



Faculty of Medicine
Suez Canal University

Neurosurgery Department
Program Specifications, MD

PROGRAM SPECIFICATIONS

Program Title:

MD Degree of
Neurosurgery

Code:

NSNS



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Program Specification

A- Basic Information

- 1- Program Title: MD degree in Neurosurgery
- 2- Program Type: Single Double Multiple
- 3- Department: Neurosurgery Department
- 4- Coordinator: Dr. Tariq Elemam Elshafey Awad
- 5- External Evaluator(s): Prof . Ahmed Gaber Marei
- 6- Last date of program specifications approval: the bylaws of the MD program in Neurosurgery in the Faculty of Medicine, Suez Canal University were approved by the Supreme Council of Universities on 2016.
- 7- Date of program specification revision approval:

B- Professional Information

1- Program Aims

The overall goals of the program are to develop a fully trained academic neurosurgeons. He should be clinically competent with diagnosis and surgical management of neurosurgical patients.

2- Intended Learning Outcomes (ILOs)

a- Knowledge and Understanding:

- a.1 Develop and maintain advanced knowledge in the basic and clinical sciences necessary for effective consultation in surgical approaches, microsurgical surgeries, and neurosurgery.
- a.2 Demonstrate sufficient knowledge to determine clinically optimal yet cost-effective management of neurosurgical patients.
- a.3 Recognize the unique aspects of neurosurgery practice as modified by patient age and other patient population characteristics, especially aspects of pediatric and geriatric practice.
- a.4 Demonstrate proficiency in evaluating and presenting findings from appropriate peer-reviewed journals.
- a.5 Critically appraise research designs relevant to healthcare.
- a.6 Demonstrate the ability to critically assess the scientific research
- a.7 Recognize basic of ethics and medico-legal aspects of professional practice, related to neurosurgery
- a.8 Demonstrate awareness and understanding of proficiency programs and quality assurance system.
- a.9 Demonstrate advanced knowledge of biostatistics
- a.10 .Demonstrate knowledge of evidence-based medicine and apply its principles in practice.
- a.11 Develop personally effective strategies for the identification and remediation of gaps in medical knowledge needed for effective practice.



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b- Intellectual Skills

- b1. Demonstrate problem solving skills in solving neurosurgical problems; by being able to:-
- Define surgical problems in provided case.
 - Prioritize the problems.
 - Interpret available information about the case including clinical data and results of investigation.
 - Analyze clinical problems in the light of results of history, physical examination and investigations.
 - Evaluate available information objectively, recognizing its limitations.
- b2. Design a study that can be used to validate methodologies and parameters of clinical utility for the implementation and continuing use of new evidence-based analyses in the local setting.
- b3. Write scientific paper
- b4. Report the various levels of evidence in medicine and their translation into evidence-based practice.
- b5. Demonstrate insight into research and scientific method through:
- critical appreciation of methodology;
 - formulating research questions that are pertinent to medicine;
 - choice and application of appropriate quantitative and qualitative methodologies;
 - collecting, analyzing and interpreting data;
 - Analyzing and using numerical data (Use simple statistical methods)
- b6. Establish continuing competency assessment for neurosurgical personnel in innovative way.
- b7. Assess risk in professional practice of neurosurgery and make decisions in relation to different professional sequences

c- Professional and Practical Skills

- c.1 Demonstrate essential practical skills related to neurosurgery.
- c.2 Perform all surgical procedures required in the courses' specifications
- c.3 Demonstrate the ability to write an articulate, legible, and comprehensive yet concise consultation note. Provide a clear and informative report, including a clear diagnosis whenever possible, a differential diagnosis when appropriate, and recommended follow-up or additional studies as appropriate.



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- c.4 Evaluate different methods and tools available related to neurosurgery
- c.5 Demonstrate compassion: be understanding and respectful of patients, their families, and the staff and other physicians caring for them.
- c.6 Demonstrate a responsiveness to the needs of patients and society that supersedes self-interest.
- c.7 Demonstrate principles of confidentiality with all information transmitted both during and outside of a patient encounter.
- c.8 Demonstrate knowledge of regulatory issues pertaining to the use of human subjects in research.
- c.9 Demonstrate the ability to provide direct communication to the referring physician or appropriate clinical personnel when interpretation of a neurosurgical assay reveals an urgent, critical, or unexpected finding and document this communication in an appropriate fashion.
- c.10 Conduct both individual consultations and presentations at multidisciplinary conferences that are focused, clear, and concise.
- c.11 Demonstrate skills in obtaining informed consent, including effective communication to patients about procedures, alternative approaches, and possible complications.
- c.12 Demonstrate skills in educating colleagues and other healthcare professionals:
- c.13 Use technology to serve professional practice

d- General and Transferable Skills

- d1. Choose effective modes of communication (listening, nonverbal, explanatory, questioning) and mechanisms of communication (face-to-face, telephone, e-mail, written), as appropriate.
- d2. Demonstrate positive work habits, including punctuality, dependability, managing time and professional appearance.
- d3. Interact with others without discriminating on the basis of religious, ethnic, sexual, or educational differences.
- d4. Function effectively in a team.
- d5. Communicate effectively with peers and tutors.
- d6. Show respect to other team members' points of view.
- d7. Accept constructive criticism and feedback on their work.
- d8. Perform self- and peer-assessment.
- d9. Demonstrate efficient Information and Communication Technology (ICT) skills and use different resources to obtain knowledge and information.
- d10. Demonstrate effective presentation skills.



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- d11. Demonstrate the ability to help other residents obtain proficiency in neurosurgery
- d12. Demonstrate the ability to work well with other medical personnel and to present neurosurgical concepts to them effectively in continuing education settings and in the day-to-day management
- d13. Demonstrate an understanding of the principles one must follow when educating other practicing physicians through publications or seminars on new therapeutic strategies, research discoveries, and other cutting-edge professional knowledge.

3- Academic Standards

3a External References for Standards (Benchmarks)

The National Academic Reference Standards (ARS) of NAQAAE

3b Comparison of Provision to External References: Attached

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. The specialized course in Essentials of Neurosurgery. It includes 8 CP.
 - c. The specialized course in **surgical approaches**. It includes 4 CP.
 - d. The specialized course in **microsurgical techniques**. It includes 4 CP.
 - e. The specialized course in **Neuropathology**. It includes 2 CP.
 - f. Two electives each one has 2 CP. The students should select one elective which has not been selected in the Master Degree.
 - Evidence Based medicine (Community Department)
 - Scientific Writing (Medical Education Department)
 - Quality in Medical Education (Medical Education Department)
 - Infection Control (Microbiology Department)



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- Critical Appraisal (Community Department)
- Communication Skills (Medical Education Department)

- 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 Neurosurgery, planned and held in the Neurosurgery Department. 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: 1st part MD

Courses			Assessment				
Code No.	Course Title	No. of Credit points	Written Exam			Oral exam	Practical or clinical Exam
			No of Papers	Duration	Marks		
BR	Research methodology and biostatistics	8	1	3 hours	160		
NSNS 51	Essentials of Neurosurgery	8	1	3 hours	70	20	70
NSNS 52	surgical approaches	4	1	3 hours	35	10	35
NSNS 53	Microsurgical techniques	4	1	2 hours	35	10	35
NSNS 54	Neuropathology	2	1	1 hour	30	10	
E	Two Elective courses*	2+2	1+1	1 hour+1 hour	40+40		
Total			30 credit points			600 marks**	

***Student should select one 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.



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5.2 Level/Year of Program: 2nd part MD

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			
NSNS 55	Advanced Course in Neurosurgery	30	3	3 hours 3 hours 1.5 hours	225+ 225+ 90	180	540	540
	Practical training in Advances of Neurosurgery	60						
	***Scientific activities	10 (not included in the total marks)						
Total		100 credit points			1800**marks			

5.3 Thesis: A faculty senior & junior supervisor from the staff 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 staff 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

Bachelor of Medicine & surgery with minimum very good in general surgery.
And Master of Neurosurgery with minimum good grade.

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.



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8- Weighting of Assessments

Type of exam	
First part (30 credit points= 600 mark)	
• Written exam	410
• Oral and practical exam	190
• 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

8- Regulations for Progression and Program Completion

First part

Passing level 60% of total marks of the exam.

Second part

Passing level 60% of total marks of the exam

Passing level 65% is prerequisite for MD degree

Thesis

Passing discussion is required for MD degree

9- Evaluation of Program Intended Learning Outcomes

Evaluator	Tool	Sample
1- Senior students	Questionnaires	
2- Alumni	Questionnaires	
3- Stakeholders (Employers)	Interviews	
4-External Evaluator(s) (External Examiner(s))	Attending exam. (using checklist and/or rating scale)	
5- Other		

Attached Course Specifications



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A comparison of Neurosurgery intended learning outcomes 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 a3
2.1.02 basis, methods and ethics of scientific researches and its different tools	a4 to a6
2.1.03 Basic of ethics and medico legal aspects of professional practice, related to the specialty	a7
2.1.04: basis and principles of quality in professional practice related to the specialty	a8
2.1.05 Related information concerned with the effects of professional practice on the environment and methods of environmental maintenance and development	a10, a11
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
2.2.02 solve specific problems with available data	b1
2.2.03 Perform scientific research adding new information	b2, b5
2.2.04 Writing scientific papers	b3
2.2.05 Risk assessment in professional practices	b7
2.2.06 Plan to improve performance related to specialty	b6
2.2.07 professional decision making in relation to different professional sequences	b7
2.2.08 Be innovative and creative	b6
2.2.09 discuss on basis and evidence	b4, a10
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, c2
2.3.02 Write and evaluate professional reports	c3
2.3.03 Evaluate different methods and tools available related to specialty	c4
2.3.04 Use technology to serve professional practice	c13
2.3.05 plan to develop professional practice and improve performance of others	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	c10, d1, d5
2.4.02 Use information technology to serve in the development of professional practice	d9
2.4.03 Educate and evaluate performance of others	c12, d8, d12
2.4.04 self evaluation and lifelong learning	d8
2.4.05 Use different resources to obtain knowledge and information.	d9
2.4.06 Work effectively within team and lead a team effectively	d4, d12, d13
2.4.07 Patron scientific meetings and manage time effectively	d2, d13

Head of the department
Prof. Ali Mohamed Ali Abou-Madawi