PROGRAM SPECIFICATIONS

Program Title:

Doctorate of Anesthesia, Intensive care and Pain management

Code:

ANAN

Program Specification

A- Basic Information

1- Program Title: **MD of Anesthesia, Intensive care and Pain management**

2- Program Type: **Single** √☐ Double ☐ Multiple☐

3- Department (s): **Anesthesia and Intensive care Department**

4- Coordinator: **Dr. Aiman Ahmad Hamed Al-Touny**

5- External Evaluator(s): Prof.

6- Last date of program specifications approval**: the bylaws of the MD program in Anesthesia, Intensive care and Pain management in the Faculty of Medicine, Suez Canal University were approved by the Supreme Council of Universities on 27th of November, 2016.**

7- Date of program specification revision approval: 2016

8- Number of credit points for this degree: 180 CP

B- Professional Information

1- Program Aims

The overall goals of the program are to develop a competent and safe anesthesiologist who is able to:

- Conduct research at the clinical and advanced science levels to explain and improve the care of patients.
- Supervise, teach, and evaluate the performance of both medical and paramedical personnel involved in anesthesia, and critical care.
- Effectively and independently conduct a comprehensive perioperative assessment of a patient
- Effectively and independently formulate a comprehensive perioperative management plan and implement it
- Effectively prepare the operating room for any type of surgical procedure
- Efficiently perform regional anesthesia, place nerve blocks and invasive hemodynamic monitors
- Efficiently and safely provide anesthetic care to any type of patient that so requires it for surgery
- Effectively act as an anesthesia consultant to other specialist and healthcare providers in the care of the patients
- Effectively communicate with the members of the operating room team and different healthcare services by utilizing clearness in language and communication skills such as closing the loop, addressing co-workers by their name, respecting other members opinion and facilitate communication by taking a leadership role
- Work effectively as a member of a health care team and to actively participate in hospital wide, as well as specialty specific efforts to improve the quality of care rendered to patients

- Contribute to the advancement of the specialty through their commitment to clinical expertise, quality improvement, scientific enquiry, evidence based practice and education
- Be able to provide safe and quality care in any medical setting by coordinating patient care with nurse managers, pharmacists, health care providers and extenders, technicians, hospital administrators and other consultants
- Execute the administrative involvement in hospitals, medical schools, and outpatient facilities necessary to implement these responsibilities.
- Do assessment of, consultation for preparation of patients for anesthesia.
- Provide unresponsiveness to surgical, obstetrical, therapeutic and diagnostic procedures, and the management of patients so affected.
- Do adequate advanced monitoring and restoration of homeostasis during the perioperative period, as well as homeostasis in the critically ill, injured, or otherwise seriously ill patient.
- Perform the diagnosis and advanced treatment of painful syndromes.
- Perform basic and advanced clinical management and teaching of cardiac and pulmonary resuscitation.
- Do effective clinical management and teaching of cardiac and pulmonary resuscitation.

2.Intended Learning Outcomes (ILOs)

At the end of the MD program of anesthesia and surgical critical care, the candidate should be able to:

A.) Knowledge and Understanding:

a1. Describe the anatomical data relevant to anesthesia, intensive care and pain management.
a2. Illustrate the basic physiological data relevant to anesthesia, intensive care and pain management.
a3. Illustrate the basic pharmacological data relevant to anesthesia, intensive care and pain management.
a4. Illustrate the basic physics and clinical measurements knowledge relevant to anesthesia, intensive care and pain management.
a5. Apply knowledge of specific and advanced internal medicine with particular reference to the cardiovascular, respiratory, renal, hepatic, endocrine, hematologic, neurologic systems, psychiatric and neuromuscular diseases.
a6. Express the knowledge of the principles and practice of anesthesia as they apply to patient support during surgery especially critical and emergency cases.
a7. Employ clinical skills and understanding of knowledge necessary for the basics of resuscitation and life support as practiced in critical care facilities and advanced life support.
a8. Shows knowledge of the principles of management of patients with acute and chronic pain with different modalities.
a9. Describe the concepts relevant to general internal medicine and intensive care including the ability to investigate, diagnose, and manage appropriately factors that influence a patient's medical and surgical care.

a10. Recognize the basic and complicated legal matters encountered in anesthetic practice including informed consent.
a11. Recognize basis and principles of quality in professional practice related to anesthesia.
a12. Identify related information concerned with the effects of professional practice on the environment

b) Intellectual Skills

b1. Analyze data needed to prepare patients for operation, and to choose the proper type of anesthesia.
b2. Manage and solve problems during anesthesia or in critical care.
b3. Relate clinical skills and understanding of advanced knowledge necessary to the independent practice of anesthesia, including preoperative assessment, intraoperative support and postoperative management of patients of any physical status, all ages and for all commonly performed surgical and obstetrical procedures.
b4. Properly assess patient data with relevance to his capabilities so as to ask for help in the proper time or to transfer the patient to more experienced or equipped center to cope with the anticipated problems.
b5. Apply the knowledge necessary to the independent practice of anesthesia, including preoperative assessment, intraoperative support and postoperative management of patients of any physical status, all ages and for all commonly performed surgical and obstetrical procedures.
b6. Provide a clear and informative medical report, including a precise diagnosis whenever possible, a differential diagnosis when appropriate, and recommended follow-up or additional studies as appropriate.
b7. Use multiple sources, including information technology, to solve problems and to optimize lifelong learning of medical students and other residents and support making decisions for patient care.
b8. Demonstrate knowledge of evidence-based medicine and apply its principles in practice to defend management decisions according to recent approved guidelines.
b9. Develop personally effective strategies for the identification and remediation of gaps in medical knowledge needed for effective practice. And to establish continuing competency assessment for anesthesiologists.
b10. Use practical problems and clinical inquiries to identify process improvements to increase patient safety and satisfaction.
b11. Provide direct communication to the referring physician or appropriate clinical personnel when interpretation of a laboratory assay reveals an urgent, critical, or unexpected finding and document this communication in an appropriate fashion.
b12. Illustrate knowledge of age related variables in medicine as they apply to intra uterine, neonatal, pediatric and geriatric patient care.
b13. Demonstrate the ability to critically assess the scientific literature.
b14. Demonstrate the ability to write an articulate, legible, and comprehensive yet concise consultation note. Provide clear and informative report, including a precise diagnosis whenever

possible, a differential diagnosis when appropriate, and recommended follow-up or additional studies as appropriate.

b15. Demonstrate the ability to provide direct communication to the referring physician or appropriate clinical personnel when interpretation of a laboratory assay reveals an urgent, critical, or unexpected finding and document this communication in an appropriate fashion.

b16. Use proficiency programs and be creative to improve anesthetic practices.

b17. Analyze critically to recognize the impact of their own value judgments and those of patients.

b18. Apply advanced knowledge of research methodology and biostatistics to conduct research at the clinical and advanced science levels to explain and improve the care of patients and write scientific papers

b19. Distinguish risk in relation to their own work and profession.

c) Professional and Practical Skills

c1. Effectively prepare the operating room for any type of surgical procedure.

c2. Efficiently perform regional anesthesia, place nerve blocks and invasive hemodynamic monitors.

c3. Perform competently in all technical procedures commonly employed in anesthetic practice, including airway management, cardiovascular resuscitation, patient monitoring and life support, general and regional anesthetic and analgesic techniques and postoperative care.

c4. Perform competently all practical skills required in the course specifications.

c5. Demonstrate skills in obtaining informed consent, including effective communication to patients about procedures, alternative approaches, and possible complications of patient care diagnostic and management procedures.

c6. Write professionally medical reports

c7. Demonstrate compassion: be understanding and respectful of patients, their families, and the staff and physicians caring for them.

c8. Demonstrate principles of confidentiality with all information transmitted both during and outside of a patient encounter.

c9. Evaluate all methods and tools available related to pain management and anesthesia

c10. Demonstrate knowledge of regulatory and ethical issues pertaining to the use of human subjects in research and experimental regulations .

c11. Use the medical library and electronically mediated resources to discover pertinent medical information

c12. Plan to develop his professional practice and improve performance of others

D) General and Transferable Skills

d 1 Communicate ideas and arguments effectively.

d 2 Use computers efficiently

d 3 Treat patients in a manner consistent with the most up-to-date information on diagnostic and therapeutic effectiveness.

d 4 Perform evaluation for subordinates, peers & program)
d 5 Teach effectively and act as a mentor to others.
d 6 Perform self-evaluations of clinical practice patterns and practice-based improvement activities using a systematic methodology and be a lifelong learner
d 7 Manage time and resources and set priorities;
d 8 Work effectively within a team.
d 9 Arrange scientific meetings and manage time effectively and conduct both individual consultations and presentation at multidisciplinary conferences that are focused, clear, and concise.

3- Academic Standards

3a –External References for Standards (Benchmarks)

- The standards of the National Authority of Quality Assurance and Accreditation in Education (NAQAAE). Academic Reference Standards for postgraduates. Website: www.naqaae.org

3b -Comparison of Provision to External References

4- Curriculum Structure and Contents

4a- Program duration: The program lasts for a minimum of 3 academic years and maximum 7 years, as specified in the internal bylaws for postgraduate studies based on credit points system in the Faculty of Medicine, Suez Canal University approved on February 7th, 2016.

4b- Program structure:

MD Program Credit points (CP) structure:
Total needed credit points for getting MD degree 180 CP

The program consists of **First part 30 CP, Thesis 50 CP, and Second part 100 CP**

1. **The first part of the program**: 30 CP, its duration (15 weeks) for one academic semester. The first part comprises the following:

a. A course in Research Methodology planned and held in the Community Medicine Department of the Faculty of Medicine, Suez Canal University. This part includes 8 CP.
b. Two electives each one has 2 CP. The students should select one elective which has not been selected in the Master Degree.
c. A course in applied physiology planned and held in the Physiology Department of the Faculty of Medicine, Suez Canal University. This part includes 3 CP.
d. A course in applied pharmacology planned and held in the pharmacology Department of the Faculty of Medicine, Suez Canal University. This part includes 3 CP.
e. The specialized course in physics and measurements , planned and held in the Anesthesia Department. It includes5 CP.

f. The specialized course in perioperative and critical care medicine , planned and held in the Anesthesia Department. It includes 7CP.

2- **MD thesis:**50 CP, no scores for thesis. The candidate has the right to register his/her thesis protocol after 6 months from the degree registration. The first time for thesis defense after 2 years from the date of the faculty council approval on the thesis protocol.

3- **The second part of the program**: 100 CP, its duration (75 weeks) for 5 consecutive academic semesters. The second part comprises the specialized courses in Anesthesiology, Intensive Care and pain management, planned and held in the Anesthesiology, Intensive Care and pain managementDepartment. This part lasts for 2 years ending by written and practical exams.

3bi-No. of credit Points:the MD program is 180 credit Point system.

Every credit point include 25 working hour (30% = 7 hours for face to face learning activities, and 70% =18 hours for self-learning activities).

5. Program Courses

5.1- Level/Year of Program: First part of MD (30 CP)

Courses			Assessment				
Code No.	Course Title	No. of Credit points	Written Exam			Oral exam	Practical or clinical Exam
			No of Papers	Duration	Marks		
ANAN51	Applied pharmacology	**3**	**1**	**2 hours**	**45**	**15**	
ANAN51	Applied physiology	**3**	**1**	**2hours**	**45**	**15**	
ANAN53	Physics and measurements	**5**	**1**	**3 hours**	**75**	**25**	
ANAN54	Critical care and perioperative medicine	**7**	**1**	**3 hours**	**105**	**35**	
BR	Biostatistics and research methodology	**8**	**1**	**3 hours**	**160**		
E	Two Elective courses*	**2+2**	**1+1**	**1 hour+1 hour**	**40+40**		
Total		**30 credit points**			**600 marks****		

***Student should select two course of the following as an elective course:**
Two elective courses each one has 2 CP. The students should select two elective which has not been selected before in the Master Degree.

E01	**Evidence Based medicine**	**(Community Department)**
E02	**Scientific Writing**	**(Medical Education Department)**
E03	**Quality in Medical Education**	**(Medical Education Department)**
E04	**Infection Control**	**(Microbiology Department)**
E05	**Critical Appraisal**	**(Community Department)**
E06	**Communication Skills**	**(Medical Education Department)**

5.2- Level/Year of Program: Second part of MD program (100 CP)

Courses			**Assessment**					
Code No.	**Course Title**	**No. of Credit points**	**Written Exam**			**Oral exam**	**Practical or clinical Exam**	**Continues assessment *(Portfolio)**
			No of Papers	**Duration**	**Marks**			
ANAN55	**Scientific and specialized Course in Anesthesiology Intensive Care and pain management**	**30**	**3**	**3 hours For each paper**	**180 for each paper**	**180**	**540**	**540**
	Practical training in Advances of Medical Education	**60**						
	*****Scientific activities**	**10 (not included in the total marks)**						
Total		**100 credit points**			**1800**marks**			

***Portfolio its scores distributed in the different parts of the portfolio and its total score included among total mark od second part**
****every credit point equal 20 marks**
*****Scientific activities are not included in the total marks**

5.3Thesis: A faculty senior & junior supervisor from the stuff members are nominated by the department council to prepare a proposal of the thesis protocol after the selection of a subject that is

complementary to the research plans of the department.Data collection, methodologies, study question, time table, ethical considerations and budget are formulated by the candidate under guidance of his supervisors into a research project. The research protocol is then peer reviewed by two different stuff members nominated by the Head of the department who share their ideas and comments with the supervisors to reach to the final form. The research protocol is discussed then openly in one of the department councils to be approved and diverted to the Faculty research committee where it is subjected to a critical appraisal to meet the research basic standards set by the committee. The final approvals of the research protocol are then issued by the committee of post graduate studies, the Faculty and University Council to be registered.

6- Program Admission Requirements

- The program accepts candidates with Masters in anesthesia with a grade of GOOD at least.
- Registration for the program opens 2 times/year, according to the internal bylaws for postgraduate studies of the Faculty of Medicine, Suez Canal University.

7- Student Assessment Methods

7.1 Written (MEQ) to assess the cognitive domain.
7.2 MCQs to assess the cognitive domain
7.3 Oral Viva Cards to assess higher cognitive and attitude domains.
7.4 Observations to assess practical and presentation skills.
7.5 Portfolio to assess the cognitive, psychomotor and the affective domains.

8- Weighting of Assessments

Type of exam	
First part (30 credit points= 600 mark)	
• Written exam	440
• Oral and practical exam	160
• **Total**	**600**
Second part (100 credit points including 10 credit points not included in the total marks =1800 mark)	
• Oral exam	180
• Practical exam	540
• Written exam	540
• Portfolio	540
Total	**1800**

9- Regulations for Progression and Program Completion

- The regulations for program completion follow the general regulations for the Faculty of Medicine, Suez CanalUniversity for MD approved by the Supreme Council of Universities. The program in considered complete with the accomplishment of 2 summative assessment (for the first and the second parts) and the defense of a thesis developed and submitted for the purpose of acquiring the degree.

First part

- Passing level 60% of total marks of the exam and at least 50% passing level of the total written exam marks

Second part

- Passing level 60% of total marks of the exam
- Passing level 60% total of practical and oral exam

Thesis/Assay

- Passing discussion is required for MD degree

10- Evaluation of Program Intended Learning Outcomes (ILOs)

Evaluator	Tool	Sample
1- Postgraduate students	Needs assessment questionnaires	Random sample of participants
2- Alumni(N/A since this is the first time to implement the program)	N/A	N/A
3- Stakeholders	Self-administered questionnaires DELPHI Focus groups	According to the method
4-External Evaluator(s) (External Examiner(s))	External audit of the program specifications	

A comparison of Anesthesia, Intensive care and Pain management ILOs of MD program to the Generic Academic Reference Standards (ARS) for postgraduate programs

Benchmark	Program ILOs Covered (By No.)
2.1: Knowledge and understanding **By the end of the postgraduate MD program the candidate should be able to know and understand the following**:	
2.1.01 Theories, basic and specific knowledge related to his specialty as well as basic sciences related to practice in his field	a1 to a9
2.1.02 basis, methods and ethics of scientific researches and its different tools	b18, c10
2.1.03 Basic of ethics and medico legal aspects of professional practice, related to the specialty	a10
2.1.04: basis and principles of quality in professional practice related to the specialty	a11
2.1.05 Related information concerned with the effects of professional practice on the environment and methods of environmental maintenance and development	a12
2.2- Intellectual Skills **By the end of the postgraduate MD program the candidate should be able to:**	
2.2.01 Analyze and evaluate knowledge to solve problems related to his specialty	b1, b2
2.2.02 solve specific problems with available data	b1 to b3
2.2.03 Perform scientific research adding new information	b18, c10
2.2.04 Writing scientific papers	b18
2.2.05 Risk assessment in professional practices	b19
2.2.06 Plan to improve performance related to specialty	b9, c12
2.2.07 professional decision making in relation to different professional sequences	b7
2.2.08 Be innovative and creative	b16
2.2.09 discuss on basis and evidence	b8
2.3- Practical and Clinical Skills **By the end of the postgraduate MD program the candidate should be able to:**	
2.3.01 Demonstrate essential practical skills related to his specialty	c1 to c4
2.3.02 Write and evaluate professional reports	c6
2.3.03 Evaluate different methods and tools available related to specialty	c9
2.3.04 Use technology to serve professional practice	c11, d2
2.3.05 plan to develop professional practice and improve performance of others	b9, c12
2.4 General and transferable skills	
By the end of the postgraduate MD program the candidate should be able to	
2.4.01 Communicate ideas and arguments effectively	d1, b15
2.4.02 Use information technology to serve in the development of professional practice	c11, d2
2.4.03 Educate and evaluate performance of others	d4, 5
2.4.04 self evaluation and lifelong learning	d6
2.4.05 Use different resources to obtain knowledge and information.	b15, c11,
2.4.06 Work effectively within team and lead a team effectively	d5, 8
2.4.07Patron scientific meetings and manage time effectively	d7, 9

Head of Anesthesia and intensive care Department

Prof. Mohammed Emad Abdelghaffar