PROGRAMME SPECIFICATION

Faculty of Medicine– Mansoura University

(A) Administrative information

(1) Programme Title & Code	Postgraduate Doctorate degree of internal medicine MED600
(2) Final award/degree	MD
(3) Department (s)	Internal medicine
(4) Coordinator(s)	Prof Salah Elgamal Prof Maha Maher
(5) External evaluator (s)	Prof Mohamed Kamar, Professor of internal medicine , Zagazig University.
(6) Date of approval by the Department`s council	26/7/2016
(7) Date of last approval of programme specification by Faculty council.	9/8/2016

(B) Professional information

(1) Programme Aims:

The broad aims of the Programme are as follows:

MD candidates must be able to provide a high standard patient care that is compassionate and effective for the treatment of internal medical conditions and the promotion of health.

They must treat their patient's conditions with practices that are safe , scientifically based, effective, efficient, timely, cost effective as well as evidence - based.

The program must integrate patient centered care and be prepared to offer consultation for other specialties as well as for junior internal medicine residents.

Postdoctoral graduates are expected to demonstrate the ability to:

1- demonstrate competency in principles and methodology of scientific research in internal medicine.
2- continuously updating knowledge of internal medicine and its specialties.
3- applying analytical methodology and critical appraisal of knowledge of internal medicine and other related specialties.
4- integration and updating of information of specialties of internal medicine with other related specialties such as basic medical sciences.
5- showing awareness of current problems and recent theories in internal medicine specialties.
6- defining professional problems and finding solutions for them.
7- showing competency in wide range of clinical and procedural skills in internal medicine and its specialties.
8- demonstrating the intention for the development of methods, tools and procedures in clinical practice.
9- use of suitable technologies in the field of practice of internal medicine.
10- effective communication and leadership of a healthcare team in different situations including emergencies.
11- making decisions based on available information.
12- efficient use of the available resources and their development and searching for newer resources.
13-being aware of their role in community development and environment protection.
14- acting with integrity, honesty and respecting medical ethics.
15–continuous self development and transfer of knowledge and skills to others.

(2) Intended Learning Outcomes (ILOs):

On successful completion of the programme, the candidate will be able to:

A- Knowledge and Understanding

A1. Recall the definition, causes, pathogenesis and physiology of Hemostasis, Fibrinolytic system, Erythropoiesis, Cardiac output, Heart rate regulation, Physiology of hemorrhage and shock, Coronary, venous, capillary and pulmonary circulation, Glucose homeostasis, Hypothalamo-pituitary function and Assessment, Thyroid function control, Regulation of food intake and obesity, Renin angiotensin aldosterone system, GFR: value and measurement Concentrating and diluting ability of the Kidney, Physiological basis and mechanism of action of Diuretics, Regulation of body fluid osmolality, Oxygen and CO2 transport by blood, Hypoxia and cyanosis, Regulation of hydrogen ion concentration, GIT motility, Control of gastric and pancreatic secretion, Bile metabolism, Body temperature regulation, K, Na and Ca homeostasis.

A2. Recognize the definition, causes, pathogenesis, pathological diagnosis of Cardiovascular pathology, Atherosclerosis ,thrombosis, aneurysms, Ischemic heart disease, Rheumatic fever and valvular heart disease, Bacterial endocarditis, Cardiomyopathy

A3. Recall the definition, causes, pathogenesis and pathology of the following Chest diseases including, Suppurative lung disease, Pneumonias , pulmonary fibrosis, TB, Respiratory, distress syndrome, Chronic bronchitis, emphysema, Bronchial asthma, Pulomary hypertension, Pulmonary embolism, Bronchogenic carcinoma

A4. Recognize the definition, causes, pathogenesis, pathological diagnosis of the following Gastroenterology and liver diseases including, Oesophagitis, Carcinoma of the oesophagus, Gastritis, peptic ulcer, Gastric tumours, Inflammatory bowel disease, Diverticular disease, Carcinoma of the colon, Liver cirrhosis and Portal hypertension, Viral hepatitis, The liver in systemic disease, NAFLD, Hepatocellular carcinoma, Chronic pancreatitis and pancreatic cancer.

A5. Recall the definition, causes, pathogenesis and pathology of the following Endocrinology diseases including, Suprarenal disorders, Pathogensis of goiter,Thyroid nodules, Thyroiditis, Autoimmune endocrine disorders, Diabetic complications : microvascular and macrovascular.

A6. Recognize the definition, causes, pathogenesis, pathological diagnosis of the following Kidney diseases including, Glomeular disease.

A7 Recognize the definition, causes, pathogenesis, diagnosis & treatment of the following Gastroenterology , Hepatobiliary & pancreatic disorders including, Oesophgeal disorders, Stomach: H pylori- peptic ulcer, Gastritis – Gastropathy- Tumours, Upper and lower GIT bleeding, Small intestine:Malabsorption/ Tumours, Inflammatory bowel disease, Constipation – Diarrhea, Diverticulosis /Tumours of colon,Functional bowl disorders, Acute abdomen / Pritoneal diseases, Jaundice, Acute hepatitis, Chronic hepatitis: viral – autoimmune, Drug induced- NAFLD, Liver cirrhosis & its Complications, Liver cell failure /Liver transplantation, Liver abscesses and other infections, Budd Chiari & Veno-occlusive dis, Drugs & the liver, Gall bladder: stones, inflammation, Tumours, Pancreas: pancreatitis, cancer, GIT and liver diseases of obscure nature.

A8 Recall the definition, causes, pathogenesis, diagnosis & treatment of the following Hematology and oncology topics including, Hematology, Anemias: types, classification,diagnosis, Bone marrow failure, Hemolytic anemia, Myeloproliferative disorders, Splenomegaly, Blood transfusion, White cell disorders, Hemostasis and thrombosis, **Oncology,** Principles of cancer, chemotherapy, Leukemias / Lymphomas /Myeloma.

A9 Demonstrate sufficient knowledge of the basics, definition, causes, pathogenesis, diagnosis & treatment of the following Endocrinology, Diabetes , Metabolism, And clinical Nutrition aspects including, Introduction /Hypothalamic disorders, Reproduction and pubery & disorders, Growth axis: short stature /Tall stature, Growth hormone abnormalities, Acromegay, gigantism-Hypopituitrism, Thyroid : Hypo-hyperthyroidism / Goitre, Suprarenal gland: Cushing, Hypoadrenalism / Pheochromocytoma, Thirst axis: DI / SIADH, Calcium metabolism: Parathyroid disorders, Metabolic bone disease, Endocrinology of blood pressure, Neuro-endocrine tumours / MEN, Diabetes and its Complications, Hypoglycemia, Obesity and metabolic syndrome, Inborn errors of metabolism, Lipid metabolism and disorders

A10 Recognize the definition, causes, pathogenesis, diagnosis & treatment of the following Rheumatology and immunology disorders including, Common regional musculoskeletal disorders, OA- RA- Crystal arthritis, Inflammatory arthritis, Seronegative arthropathy, Connective tissue disorders: SLE, Systemic vasulitis, Rheumatologic disorders in systemic diseases, Uric acid disorders, Principles of autoimmune disorders, Immune deficiency disorders, Hypersensitivity

A11 Recall the definition, causes, pathogenesis, diagnosis & treatment of the following Cardiovascular medicine topics including, IHD, Acute coronary syndromes, Arrythmias, Heart failure, HTN, Rheumatic fever, Valvular heart disease, Infective endocarditis, Cardiac muscle disease, Pericardial disease

A12 Recognize the definition, causes, pathogenesis, diagnosis & treatment of the following Respiratory medicine &Critical care aspects including, Pneumonia, Suppurative lung disease, Lung tumours, Asthma /COPD, Resiratory failure /ARDS, TB, Pleural effusion, Intersitial lung disease, Sarcoidosis /Alveolitis, Basics of Mechanical ventilation.

A13 Recognize the definition, causes, pathogenesis, diagnosis & treatment of the following Renal medicine& electrolytes topics including, Investigation of renal functions, Glomerular disorders, Nephrotic syndrome, Kidney in systemic disorders, , UTI, Interstitial renal disease, HTN & vascular disorders & the kidney Calculi, Drugs & the kidney, Acute renal failure, Chronic renal failure, Water & electrolytes, Acid base disorders, Renal replacement therapy.

A14 Recognize the definition, causes, pathogenesis, diagnosis & treatment of the following Neurology & psychiatry topics including, Mental state assessment, Psychiatric aspects of physical diseases, Depression and anxiety/Eating disorders,

Sensory pathway / Motor system, Coma / Cerebrovascular strokes, Epilepsy, Movement disorders / Muscle disease, Paraneoplastic syndromes/brain tumours, Headache, migraine, Cranial nerves /Peripheral nerve lesions.

A15 Recognize the Basic of geriatric medicine(Common problems in the elderly).

A16 Recognize the definition, causes, pathogenesis, diagnosis & treatment of the following Infectious diseases aspects including, Viral infections, Bacterial infections: Brucellosis /Typhoid
Parasitic diseases, Fungal infections, STDS /HIV, Emerging viral infections.

A17 Recognize the definition, causes, pathogenesis, diagnosis & treatment of the following General internal medicine topics including, History taking and examination, Ethics and communication, Chest pain / Dyspnea / Polyuria, Syncope, PUO, Fatigue, Laboratory interpretation, Imaging techniques and interpretation , Evidence based medicine, Steps of EBM and some critical appraisal skills.

A18 Recognize the definition, causes, pathogenesis, diagnosis & treatment of the following Emergency medicine aspects including, Shock, Pulmonary embolism, Cardiac arrest and brain death, Advanced life support (ALS), Workshop by ERC.

A19 Demonstrate sufficient knowledge of the principles of quality assurance in health care .
A20 Showing sufficient knowledge of environmental development and the impact of the medical practice on the environment.

A21. Recognize the definition, causes, pathogenesis, diagnosis & treatment of one of the following Elective course; Advanced endoscopic procedures, Advanced immunology course , Organ transplantation course, Evidence based medicine course, Diabetic foot course, Renal dialysis course

B- Intellectual skills

B1 **identify strengths, deficiencies, and limits in one's knowledge and expertise and be able to be updated and face challenges.**
B 2 **solve professional problems according to available data and set learning and improvement goals.**
B 3 **identify and perform appropriate learning activities and prepared to be able to transform these activities through teaching.**
B 4 **systematically analyze practice using *quality improvement methods* , and implement changes with the goal of practice improvement.**
B 5 **analyze efficiently case scenarios and refer to the most appropriate diagnosis and possible differential diagnosis and interpret basic clinical tests and images as well as obscure findings.**
B6 **run scientific research and formulate scientific papers.**
B 7 **locate , appraise , and assimilate evidence from scientific studies related to their patient's health problems , i.e. adopt an *evidence based approach* .**
B 8 **use information technology to optimize learning and participate in the education of students. patients , families , students.**
B9 evaluate risks involved in clinical practice.
B10 *be creative and innovative*.

C- Professional/practical skills

C **1show competency in basic and updated clinical examination skills and other procedurs in internal medicine**
C 2 **act in a consultative role to other physicians and health professionals.**

C 3 **perform and interpret laboratory and radiological findings in diagnosis and treatment of internal medical diseases**

C 4**. write and evaluate medical reports and maintain comprehensive , timely, legible medical records if applicable..**

C 5 **use of information technology in the development of clinical practice**

C6 demonstrate competency in performing diagnostic and therapeutic procedures required by the medical consultants including advanced life support CVP , and Sengstaken tube insertion, difficult cases ECG interpretation, stress ECG, echocardiography, endoscopies , Liver biopsy, renal biopsy and lumber puncture, according to their specialization.

C7 **participate in development of clinical practice and evaluation of the performance**

D- Communication & Transferable skills

D 1 **demonstrate the ability to interact with diverse patient population including but not limited to diversity in gender ,age , culture , race ,religion, disabilities.**

D 2 **communicate effectively with physicians , other health professionals and health related agencies.**

D 3 **communicate effectively with patients , families, and the public as appropriate , across a broad range of socioeconomic and cultural backgrounds**

D 4 **teach and evaluate the performance of others including junior residents, house officers, nurses as well as patients and their relatives.**

D 5 **show compassion , integrity and respect of others and respect for patient privacy and autonomy and demonstrate responsiveness to patient needs that supersedes self interest.**

D 6 **be prepared for continuous self learning and self evaluation.**

D7 use different resources for gaining information and knowledge.

D8 work in a team and as a team leader of different working groups.

D9 run scientific meetings and show the ability of time management.

(3) Academic standards:

Academic standards for the programme are attached in Appendix I. in which **NARS** issued by the National Authority for Quality Assurance & Accreditation in Education are used. External reference points/Benchmarks are attached in Appendix II.

3.a- External reference points/benchmarks are selected to confirm the appropriateness of the objectives, ILOs and structure of assessment of the programme:

Postgraduate Medical school : Clinical MD in general internal medicine program , Buckingham university , UK.

www.buckingham.ac.uk/medicine/postgrad/med-clinical.html

3.b- Comparison of the specification to the selected external reference/ benchmark:

The aims of the Benchmark are covered by the current program .

There are differences in the credit hours and the time table of the program.

About 85% of the topics of the benchmark are covered in our program.

(4) Curriculum structure and contents:

4.a- Duration of the programme : 42 months.

4.b- programme structure:

Candidates should fulfill a total of **60** credit hours

●4.b.1: Number of credit hours:

First part:**5 credit hours**.

Second part:

Internal medicine course**: 25 credit hours.**.

Log book including clinical training, workshops and training courses on diagnostic procedures, and other scientific activities: **15 credit hours**

Dissertation:**15 credit hours**.

●4.b.2: Teaching hours/week:

First part: Lectures: 4 hours /week (15 weeks) . Seminar: 2 hours/week

Research methodology course: 1 hour/week (12 weeks)

Second part:

Lectures: 3 hours /week . Seminars: 3 hour/week.

Clinical/practical: 3 hours/week . Total: 9 hours/week.

(5) Programme courses:

First part: Compulsory courses (First semester, 5 credit hours)

Course Title	Course Code	NO. of hours per week			Total teaching hours
		Theoretical		Total	
		Lectures	seminars		
Applied physiology	MED603	2	1	3	45
Applied pathology	MED605	1	1	2	30

The pathology and physiology courses are covered within the first semester, by the internal medicine department staff in collaboration with physiology and pathology department , in the form of lectures and seminars.

Advanced studies in medical fields consists of one hour lecture for 12 weeks.

In the seminars, the student will present topic related to the course with emphasis on recent advances in this topic, these topics will be included in the final exam for the first part.

b-Elective courses: none

Second part: (4 semesters): A Compulsory courses :

Course Title	Course Code	NO. of hours per week					Total teaching hours	Credit hours
		Theoretical		Clinical /practical				
Internal medicine and its branches	MED610	Lectures	seminar					23

Module I • **Gastroenterology , Hepatobiliary disordes** • **Hematology and medical oncology**		**3**	2	**2**				**6 credit hours**
Module II: • **Endocrinology Diabetes ,Metabolism & clinical nutrition.** * **Rheumatology & Clinical immunology.**		**3**	1	**2**				**6 credit hours**
Module III: **Cardiology** **Respiratory& critical care.** **Renal & electrolytes.**		**3**						**6 credit hours**
Module IV: **Neurology & psychiatry** **Infectious diseases** **Geriatrics** **General internal medicine evidence based medicine** **Emergency medicine** **Elective course:**		**3** **1**	**1**	**2** **2**				**5 credit hours** **2 credit hours**
Practical procedures				**1**				
Log book activities	**MED610c**							15 credit hours
Dissertation (Thesis)								15 credit hours

B: Elective courses:

An elective course (to fulfill 2 credit hours) is studied within one semester within module IV.

The candidate will choose one of the following courses (2 credit hours each):

- Advanced endoscopic procedures
- Advanced immunology course
- Organ transplantation
- Evidence based medicine course
- Diabetic foot course
- Renal dialysis course.

Programme-Courses ILOs Matrix

P.S. All courses` specifications are attached in Appendix III.

Course Title/ Code	Knowledge and understand																					Intellectual skills									
	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12	a13	a14	a15	a16	a17	a18	a19	a20	a21	b1	b2	b3	b4	b5	b6	b7	b8	b9	b10
Applied physiology/MED603	×																									×					
Applied pathology /MED605		×	×	×	×	×																				×					
Gastroenterology & Hepatobiliary disordes							×															×	×		×			×		×	
Endocrinology , Diabetes , Metabolism and nutrition									×											×		×	×	×		×		×			×
Nephrology													×										×	×		×				×	
Geriatrics															×				×	×		×	×		×			×			×
Hematology and oncology								×														×	×			×			×		

Rheumatology and immunology									×												×		×		
Infectious diseases															×				×				×	×	
Cardiology										×												×	×		×
Respiratory medicine											×								×		×	×			
Neurology & psychiatry													×									×	×		×
Emergency medicine Critical care																	×						×		×
General internal medicine Evidence based medicine																×					×	×	×		×
Elective Course																				×			×	×	×
Practical procedures																					×			×	
Log book activities	×	×		×		×	×	×													×	×	×	×	
Dissertation (Thesis)					×	×	×															×		×	

Course Title/Code																
	C1	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**	**d1**	**d2**	**d3**	**d4**	**d5**	**d6**	**d7**	**d8**	**d9**
Applied physiology/ MED603													×	×		
Applied pathology/ MED605													×	×		
Gastroenterology & hepatobiliary disorders	×	×	×			×	×	×	×	×	×	×	×	×	×	×
Endocrinology , Diabetes ,Metabolism and nutrition	×	×	×			×	×	×	×	×	×	×	×	×	×	×
Nephrology	×			×		×			×	×	×	×	×		×	×
Geriatrics				×			×			×	×	×	×		×	
Hematology and oncology	×	×	×		×	×			×	×		×	×		×	×
Rheumatology and immunology	×		×			×		×	×			×	×			×

Infectious diseases		×	×		×				×	×		×	×	×		×
Cardiology		×	×		×				×	×		×	×	×		×
Respiratory medicine	×	×		×				×	×			×	×		×	
Neurology & psychiatry	×	×		×				×	×			×	×		×	
Emergency medicine **Critical care**		×	×			×	×	×	×	×		×	×	×	×	
General internal medicine **Evidence based medicine**	×	×	×	×	×	×	×	×	×			×	×	×	×	×
Elective Course	×	×	×	×	×	×	×	×	×			×	×	×	×	×
Practical procedures		×				×	×				×	×		×	×	
Log book activities	×		×	×		×	×	×	×	×	×	×	×	×	×	×
Dissertation (Thesis)					×		×		×			×	×	×		×

(6) Programme admission requirements:

- **General requirements:**

According to the faculty postgraduate bylaws Appendix IV.

- **Specific requirements (if applicable):**

None

(7) Regulations for progression and programme completion:

- Student must complete minimum of 60 credit hours in order to obtain the MD. degree, which include the courses of first and second parts, thesis and activities of the log book.
- Courses description are included in Appendix III.

Dissertation (15 credit hours)

The postgraduate student has to prepare a thesis(registered 6 months after starting the program, during the second semester) on a chosen research topic in internal medicine under the supervision of 2 professors of internal medicine and one of the professors from other departments as well as one of the assistant professors or the lecturers in the internal medicine department.

An open discussion of the results of the study presented by the student must be accomplished before earning the degree (at least 2 years after registration).

Log book (15 credit hours , activities within the department):

1- Attendance of the clinics, clinical rounds and participation in procedural activities.
2- Training courses to develop skills in modern diagnostics in internal medicine.
3- Attendance of theses discussion and writing reports about four of them.
4- Attendance of conferences and clinical seminars inside and outside the department.
5- Advanced workshops.
6- Journal clubs.
7- Weekly seminars of different branches and monthly seminar of the whole department.
8- Case presentations.

- Lectures and seminars of the previously described courses must be documented in the log book and signed by the lecturer.
- Works related to thesis must be documented in the log book and signed by the supervisors.

Assessment:

الجزء الأول

المقرر	الاختبار	الدرجة تحريري
الفسيولوجيا التطبيقية	اختبار تحريري مدته ساعة ونصف	١٠٠
الباثولوجيا التطبيقية	اختبار تحريري مدته ساعة ونصف	١٠٠

An MCQ exam is done after completion of first part courses which represent 20% of the first semester.

الجزء الثاني

المقرر	الاختبار	الدرجة				إجمالي
		تحريري	شفهي	إكلينيكي	عملي	
الأمـــــــراض الباطنة وفروعها	اختبـاران تحريريـان مـدة كـل منهمـا ثـلاث ساعات + اختبـار شـفهي + اختبـار إكلينيكـي + اختبار عملي (الوسائل التشخيصية الباطنية) .	١٢٠ + ١٢٠	١٠٠	١٠٠	١٠٠	٦٠٠
وصف حالة	اختبار تحريري مدته ساعة ونصف	٦٠				
مقرر اختياري	اختبار تحريري لمدة ساعة + اختبار شفوي أو اكلينيكي	٢٥	٢٥			٥٠
	إجمـــالي الدرجة					٦٥٠

Continuous assessment:

An MCQ exam is done after completion of each module during each semester starting from the third to sixth semesters.

The sum of the 4 exams represent 20% of the final written exam

(8) Evaluation of Programme's intended learning outcomes (ILOs):

Evaluator	Tools*	Sample size
Internal evaluator **(s)** **Prof Megahed Abou Elmagd** **Prof Gamal Shiha** **Prof Mamdouh ElNahas**	**Group discussion**	
External Evaluator **(s)** **Prof Mohamed Kamar, Professor & Head of department of internal Medicine, Zagazig university.**	**External evaluator checklist report**	
Senior student **(s)**	**None**	
Alumni	**None**	
Stakeholder **(s)**	**None**	
Others	**None**	

- TOOLS= QUESTIONNAIRE, INTERVIEW, WORKSHOP, COMMUNICATION, E_MAIL

We certify that all information required to deliver this programme is contained in the above specification and will be implemented. All course specification for this programme are in place.	
Programme coordinators: Name: Prof Salah Elgamal Prof Omayma Saleh Prof Maha Maher	Signature & date:
Dean: Name:	Signature & date:
Executive director of the quality assurance unit: Name:	Signature & date:

P.S. The programme specification should have attached to it all courses specifications for all courses listed in the matrix.