases of the Pancreas:</u>	9	3	6
6.1. Pancreatitis	3	1	2
6.2. Pancreatic tumors	6	2	4
<u>7. Diseases of the Urinary tract:</u>	58	22	36
7.1. Acute & chronic glomerulonephritis	13	5	8
7.2. Pyelonephritis & hydronephrosis	6	3	3
7.3. Nephrotic syndrome	4	2	2
7.4. Renal tuberculosis	3	1	2
7.5. Renal artery stenosis	1	1	0
7.6. Renal stones	4	2	2
7.7. Renal tumors	11	3	8
7.8. Cystitis including bilharzial cystitis	3	1	2
7.9. Obstruction & calculi of urinary bladder	3	2	1
7.10. Tumors of the urinary bladder & ureter	10	2	8
<u>8. Diseases of the Male reproductive system:</u>	26	8	18
8.1. Orchitis	2	1	1
8.2. Male infertility	5	1	4
8.3. Testicular tumors	6	2	4
8.4. Prostatitis	2	1	1
8.5. Benign prostatic hyperplasia	4	1	3
8.6. Prostatic tumors	7	2	5
<u>9. Diseases of the Female reproductive system:</u>	70	30	40
9.1. Diseases of the Vulva & Vagina	3	1	2
9.2. Acute & chronic cervicitis	3	1	2
9.3. Neoplasms of the cervix.	9	4	5
9.4. Functional endometrial disorders	5	2	3
9.5. Endometrial polyps & hyperplasia	9	4	5
9.6. Endometriosis & Adenomyosis	4	2	2
9.7. Endometritis	4	2	2
9.8. Abnormal uterine bleeding	2	2	0
9.9. Tumors of the uterine corpus	9	4	5
9.10. Salpingitis & oophoritis	2	1	1
9.11. Non-neoplastic functional cysts	3	1	2
9.12. Ovarian tumors	11	4	7
9.13. Hydatiform mole & choriocarcinoma	6	2	4
<u>10. Diseases of the The Breast:</u>	24	8	16
10.1. Inflammations & duct-ectasia	5	2	3
10.2. Benign breast diseases	6	2	4
10.3. Tumors of the Breast	13	4	9
<u>11. Diseases of the Endocrine system:</u>	40	16	24
11.1. Hyperpituitarism & hypopituitarism	1	1	0

11.2. Pituitary tumors	3	1	2
11.3. Thyroiditis	3	1	2
11.4. Hyperthyroidism & hypothyroidism	2	1	1
11.5. Grave's disease & goiter	3	1	2
11.7. Thyroid tumors	8	2	6
11.8. Hyper & hypoparathyroidism	1	1	0
11.9. Parathyroid adenomas	3	1	2
11.10. Adrenocortical hyperfunction	1	1	0
11.11. Adrenal insufficiency	1	1	0
11.12. Adrenocortical tumors	4	1	3
11.13. Pheochromocytoma	4	1	3
11.14. Neuroblastoma	4	1	3
11.15. Diabetes mellitus	2	2	0
<u>12. Diseases of Muscles & Peripheral nerves:</u>	6	2	4
12.1. Myopathies.	1	1	0
12.2. Peripheral nerve tumors.	5	1	4
<u>13. Diseases of the Central Nervous System:</u>	17	7	10
13.1. Hydrocephalus	1	1	0
13.2. Cerebrovascular disorders	3	2	1
13.3. Meningitis, encephalitis & brain abscess	3	2	1
13.4. Brain tumors	10	2	8
<u>14. Diseases of the skin:</u>	26	10	16
14.1. Warts, herpes & molluscum contagiosum	3	1	2
14.2. T.B, syphilis & leprosy	7	2	5
14.3. Tumors of the epidermis	4	2	2
14.4. Tumors of the dermis	4	2	2
14.5. Melanocytic tumors & tumor-like lesions	8	3	5
<u>15. Diseases of Bone, Joints & soft tissue:</u>	36	14	22
15.1. Osteomyelitis	4	2	2
15.2. Bone tumors & tumor-like conditions	10	3	7
15.3. Rheumatoid arthritis & osteoarthritis	4	2	2
15.4. Tumors & tumor like lesions of joints & synovial membranes	6	2	4
15.4. Soft tissue tumors.	12	5	7
<u>16. Diseases of hematopoietic and lymphoid system:</u>	24	8	16
16.1. Leukemias and lymphoma	17	5	12
16.2. Plasma cell dyscrasias	4	2	2
16.3. Hypersplenism & splenomegally	3	1	2
Total	510	210	300
Credit hour	24	14	10

4. **Teaching and Learning Methods**

- 4.1. Lectures
- 4.2. Practical lessons: Gross and histopathology (Jars & slides)
- 4.3. Assignments
- 4.4. Attending and participating in scientific conferences, workshops and thesis discussion to acquire the general and transferable skills needed

5. **Student Assessment Methods**

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2- Log book	- General transferable skills
5.3-Written Exam: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills,
5.4-Structured Oral Exam	- Knowledge, Intellectual skills, General transferable skills
5.5-OSPE	-Practical skills, intellectual skills
5.6 Computer search assignment	-General transferable skills, intellectual skills

Assessment Schedule

- Assessment 1: Review: week 20
Assessment 2: Review: week 40
Assessment 2: Review: week 60
Assessment 3: Log book; week 80-82
Assessment 4: Final written exam: week 96-98
Assessment 5: OSPE: week 96-98
Assessment 6: Final Structured Oral Exam: week 96-98

Weighting of Assessments

Final-term written examination	50 %
OSPE	30 %
Structured Oral Exam	20 %
Total	100%

Formative only assessment:

- Simple research assignments.
- Log book
- Attendance and absenteeism.

6. **List of References**

6.1- **Essential Books (Text Books):**

- Muir's text book of pathology, 15th edition, 2014.
- Robbins Pathologic Basis of Diseases, 10th edition, 2015.

6.2- **Recommended Books:**

- Rosai&Ackerman text book of Pathology, 11th edition, 2017
- Sternberg text book of Pathology, 6th edition, 2015.

6.3- **Periodicals:**

- Journal of Pathology
- Human Pathology
- Modern Pathology
- Histopathology
- American Journal of Pathology.

Web Sites: - <http://www.ncbi.nlm.nih.gov/pubmed/>

- <http://www.uscap.org>
- <http://www.aacr.org>
- <http://www.ascp.org>

7. Facilities Required for Teaching and Learning:

1. Adequate infrastructure including teaching places (teaching class, teaching halls, teaching laboratory, museum), well equipped research laboratory comfortable disks, good sources of aeration, bathrooms, good illumination and safety and security tools
2. Teaching tools including screens computers, data shows, projectors, flip charts, white boards video player, digital video camera, scanner, copier, colored and laser printers

Course Coordinator: Dr. Eman Muhammad Salah El-Deen

Head of Department: Dr. Afaf Taha Elnshar

Date: 18/12/2011, **Revised:**1/9/2012, **Revised:**1/12/2013, **Revised:**1/12/2018