كليـة الـطب

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Assiut University

Faculty of Medicine

MASTER (MSC) DEGREE PROGRAM AND COURSES SPECIFICATIONS FOR VASCULAR SURGERY

(According to currently applied credit points bylaws)

Vascular Surgery Department

Faculty of medicine

Assiut University

2021-2022/2022-2023/2023-2024

Contents	
Item	***Page***
Program Specification for Vascular Surgery years,2021-2022/2022-2023 **A. Basic Information**	**3**
B. Professional Information **1. Program aims** **2. Intended learning outcomes (ILOs) for the whole program** **3. Program academic standards** **4. Program external references** **5. Program structure and contents** **6. Courses contents (Annex 1)** **7. Admission requirements** **8. Progression and completion requirements** **9. Assessment methods and rules** **10. Program evaluation** **11. Declaration**	
- Annex 1, Courses/ specifications	
Essential Courses **1. Course 1 Anatomy and Embryology**	
Course 2 Pharmacology	
Course 3) Microbiology	
Course 4 General Surgery	
Specialized Course **2) Course 5 Principles of Vascular Surgery** **1. Unit (Module) 1 Vascular Diagnosis.** **2. Unit (Module) 2 Basic Vascular Science.** **3. Unit (Module) 3 Vascular Trauma.** **4. Unit (Module) 4 Management of Lower extremity Ischemia: Acute ischemia and Critical Limb Ischemia.** **5. Unit (Module) 5 Neurovascular conditions involving the upper extremity, angioaccess and vascular malformations.** **6. Unit (Module) 6 Arterial Aneurysms, Visceral Ischemia and Portal hypertension.** **7. Unit (Module) 7 Management of extra-cranial cerebrovascular diseases.** **8. Unit (Module) 8. Management of Lymphatic diseases** **9. Unit (Module) 9. Management of Venous diseases**	
- Annex 2, Program academic standards	
- Annex 3, Teaching methods	
- Annex 4, Assessment methods	

Master degree of Vascular Surgery

A. Basic Information

- **Program Title:** Master degree of Vascular Surgery.
- **Nature of the program:** Single.
- **Responsible Department:** Department of Vascular Surgery , Faculty of Medicine, Assiut University.
- **Program Academic Director (Head of the Department):**
  Prof. Dr. Ayman Elsayed Abel-salam Hasaballa
- **Coordinator (s):**
  Principle coordinator: Dr/ Hesham E.M Aboloyoun
  Assistant coordinator (s)
  Dr. Mostafa Mohamed Al-Mehrezy

Internal evaluators: Prof Dr: Ayman Hasaballa

External evaluator: **Prof. Dr** Amr Hamdy Helmy Morsy
Prof. Dr Osman AboElcibaa Osman

- **Date of Approval by the Faculty of Medicine Council of Assiut University: 5** / 6 /2014

- **Date of most recent approval of program specification by the Faculty of Medicine Council of Assiut University: 27/ 11/2022**

- **Total number of courses:** 5 **courses**
  - First part: 4 courses
  - Second part: 1 course

B. Professional Information

1- Program aims

1/1. To enable candidates to acquire satisfactory level of clinical skills, bedside care skills, in addition to update medical knowledge as well as clinical experience and competence in the area of Vascular Surgery and enabling the candidates of making appropriate referrals to a sub-specialist.

1/2. Provide candidates with fundamental knowledge and skills of dealing with critically ill patients, with vascular diseases. 1/3. To introduce candidates to the basics of scientific medical research.

1.4. Enable candidates to start professional careers as specialists in Egypt but recognized abroad.

1.5. To enable candidates to understand and get the best of published scientific research and do their own.

2- Intended learning outcomes (ILOs) ***for the whole program***:

2/1Knowledge and understanding:

A. Explain the essential facts and principles of relevant basic sciences including, Anatomy and embryology, Microbiology, Pharmacology, related to the Vascular Surgery.

B. Mention essential facts of clinically supportive sciences including Basics of General Surgery related to Vascular Surgery.

C. Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment of the common diseases and situations related to Vascular Surgery.

D. Give the recent and update developments in the pathogenesis, diagnosis, prevention and treatment of common diseases related to **Vascular Surgery**.

E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to the Vascular Surgery.

F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of Vascular Surgery.

G. Mention the ethical and scientific principles of medical research methodology.

H. State the impact of common health problems in the field of Vascular Surgery on the society and how good clinical practice improves these problems.

2/2 Intellectual outcomes

A. Correlate the facts of relevant basic and clinically supportive sciences with clinical reasoning, diagnosis and management of common diseases of the Vascular Surgery.

B. Demonstrate an investigatory and analytic thinking approach (problem solving) to common clinical situations related to Vascular Surgery.

C. Design and /or present a case or review (through seminars/journal clubs.) in one or more of common clinical problems relevant to the field of Vascular Surgery.

D. Formulate management plans and alternative decisions in different situations in the field of Vascular Surgery.

2/3 Skills

2/3/1 Practical skills (Patient Care)

A. Obtain proper history and examine patients in caring and respectful behaviors.

B. Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment for common conditions related to Vascular Surgery.

C. Carry out patient management plans for common conditions related Vascular Surgery.

D. Use information technology to support patient care decisions and patient education in common clinical situations related to Vascular Surgery.

E. Perform competently non invasive and invasive procedures considered essential for Vascular Surgery.

F. Provide health care services aimed at preventing health problems related to Vascular Surgery.

G. Provide patient-focused care in common conditions related to Vascular Surgery, while working with health care
professionals, including those from other disciplines

H. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets (Write a consultation note, Inform

patients of a diagnosis and therapeutic plan, completing and maintaining medical records)

2/3/2 General skills

Including:

- Practice-based Learning and Improvement
- Interpersonal and Communication Skills
- Professionalism
- Systems-based Practice

Practice-Based Learning and Improvement

A. Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use logbooks).
B. Appraises evidence from scientific studies.
C. Conduct epidemiological Studies and surveys.
D. Perform data management including data entry and analysis using information technology to manage information, access on-line medical information; and support their own education.
E. Facilitate learning of students and other health care professionals including their evaluation and assessment.

Interpersonal and Communication Skills

F. Maintain therapeutic and ethically sound relationship with patients.

G. Elicit information using effective nonverbal, explanatory, questioning, and writing skills.

H. Provide information using effective nonverbal, explanatory, questioning, and writing skills.

I. Work effectively with others as a member of a health care team or other professional group.

Professionalism

J. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society

K. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices

L. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities

Systems-Based Practice

M. Work effectively in relevant health care delivery settings and systems including good administrative and time management.

N. Practice cost-effective health care and resource allocation that does not compromise quality of care.

O. Assist patients in dealing with system complexities.

3- Program Academic Reference Standards (ARS) (Annex 2)

Academic standards for Master degree in Vascular Surgery

Assiut Faculty of Medicine developed Master degree programs' academic standards for different clinical specialties.

In preparing these standards, the General Academic Reference Standards for post graduate programs (GARS) were adopted. These standards set out the graduate attributes and academic characteristics that are expected to be achieved by the end of the program.

These standards were approved by the Faculty Council on 17-6- 2009. These standards were revised and approved without changes by the Faculty Council on 23-9-2014.These standards were re-revised and approved without changes by the Faculty Council on 27-11-2022

4- Program External References (Benchmarks)

1. ACGME (Accreditation Council for Graduate Medical Education).
http://www.acgme.org/acWebsite/navPages/nav_Public.asp

2. European Union of Medical Specialists Board of Vascular Surgery.
-http://www.uemsvascular.com

Comparison between program and external reference		
Item	**Master Degree for Vascular Surgery**	**European Board Of Vascular Surgery**
Goals	Matched	Matched
ILOS	Matched	Matched
Duration	3-5 years	3 years
Requirement	Different	different
Program structure	Different	different

5. Program Structure and Contents

A. Duration of program: **3 – 5 years**

B. Structure of the program:

Total number of credit point: 180 (20 out of them for thesis)

Didactic 40 (22.2 %), practical 120 (66.7 %), thesis 20 (11.1%) total 180

First part

Didactic 14 (35 %), practical 24 (60 %), elective course 2 CP (5%), total 40

Second part

Didactic 24, (20% %) practical 96 (80 %) total 120

According the currently applied bylaws:

Total courses 160 credit point ``

Compulsory courses: 98.75%

Elective course: 2 credit point =1.25%

	Credit points	% from total
Basic courses	24	13.3%
Humanity and social courses	2	1.1%
Specialized courses	134	74.5%
Others (Computer, …)		
Field training	120	66.7%
Thesis	20	11.1%

C. Program Time Table

A. Duration of program 3 years maximally 5 years divided into

- **Part 1: (One year)**

  Program-related essential courses and ILOs + elective courses.

  Students are allowed to sit the exams of these courses after 12 months from applying to the MSc degree. One elective course can be set during either the 1st or 2nd parts.

- **Thesis**

  For the MSc thesis;

  MSc thesis subject should be officially registered within 6 months from application to the MSc degree,

  Discussion and acceptance of the thesis could be set after 12 months from registering the MSc subject;

  It should be discussed and accepted before passing the second part of examination)

- **Part 2 (2 years)**

Program –related specialized science courses and ILOs Students are not allowed to sit the exams of these courses before 3 years from applying to the MSc degree.

The students pass if they get 50% from the written exams and 60% from oral and clinical exams of each course and 60% of summation of the written exams, oral and clinical exams of each course.

Total degrees 1900 marks.

700 marks for first part

1200 for second part

Written exam 40% - 70%.

Clinical and oral exams 30% - 60%.

D. Curriculum Structure: (Courses):

courses of the program:

Modules/ Units delivering courses and student work load list	Course Code	CREDIT POINT		
		Lectures	Training	total
First Part				
Academic basic Courses (8CP) 1. Course 1: Anatomy and Embryology. **2. Course 2** Pharmacology **3. Course 3** Microbiology	VAS 201 VAS 206 VAS 207	3 - 3 - 2	- -	3 3 2
General clinical courses (6 points) and Clinical Work (10 CP) 4.Course 4 (General Surgery)	VAS 211	6	10	16
Elective courses*	2CP			
Specialized Clinical Work (14 CP)		14		
Total of the first part		16 24		40
Second Part	Specialized courses 24 CP Specialized Clinical Work 96 CP			
1) Course 5 Vascular Surgery*	VAS 215	24		
Specialized Clinical Work	VAS 215	96		
Total of second part		**24** **96**		120
Thesis	**20 CP**			
Total of the degree	**180**			

* Elective courses can be taken during either the 1st or 2nd parts.

Student work load calculation:

Work load hours are scheduled depending on the type of activities and targeted competences and skills in different courses

Elective Courses#:

- Medical statistics.
- Evidence based medicine.
- Medicolegal Aspects and Ethics in Medical Practice and Scientific Research
- Quality assurance of medical education
- Quality assurance of clinical practice.
- Hospital management

One of the above mentioned courses are prerequisites for fulfillment of the degree.

Thesis:

20 CP are appointed to the completion and acceptance of the thesis.

6. Courses Contents (Annex 1)

The competency based objectives for each course/module/rotation are specified in conjunction with teaching/training methods, requirements for achieving these objectives and assessment methods.

See Annex 1 for detailed specifications for each course/ module

7-Admission requirements

Admission Requirements (prerequisites) if any : I.

General Requirements:

-- MBBCh Degree from any Egyptian Faculties of Medicine - Equivalent Degree from medical schools abroad approved by the Ministry of Higher Education

- One year appointment within responsible department (for non Assiut University based registrars)

II. Specific Requirements:

- Fluent in English (study language)

VACATIONS AND STUDY LEAVE

The current departmental policy is to give working residents 2 week leave prior to first/ second part exams.

FEES:

As regulated by the postgraduate studies rules and approved by the faculty vice dean of post graduate studies and the faculty and university councils.

8-Progression and completion requirements

- Examinations of the first part could be set at 12 months from applying to the Master degree.
- Examination of the second part cannot be set before 2 years from applying to the degree.
- Discussion of the master essay could be set after 1 year from officially registering the subject.
- The minimum duration of the program is 2 years.

The students are offered the degree when:

1. Passing the exams of all basic and specialized courses of this program as regulated by the post graduates approved rules by the faculty council.
2. Completing all scheduled skills in the log book (minimum 80%).
3. Discussion and acceptance of the essay.

9- Program assessment methods and rules (Annex IV)

Method	ILOs measured
Written examinations: Structured essay questions Objective questions: MCQ Problem solving	K & I
Clinical: Long/short cases OSCE	K ,I, P &G skills
Structured oral	K ,I &G skills
Logbook assessment	All
Research assignment	I &G skills

Weighting of assessments:

Courses		Degrees			
First Part	**Course Code**	**Written Exam**	**Degree**		**Total**
			Oral Exam *	**Practical / Clinical Exam**	
Basic Courses:					
1. Course 1 **Anatomy and Embryology**	VAS 201	100	50	-	150
2. Course 2 **Pharmacology**	VAS 206	100	50	-	150
3. Course 3 **Microbiology**	VAS 207	70	30	-	100
4. Course 4 **General Surgery**	VAS 211	200	50	50	300
Total					**700**
Second Part					
Specialized Courses:					
1) Course 5 **Vascular Surgery** Paper 1 Paper2 Paper 3 Paper 4	VAS215	150 150 150 150	300	300	
Total of second part		600	300	300	1200
Total of the degree					1900
Elective course		50	50		100

* 25% of the oral exam for assessment of logbook

Examination system:

- **First part:**
  - Written exam 3 hours in Anatomy + Oral exam
  - Written exam 2 hours in Microbiology + Oral exam
  - Written exam 3 hours in Pharmacology + Oral exam
  - Written exam 3 hours in General Surgery + Oral exam+ Clinical exam.
- **Second part:**
  - Written exam 4 papers 3 hours for each in Vascular Surgery + Oral exam+ Clinical exam

10-Program evaluation

By whom	Method	sample
Quality Assurance Unit	Reports Field visits	#
External Evaluator (s):According to department council External Examiner (s): According to department council	Reports Field visits	#
Stakeholders	Reports Field visits Questionnaires	#
Senior students	Questionnaires	#
Alumni	Questionnaires	#

#Annex 5 contains evaluation templates and reports (Joined in the departmental folder).

11-Declaration

We certify that all of the information required to deliver this program is contained in the above specification and will be implemented.

All course specifications for this program are in place.

Contributor	Name	Signature	Date
Program Principal Coordinator:	Dr. Hesham E.M. Aboloyoun		
Head of the Responsible Department (Program Academic Director):	Prof. Dr. Ayman Hasaballa		

Annex 1, Specifications for Courses / Modules

Annex 1: specifications for courses

First Part

Course 1 (Anatomy and embryology)

1. Course data

- Course Title: Anatomy and embryology
- Course code: VAS
- 201

Specialty is Vascular Surgery

Number of Credit point: Didactic 3, (100 %) practical 0 (0 %), total 3 CP.

- Department (s) delivering the course: Anatomy in conjunction with Vascular Surgery
- Coordinator (s): Staff members of Anatomy Department in conjunction with Vascular Surgery annually approved by both departments councils
- Date last reviewed: 7/ 2022
- Requirements (prerequisites) if any : None

2. Course aims

-The student should acquire the facts of Anatomy necessary for Vascular Surgery.

3. Intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Anatomic principles of: -Vascular development (Embryology)	-Lectures	-Written and oral examination - Log book
B-**Anatomic principles of:** 1. Vascular anatomy of the upper limb. 2. Vascular anatomy of the lower limb. 3. Surface anatomy of extremity arteries serving the surgical exposures. 4. Anatomy of the popliteal fossa 5. Anatomy of the inguinal region 6. Anatomy of the aortic arch 7. Anatomy of the descending aorta 8. Anatomy of the sympathetic trunk and thoracic duct 9. Anatomy of the abdominal aorta and visceral branches 10. Anatomy of the IVC 11. Portal circulation 12. Anatomy of the diaphragm 13. Anatomy of the thoracic inlet 14. Anatomy of the anterior abdominal wall	-Lectures	-Written and oral examination - Log book

15. Anatomy of carotid and vertebral arteries		

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
- A. Correlates the facts of Anatomy with clinical reasoning, diagnosis and management of common diseases related to Vascular Surgery.	- Didactic (lectures, seminars, tutorial)	Written and oral examination - -Log book

C- Practical skills = 0

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Appraise scientific evidence	Tutorial	Log book
B. Access on-line medical information for important topics.		

Interpersonal and communication skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Communicate effectively by all possible types of effective communications	Tutorial	Log book
D. Write a report in common condition mentioned in A.A and A.B		

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
E. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	Observation -Senior staff experience	Logbook

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	Logbook

4. Course contents (topic s/modules/rotation Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	**Intellectual B**	**Practical skill C**	**General Skills D**
A. Anatomic principles of - Vascular development (Embryology)	A	B	-	A
B-**Anatomic principles of:** 1. Vascular anatomy of the upper limb. 2. Vascular anatomy of the lower limb. 3. Surface anatomy of extremity arteries serving the surgical	A	A & B	-	A-F
exposures. 4. Anatomy of the popliteal fossa 5. Anatomy of the inguinal region 6. Anatomy of the aortic arch 7. Anatomy of the descending aorta				

8. Anatomy of the sympathetic trunk and thoracic duct 9. Anatomy of the abdominal aorta and visceral branches 10. Anatomy of the IVC 11. Portal circulation 12. Anatomy of the diaphragm 13. Anatomy of the thoracic inlet 14. Anatomy of the anterior abdominal wall 15. Anatomy of carotid and vertebral arteries				

5. Course Methods of teaching/learning:

1-Didactic (lectures, seminars, tutorial)
2-Written & oral communication
3-Senior staff experience

6. Course Methods of teaching/learning: for students with poor achievements

1. Extra Didactic (lectures, seminars, tutorial) according to their needs
2. Extra Laboratory work according to their needs

7. Course assessment methods:

i. Assessment tools:

1- Written and oral examination
2- Log book

ii. Time schedule: At the end of the first part

iii. Marks: 150

8. List of references

i. Lectures notes

- Course notes

Staff members print out of lectures and/or CD copies

ii. Essential books

Last's Anatomy: Regional and Applied, 12 th Edition, 2022,

iii. Recommended books

Gray's Anatomy for Students, 4 th edition, 2019.

McMinn's Clinical Atlas of Human Anatomy

iv. Periodicals, Web sites, … etc

v. others

None

9. Signature

Course Coordinator	
Coordinator: Prof.Dr. Hoda Ahmed Mohamed Abdel-Aziz	**Head of the Vascular Department: Prof. Dr. Ayman Hasaballa**
Date: 4/5/2022…	**Date: 4/5/2022…**

Course 2 (Pharmacology)

1. Course data

- **Course Title: Pharmacology Course code: VAS 206**
- **Specialty: is Vascular Surgery.**
- **Number of Credit point: Didactic 3 (100%) practical 0(0%) total 3 CP.**
- **Department (s) delivering the course: Pharmacology in conjunction with Vascular Surgery.**
- **Coordinator (s):**
- **Staff members of Pharmacology Department in conjunction with Vascular Surgery Department as annually approved by both departments councils**
- **Date last reviewed: October 2013.**
- **Requirements (prerequisites) if any : None**

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2. Course Aims

-The student should acquire the principals of Pharmacology necessary for management of common Vascular Surgery diseases.

3. Intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A- Demonstrate the principles of: -General Pharmacology. -Antimicrobial Chemotherapy. -Antimicrobial resistance. -Anti Coagulants. - Anti Platelets. - Thrombolytic therapy.	-Lectures	-Written and oral examination - Log book

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of pharmacology with clinical reasoning, diagnosis and management of common diseases related to Vascular Surgery.	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book

C-Practical skills = 0

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform data management including data entry and analysis.	-Observation and supervision -Written and oral communication	Log book

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Elicit information using effective nonverbal, explanatory, questioning, and writing skills.	-Observation and supervision -Written and oral communication	Log book
C. Write a report in common condition mentioned in A.A		

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	-Observation -Senior staff experience	Logbook

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
E. Work effectively in relevant health care delivery settings and systems.	Observation -Senior staff experience	Logbook

Course contents (topic s/modules/rotation

Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
-Antimicrobial Chemotherapy Chemoprophylaxis	A	A	-	A-E
-Antimicrobial resistance	A	A	-	A-E
-Anti Coagulants	A	A	-	A-E
-Anti platelets	A	A	-	A-E
-Thrombolytic therapy	A	A	-	A-E

5. Course Methods of teaching/learning:

1 Didactic (lectures, seminars, tutorial)

2 Observation and supervision

3 Written & oral communication

4 Senior staff experience

6. Course Methods of teaching/learning: for students with poor achievements

1. Extra Didactic (lectures, seminars, tutorial) according to their needs
2. Extra Laboratory work according to their needs

7. Course assessment methods:

i. Assessment tools:

1- Written and oral examination

2- Log book

ii. Time schedule: At the end of the first part

iii. Marks: 150

8. List of references

i. Lectures notes

Prepared by the staff members of the pharmacology department

ii. Essential books

Katzung - Basic & Clinical Pharmacology

iii. Recommended books

A Text book of Pharmacology and Therapeutics Arthur Robertson Cushny

Lippincott's Illustrated Reviews: Pharmacology

Rang & Dale's Pharmacology

iii. Periodicals, Web sites, … etc

9. Signature

Course Coordinator	
Coordinator: Prof. Dr. Hanan Sayed Mohamed **Date: 4/5/2022**	**Head of the vascular Department:** Prof. Dr. Ayman Hasaballa **Date: 4/5/2022…**

Course 3: Microbiology

Name of department: Vascular Surgery
Faculty of medicine
Assiut University

1. Course data

- **Course Title: Microbiology**
- **Unit code: VAS 207**

Specialty: Vascular Surgery.

Number of Credit point: Didactic 2, (100%) practical 0(0%) total 2 CP.

- **Department (s) delivering the Unit: Microbiology in conjunction with Vascular Surgery.**
- **Coordinator (s):**
  Staff members of Microbiology Department in conjunction with Vascular Surgery Department as annually approved by both departments' councils
- **Date last reviewed: 9/ 2022**
- **General requirements (prerequisites) if any : None**
- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

2. Course Aims

-The student should acquire the facts of microbiology necessary for Vascular Surgery.

3. Intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe Principles of Microbiology of: - General bacteriology - Bacterial structure, growth and metabolism - Bacterial genetics - Antimicrobial agents and resistance to antimicrobials. - Specific microorganisms and diseases Related to Surgical wound infections and diabetic foot. - Immunology - Sterilization - Nosocomial (hospital acquired) infection - Molecular biology: Angiogenesis, G.Fs. & stem Cells	-Lectures -	-Written and oral examination - Log book

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of microbiology with clinical reasoning, diagnosis and management of common diseases related to Vascular Surgery	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book

C-Practical skills = 0

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform data management including data entry and analysis.	-Observation and supervision -Written and oral communication	Log book

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Elicit information using effective nonverbal, explanatory, questioning, and writing skills.	-Observation and supervision -Written and oral communication	Log book
C. Write a report in common condition mentioned in A.A		

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	-Observation Senior staff experience	Logbook

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
E. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	Logbook

4. Course contents (topic s/modules/rotation Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
General bacteriology				
Bacterial structure, growth and metabolism	A	A	-	A-E
Antimicrobial agents and resistance to antimicrobials.	A	A	-	A-E
Specific microorganisms and diseases related to	A	A	-	A-E
Surgical wound infection and diabetic foot.				
Immunology				
Basic immunology	A	A	-	A-E
Sterilization	A	A	-	A-E

Nosocomial (hospital acquired) infection	A	A	-	A-E
Molecular biology: Angiogenesis, G.Fs. &stem Cells	A	A	-	A-E

5. Course Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Observation and supervision
3. Written & oral communication
4. Senior staff experience

6. Course Methods of teaching/learning: for students with poor achievements

1. Extra Didactic (lectures, seminars, tutorial) according to their needs
2. Extra Laboratory work according to their needs

7. Course assessment methods:

i. Assessment tools:

3- Written and oral examination **4-** Assessment of practical skills)

5- Log book **ii. Time schedule:** At the end of the first part

iii. Marks 100

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

- Jawetz, Melnick, & Adelberg's Medical **Microbiology, 25th Edition, 2010**

Recommended books

- Sherris Medical Microbiology, Fifth Edition

- Microbiology, 2nd edition: Books: by Richard A. Harvey, Pamela
- Appleton and Lange Review of Microbiology

iv. Periodicals, Web sites, … etc

-Journal of clinical microbiology

-Microbiology

-Journal of Medical microbiology

v. others

None

9. Signature

Course Coordinator	
Coordinator: **Prof.Dr.** Noha Abdel-Haleem Afifi	**Head of the vascular Department:** Prof. Dr. Ayman Hasaballa
Date: 4/5/2022…	**Date: 4/5/2022…**

Course 4 General surgery

1. Course data

- **Course Title:** General surgery
- **Course code: VAS 211**
- **Specialty is Vascular surgery**
- **Number of Credit points: Didactic 6 (37.5%) practical 10 (62.5%) total 16 Credit points.**
- **Department (s) delivering the course: GENERAL SURGERY in conjunction with VASCULAR SURGERY**
- **Coordinator (s): Staff members of GENERAL SURGERY Department in conjunction with Vascular surgery Department as annually approved by both departments councils**
- **Date last reviewed: 9/ 2022**
- **Requirements (prerequisites) if any : None**

2. Course Aims

The student should acquire the basic Knowledge and surgical skills necessary for vascular surgery in clinical reasoning, diagnosis and management of vascular diseases and trauma

3. Intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	**Methods of teaching/ learning**	***Methods of Evaluation***
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: -Wound healing & management -Major trauma and the multiple injured patient -Fluid, electrolyte & acid-base imbalance -Haemorrhage & blood transfusion -Haemostasis -Shock -Surgical infections - Organ transplantation - Preoperative preparation - Post operative care	-Lectures	-Written and oral examination - Log book
B. **Mention** the principles of - General surgical instruments. - Abdominal incisions. - General complications of surgery. - General principles of intestinal surgery. - Management of polytraumatized patient. - Differential diagnosis of acute abdomen. - Surgery of the neck - Lymphatic system		
C. State update and evidence based Knowledge of		

- Wound healing & management - Organ transplantation		
D. Memorize the facts and principles of the relevant basic supportive sciences related to General surgery		
E. Mention the basic ethical and medicolegal principles relevant to General surgery.		
F. Mention the basics of quality assurance to ensure good clinical care in General surgery.		
G. Mention the ethical and scientific principles of medical research.		
H. State the impact of common health problems in the field of General surgery on the society.		

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of relevant basic and clinically supportive sciences with clinical reasoning, diagnosis and management of common diseases related to General surgery.	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to General surgery.		
C. Design and present cases , seminars in common problem		
D-Formulate management plans and alternative decisions in different situations in the field of the General surgery.		

C- Practical skills

ILOS	Methods of teaching/ learning	Methods of Evaluation
A. Obtain proper history and examine patients in caring and respectful behaviors.	Lecture - seminar - journal club -service teaching - outpatient -inpatient -Operative -Direct observation -case presentation Attend surgical rounds & operating lists.	-Written and oral examination - Clinical exam Log book
B- Prescribe and perform the following non invasive/invasive therapeutic procedures: -Operation for multiple injured patients under supervision		
C-Carry out patient management plans for the following problems List: - Electrolyte Imbalance -Shock- Hemorrhage -Surgical infection -Multiple Injured patient		
D-Use information technology to support patient care decisions and patient education in common clinical situations related to General Surgery.		

D- General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform data management including data entry and analysis.	-Observation and supervision	Log book
	-Written and oral communication	

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Elicit information using effective nonverbal, explanatory, questioning, and writing skills.	-Observation and supervision -Written and oral communication	Log book
C. Write a report in common condition mentioned in A.A and A.B		

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	-Observation -Senior staff experience	Logbook

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
E. Work effectively in relevant health care delivery settings and systems.	Observation - Senior staff experience	Logbook

4-Course contents (topic s/modules/rotation Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skill	General Skills
Multiple injured patient	**A,C-H**	**A-D**	**A-D**	**A-E**
Fluid, electrolyte & acid-base imbalance	**A,C-H**	A-D	**A-D**	**A-E**
Haemorrhage & blood transfusion	**A,C-H**	**A-D**	**A-D**	**A-E**
Haemostasis	**A,C-H**	**A-D**	**A-D**	**A-E**
Shock	**A,C-H**	**A-D**	**A-D**	**A-E**
Surgical infections	**A,C-H**	A-D	**A-D**	**A-E**
General surgical instruments.	**B,C-H**	**A-D**	**A-D**	-
- Abdominal incisions.	**B,C-H**	**A-D**	**D**	-
-General complications of surgery.	**B,C-H**	A-D	**A-D**	-
-General principles of intestinal surgery.	**B,C-H**	**A-D**	**D**	-
-Management of polytraumatized patient.	**B,C-H**	**A-D**	**A-D**	-
-Differential diagnosis of acute abdomen.	**B,C-H**	**A-D**	**A-D**	**A-E**

5. Course Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Observation
3. Written & oral communication
4. Senior staff experience

6. Course Methods of teaching/learning: for students with poor achievements

1. Extra Didactic (lectures, seminars, tutorial) according to their needs

7. Course assessment methods:

i. Assessment tools:

1- Written and oral examination

2- Logbook

ii. Time schedule: At the end of the first part

iii. Marks: 300

8. List of references

i. Lectures notes

- Staff members print out of lectures and/or CD copies

ii. Essential books

Bailey and Love's: Short practice of surgery

Current diagnosis and treatment: Surgery

iii. Recommended books

Essential Surgical Practice: Alfred Cushieri

iv. Periodicals, Web sites, … etc

9. Signatures

Course Coordinator: Prof.Dr. Mostafa Thabet	**Head of the vascular Department:** Prof. Dr. Ayman Hasaballa
Date: 4/5/2022	**Date: 4/5/2022…**

Second Part

Course 5 Vascular Surgery

Name of department: Vascular Surgery
Faculty of medicine
Assiut University
2021-2022/2022-2023

1. Course data

- **Course Title: Vascular Surgery**
- **Course code: VAS 215**
- **Specialty: Vascular Surgery.**
- **Number of credit points: Didactic 24. (17.9%), practical 110 (82.1%),134.**
- **Department (s) delivering the course: Vascular Surgery department, Faculty of medicine, Assiut University Hospital.**
- **Coordinator (s):**
  - **Course coordinator: Prof. Ayman Hasaballa**
  - **Assistant coordinator(s): Dr. Hesham Aboloyoun**
  - **Dr. Ahmed Mostafa Nagi**
  - **Date last reviewed: 4/5/2022.**
- **General requirements (prerequisites) if any :**
  - **none**
- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

This course consists of 9 units (modules):

1. **Unit (Module) 1 Vascular Diagnosis (**2.5%)
2. **Unit (Module) 2 Basic Vascular Science**(2.5%)**.**
3. **Unit (Module) 3 Vascular Trauma** (20**%**)**.**
4. **Unit (Module) 4 Management of Lower extremity Ischemia: Acute ischemia and Critical Limb Ischemia** (25**%).**
5. **Unit (Module) 5 Neurovascular conditions involving the upper extremity, angioaccess and vascular malformations** (10%). **6. Unit (Module) 6 Aortic aneurysm, Visceral Ischemia and Portal hypertension**(10%)**.**
7. **Unit (Module) 7 Management of extra-cranial cerebrovascular diseases**(10%)**.**
8. **Unit (Module) 8. Management of Lymphatic diseases**(5%)
9. **Unit (Module) 9. Management of Venous diseases**(15%)

Unit Coordinator (s):

Unit	Principle Coordinator
1- Unit (Module 1) Vascular Diagnosis.	Dr. Haitham Aly Hassan
2- Unit (Module 2) Basic Vascular Science.	Dr. Ahmed Hassan Bakr
3- Unit (Module 3) Vascular Trauma.	Prof. Bahgat Abdel Hamid Thabet
4- Unit (Module 4) Management of Lower extremity Ischemia: Acute ischemia and Critical Limb Ischemia.	Prof. Mohamed Alaa Mubarak
5- Unit (Module 5) Neurovascular conditions involving the upper extremity, angioaccess and vascular malformations.	Dr. Ayman Hassaballa
6- Unit (Module 6) Aortic Aneurysm, Visceral Ischemia and Portal hypertension.	Dr. Mostafa Saad Khalil
7- Unit (Module 7) Management of extra-cranial cerebrovascular diseases.	Dr. Khaled Abel Aziz Attallah
8- Unit (Module 8) Management of Lymphatic diseases & extremity amputations for vascular disease.	Dr. Haitham Aly Hassan
9- Unit (Module 9) Management of Venous diseases	Prof. Mohamed Alaa Moubarak

2. Course Aims

1. To enable candidates to acquire high level of clinical skills, in addition to updated medical knowledge, integration and interpretation of different investigations, professional competence in the area of vascular surgery, diagnostic and therapeutic endovascular maneuvers.
2. To provide candidates with fundamental general skills related to vascular Diseases including, writing specialized medical reports, use of information technology in clinical decisions and research, and counseling patients and their families about their diseases.

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3. Course intended learning outcomes (ILOs):

Unit (Module) 1 Vascular Diagnosis.

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the principals of the following diagnostic applications: • Vascular laboratory. • Physiologic assessment of peripheral arterial occlusive disease. • Physiologic assessment of venous disease. • Arterial duplex scanning. Venous duplex scanning. • Principles of arteriography.	-Didactic (lectures, seminars, tutorial) -Clinical rounds seminars Clinical rotations	-OSCE at the end of each year -log book & portfolio
	-Service teaching	
B. Recognize basic concepts of vascular diagnostic techniques, indications, contraindications and potential complications.		
C-Mention the basic ethical and medicolegal principles relevant to Vascular Diagnosis		
D. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of Vascular Diagnosis.		
E. Mention the ethical and scientific principles of medical res methodology.		

B-Intellectual outcomes for all units (1-9)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Correlates the facts of relevant basic and clinically supportive sciences with clinical reasoning, diagnosis and management of common diseases related to vascular surgery.	-Clinical rounds -Senior staff experience	-Procedure & case presentation -log book & portfolio
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to vascular surgery.		
C. Design and /or present a case or review (through seminars/journal clubs.) in one or more of common clinical problems relevant to the field of vascular surgery.		
D-Formulate management plans and decision making in different situations in the field of the vascular surgery.		

C-Practical skills (Patient Care) for unit 1

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Obtain proper history and examine patients in caring and respectful behaviors.	-Didactic (lectures, seminars, tutorial) - Outpatient -Inpatient - Case presentation - Direct observation	- Log book - Objective structure clinical examination (OSCE) - One MCQ examination at the second half of the second year
B. Perform the following non invasive and invasive diagnostic procedures - Ankle brachial index and segmental pressure measurements. - Arterial duplex. - Venous duplex. -Conventional angiography.	-Clinical round with senior staff - Observation -Post graduate teaching - Hand on workshops	-Procedure presentation - Log book - Chick list
C. Interpret the following non invasive and invasive diagnostic procedures - Ankle brachial index and segmental pressure measurements.	-Clinical round with senior staff -Observation Post graduate teaching -	

- Arterial duplex. - Venous duplex. -Conventional angiography.	Hand on workshops	
D. Carry out patient management plans and decisionmaking for different vascular diseases based on different imaging modalities.	- Clinical round with senior staff - Perform under supervision of senior staff	
E. Use information technology to support patient care decisions and patient education in common clinical situations related to Vascular diagnosis.		
F-Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records)		

D-General Skills for all units (1-9)

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement activities using a systematic methodology (share in audit and risk management activities and use logbook).	-Case log - Observation and supervision - Written & oral communication	--Log book & portfolio
B. Appraises evidence from scientific studies (journal club)	- Case log - Observation and supervision - Written & oral communication	--Log book & portfolio
	- Journal clubs - Discussions in seminars and clinical rounds	
C. Conduct epidemiological Studies and surveys.		
D. Perform data management including data entry and analysis using information technology to manage information, access on-line medical information; and support their own education		
E. Facilitate learning of junior students and other health care professionals including their evaluation and assessment.	-Clinical rounds - Senior staff experience	

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Maintain therapeutic and ethically sound relationship with patients.	-Observation & supervision -Didactic	Simulation Record review (report)
G. Elicit information using effective nonverbal, explanatory, questioning, and writing skills.		
H. Provide information using effective nonverbal, explanatory, questioning, and writing skills.		
I. Work effectively with others as a member of a health care team or other professional group.		
J. Give presentation-showing benefits of different vascular diagnostic modalities in decision-making.		
K-Write a report : -Patients medical report - Death report - Descriptive reports for the types and effects of trauma. -The intra-operative findings in medico legal record		
sheets - Descriptive reports for the types and effects of acute and chronic extremity ischemia. -The intra-operative findings in medicolegal record sheets -Ultrasonographic Report -Vascular sheet -Duplex report		
L. Council patients and families about	-Perform under	

-Hazards of different vascular diagnostic modalities. - Feasibility, availability and affordability of different vascular diagnostic modalities. - Patients with congenital anomalies that at risk for trauma. -Risk of atherosclerosis -Rheumatic heart disease -Family history of vascular malformations -Occupational vascular problems -Family history of hyper-coagulable states. -Family history of arterial aneurysms. -Family history of stroke. -Family history of chronic lymphedema. -Hazards of chronic swollen limb. -Family history of varicose veins. - Family history of chronic lymphedema. -Hazards of chronic swollen limb.	supervision of senior staff	

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
L. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	-Observation & supervision -Didactic	-Objective structured clinical examination
		-Patient survey
M. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices		- 360o global rating

N. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		-Objective structured clinical examination -360o global rating

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
O. Work effectively in relevant health care delivery settings and systems including good administrative and time management.	-Observation -Senior staff experience	-360o global rating
R. Practice cost-effective health care and resource allocation that does not compromise quality of care.		-Check list evaluation of live or recorded performance
P. Assist patients in dealing with system complexities.		-360o global rating -Patient survey

Unit (Module) 2. Basic Vascular Science

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: • Atherosclerosis and medical management of atherosclerosis. • Thromboangitis obleritans (Buerger's disease). • Arterial fibromuscular dysplasia. • Intimal hyperplasia. • Inflammatory vascular diseases. • Uncommon arteriopathies.	-Didactic (lectures, seminars, tutorial) -Clinical rounds seminars Clinical rotations - Service teaching	-OSCE at the end of each year -log book & portfolio
B. Mention the principles of : -The Existing Theories Of The Pathophysiology Of Atherosclerosis And The Relationship To Traditional And Emerging Risk Factors And The Understanding Of The Fundamental Biology Of Atherosclerotic Plaque.		
C. State update and evidence based Knowledge of: • Atherosclerosis and medical management of atherosclerosis. • Inflammatory vascular diseases		
D. Memorize the facts and principles of the relevant basic supportive sciences related to Basic Vascular Science		
E. Mention the basic ethical and medicolegal principles relevant to Basic Vascular Science		
D. Mention the basics and standards of quality assurance to ensure good clinical practice.		
E. Mention the ethical and scientific principles of medical research methodology.		

B-Intellectual outcomes as in unit 1

C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Obtain proper history and examine patients in caring and respectful behaviors.	-Didactic (lectures, seminars, tutorial) - Outpatient -Inpatient - Case presentation - Direct observation	- Log book - Objective structure clinical examination (OSCE) - One MCQ examination at the second half of the second year
B. Carry out patient management plans and decision-making for different vascular diseases based on knowledge of different subjects of basic vascular science.	- Clinical round with senior staff - Perform under supervision of senior staff	
C. Use information technology to support patient care decisions and patient education in common clinical situations related to before-mentioned vascular conditions.		
D. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets. (Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records)		

D- General Skills as in unit 1

Unit (Module), 3. Vascular trauma

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: • Extremity vascular trauma • Abdominal vascular trauma • Thoracic vascular trauma • Head and neck vascular trauma	-Didactic (lectures, seminars, tutorial) -Clinical rounds seminars Clinical rotations - Service teaching	-OSCE at the end of each year -log book & portfolio
B. **Mention the principles of** • Mechanism of vascular injury and mode of presentation. • Types of vascular surgical exposures Types of vascular repair.		
C. State update and evidence based Knowledge of the vascular trauma.		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to vascular trauma.		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to the vascular trauma.		

F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of		
vascular trauma.		
G. Mention the ethical and scientific principles of medical research methodology.		
H. State the impact of common health problems in the field of vascular trauma on the society and how good clinical practice improves these problems.		

B- Intellectual outcomes as in unit 1

C- Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Obtain proper history and examine patients in caring and respectful behaviors.	-Didactic (lectures, seminars, tutorial) - Outpatient -Inpatient - Case presentation - Direct observation	- Log book - Objective structure clinical examination (OSCE) - One MCQ examination at the second half of the second year

B. Order the following non invasive and invasive diagnostic procedures - Routine investigations for preoperative fitness - Duplex Scanning. - CT angiography - Conventional angiography	-Clinical round with senior staff - Observation -Post graduate teaching - Hand on	-Procedure presentation - Log book - Chick list
	workshops	
C. Interpret the following non invasive and invasive diagnostic procedures - Routine investigations for preoperative fitness - Duplex Scanning. - CT angiography - Conventional angiography	-Clinical round with senior staff -Observation Post graduate teaching - Hand on workshops	
D. Prescribe the following therapeutic procedures: - Vascular repair. - Endovascular embolization.	-Clinical round with senior staff -Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list
F. Carry out patient management plans for common conditions related to vascular trauma	- Clinical round with senior staff - Perform under supervision of senior staff	
G. Use information technology to support patient care decisions and patient education in common clinical situations related to vascular trauma.		

H. Provide health care services aimed at preventing health problems related to vascular trauma like: -Delayed diagnosis of acute ischemia after vascular trauma. -Missed diagnosis of traumatic aneurysms and arteriovenous fistula.		
I. Provide patient-focused care in common conditions related to A vascular trauma, while working with health care professionals, including those from other		
disciplines		
J. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records)		

D-General Skills as in unit 1

Unit (Module), 4. Management of Lower extremity Ischemia: Acute ischemia and Critical Limb Ischemia

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diag and management of the following diseases a clinical conditions: • Acute ischemia. • Chronic ischemia.	-Didactic (lectures, seminars, tutorial) -Clinical rounds seminars Clinical rotations - Service teaching	-OSCE at the end of each year -log book & portfolio
B. **Mention the principles of** extremity • Acute embolic and thrombotic ischemia. • Compartment syndrome. • Critical Limb ischemia.		
C. State update and evidence based Knowledge of the following diseases • Acute ischemia • Chronic ischemia		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to acute and chronic ischemia.		

E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to the acute and chronic ischemia.		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of acute and chronic ischemia.		
G. Mention the ethical and scientific principles of medic research methodology.		
H. State the impact of common health problems in the field of Extremity ischemia and limb salvage on the society and how good clinical practice improves these problems.		

B- Intellectual outcomes as in unit 1

C- Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Obtain proper history and examine patients in caring and respectful behaviors.	-Didactic (lectures, seminars, tutorial) - Outpatient -Inpatient	- Log book - Objective structure clinical examination (OSCE)
	-Case presentation - Direct observation	- One MCQ examination at the second half of the second year

B. Order the following non invasive and invasive diagnostic procedures - Routine investigations for preoperative fitness - Duplex Scanning. - CT angiography - Conventional angiography	-Clinical round with senior staff - Observation -Post graduate teaching - Hand on workshops	-Procedure presentation - Log book - Chick list
C. Interpret the following non invasive and invasive diagnostic procedures - Routine investigations for preoperative fitness - Duplex Scanning. - CT angiography - Conventional angiography	-Clinical round with senior staff -Observation Post graduate teaching - Hand on workshops	
D. Perform the following non invasive and invasive diagnostic and therapeutic procedures - Duplex Arterial Mapping - Diagnostic arteriography - Embolectomy - Thrombolysis - Percutaneous Transluminal Arteriography (PTA), stenting.	-Clinical round with senior staff - Observation Post graduate teaching - Hand on workshops	
E. Prescribe the following non invasive and invasive therapeutic procedures: - Embolectomy	-Clinical round with senior staff	- Procedure presentation - Log book
-Bypass Surgery - Thrombolysis - Percutaneous Transluminal Arteriography (PTA), stenting.	-Perform under supervision of senior staff	- Chick list

F. Carry out patient management plans for common conditions related to acute and chronic extremity ischemia	- Clinical round with senior staff - Perform under supervision of senior staff	
G. Use information technology to support patient care decisions and patient education in common clinical situations related to acute and chronic extremity ischemia.		
H. Provide health care services aimed at preventing health problems related to acute and chronic extremity ischemia like: -Screening for acute onset of extremity pain. -Risk factor modification for atherosclerosis.		
I. Provide patient-focused care in common conditions related to acute and chronic ischemia, while working with health care professionals, including those from other disciplines		
J. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records)		

D-General Skills as in unit 1

Unit (Module) 5 Neurovascular conditions involving the upper extremity, angioaccess and vascular malformations

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: • Occlusive diseases of the supra-aortic trunks. Vasospastic disorders, Raynaud's phenomenon. • Neurogenic thoracic outlet syndrome, arterial TOS, subclavian axillary vein thrombosis. • Diagnosis and treatment of upper extremity ischemia. • Types and management of vascular malformations. • Vascular access.	-Didactic (lectures, seminars, tutorial) -Clinical rounds seminars Clinical rotations -Service teaching	-OSCE at the end of each year -log book & portfolio
B. **Mention the principles of** • Arteriovenous Malformations. • Creation of vascular access for Hemodialysis.		
C. State update and evidence based Knowledge of the following diseases • Upper extremity ischemia. • Vascular access. • Vascular malformations.		

D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to before-mentioned vascular diseases.		
E. Mention the basic ethical and medicolegal		
principles that should be applied in practice and are relevant to the before-mentioned vascular diseases.		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of before-mentioned vascular diseases.		
G. Mention the ethical and scientific principles of medical research methodology.		
H. State the impact of common health problems in the field of before-mentioned vascular diseases on the society and how good clinical practice improve these problems.		

B- Intellectual outcomes as in unit 1

C- Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation

A. Obtain proper history and examine patients in caring and respectful behaviors.	-Didactic (lectures, seminars, tutorial) - Outpatient -Inpatient -Case presentation - Direct observation	- Log book - Objective structure clinical examination (OSCE) - One MCQ examination at the second half of the second year
B. Order the following non invasive and invasive diagnostic procedures - Routine investigations for fitness, coagulation	-Clinical round with senior staff	-Procedure presentation - Log book
profile. -Duplex Scanning. -CT angiography -MRA -Ascending phlebography -Conventional Angiography	-Observation -Post graduate teaching -Hand on workshops	- Chick list
C. Interpret the following non invasive and invasive diagnostic procedures -Duplex Scanning. -CT angiography -MRA -Ascending phlebography -Conventional Angiography	-Clinical round with senior staff -Observation Post graduate teaching -Hand on workshops	

D. Perform the following non invasive and invasive diagnostic and therapeutic procedures - Duplex arterial mapping - Diagnostic angiography - Creation of vascular access	-Clinical round with senior staff - Observation Post graduate teaching -Hand on workshops	
E. Prescribe the following non invasive and invasive therapeutic procedures: - Different types of vascular access. - First rib/cervical rib resection - Transthoracic/Supraclavicular Sympathectomy. - Axillary aneurysm repair -Medical management of vasospastic disorders. - Transcatheter embolization of AVM, percutaneous sclerotherapy of venous malformations.	-Clinical round with senior staff - Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list
F. Carry out patient management plans for common	- Clinical round with	
conditions mentioned in A.A,A.B	senior staff - Perform under supervision of senior staff	
G. Use information technology to support patient care decisions and patient education in common clinical situations related to before-mentioned vascular diseases.		
H. Provide health care services aimed at preventing health problems related to before-mentioned vascular diseases like: -Screening for vascular malformations -management of upper extremity vascular pain.		

I. Provide patient-focused care in common conditions related to before-mentioned vascular diseases, while working with health care professionals, including those from other disciplines		
J. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records)		

D-General Skills as in unit 1

Unit (Module) 6 Arterial Aneurysms, Visceral Ischemia and Portal hypertension

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: • Arterial Aneurysms. • Visceral ischemic syndrome. • Portal hypertension.	-Didactic (lectures, seminars, tutorial) -Clinical rounds seminars Clinical rotations - Service teaching	-OSCE at the end of each year -log book & portfolio

B. **Mention the principles of** • Pathogenesis and management of different types of arterial aneurysms. • Types of intestinal ischemia. • Management of intestinal ischemia. • Updates in management of Portal hypertension.		
C. State update and evidence based Knowledge of the following diseases • Aortic Aneurysms. • Ischemia visceral syndromes. • Portal hypertension.		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to before-mentioned vascular diseases.		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are		
relevant to the before-mentioned vascular diseases.		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of before-mentioned vascular diseases.		
G. Mention the ethical and scientific principles of medic research methodology.		
H. State the impact of common health problems in the field of before-mentioned vascular diseases on the society and how good clinical practice improves these problems.		

B-Intellectual outcomes As in unit 1

C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Obtain proper history and examine patients in caring and respectful behaviors.	-Didactic (lectures, seminars, tutorial) - Outpatient -Inpatient -Case presentation - Direct observation	- Log book - Objective structure clinical examination (OSCE) - One MCQ examination at the second half of the second year
B. Order the following non invasive and invasive diagnostic procedures - Routine investigations for fitness, coagulation	-Clinical round with senior staff	-Procedure presentation - Log book
profile. -Abdominal US. -CT angiography -MRA -Conventional Angiography	-Observation -Post graduate teaching -Hand on workshops	- Chick list
C. Interpret the following non invasive and invasive diagnostic procedures -Abdominal US. -CT angiography -MRA -Conventional Angiography	-Clinical round with senior staff -Observation Post graduate teaching -Hand on workshops	

D. Perform the following non invasive and invasive diagnostic and therapeutic procedures under supervision - Bypass surgery. - Thrombolysis.		
E-Prescribe the following therapeutic procedures: - Conventional aneurysm repair - Superior mesenteric thromebctomy. - Bypass surgery. - Portosystemic shunt procedures. - Thrombolysis. -Medical management of intestinal ischemia. -Banding and sclerotherapy for esophageal varices.	-Clinical round with senior staff - Perform under supervision of senior staff	- Procedure presentatio n - Log book - Chick list
F. Carry out patient management plans for common conditions mentioned in A.A	- Clinical round with senior staff - Perform under supervision of senior staff	
G. Use information technology to support patient care decisions and patient education in common clinical situations related to before-mentioned vascular diseases.		
H. Provide health care services aimed at preventing health problems related to before-mentioned vascular diseases like: -Screening of aortic aneurysms. -Early diagnosis of intestinal ischemia and differential diagnosis of acute abdomen.		

I. Provide patient-focused care in common conditions related to before-mentioned vascular diseases, while working with health care professionals, including those from other disciplines		
J. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records)		

D-General Skills As in unit 1

Unit (Module) 7 Management of extra-cranial cerebrovascular diseases

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: • Ischemic cerebrovascular disease. • Aneurysms of extracranial carotid artery. • Uncommon disorders affecting the carotid artery.	-Didactic (lectures, seminars, tutorial) -Clinical rounds seminars Clinical rotations - Service teaching	-OSCE at the end of each year -log book & portfolio

B. **Mention the principles of** • Cerebrovascular and vertebrobasilar ischemia. • Vascular disorders affecting the carotid artery. • Complications following the carotid endartrectomy.		
C. State update and evidence based Knowledge of the following diseases □ Ischemic cerebrovascular disease.		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to before-mentioned vascular diseases.		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to the before-mentioned vascular diseases.		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of before-mentioned vascular diseases.		
G. Mention the ethical and scientific principles of medical research methodology.		
H. State the impact of common health problems in the field of before-mentioned vascular diseases on the society and how good clinical practice improve these problems.		

B-Intellectual outcomes as in unit 1

C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Obtain proper history and examine patients in caring and respectful behaviors.	-Didactic (lectures, seminars, tutorial) - Outpatient -Inpatient -Case presentation - Direct observation	- Log book - Objective structure clinical examination (OSCE) - One MCQ examination at the second half of the second year
B. Order the following non invasive and invasive diagnostic procedures - Routine investigations for fitness, coagulation profile. -Duplex scanning.	-Clinical round with senior staff - Observation -Post graduate	-Procedure presentation - Log book - Chick list
-CT angiography -MRA -Conventional Angiography	teaching -Hand on workshops	
C. Interpret the following non invasive and invasive diagnostic procedures - Duplex scanning. -CT angiography -MRA -Conventional Angiography	-Clinical round with senior staff -Observation Post graduate teaching -Hand on workshops	
D. Prescribe the following therapeutic procedures: - Carotid enartrectomy. - Carotid artery stenting. - Carotid aneurysm repair (surgery, endovascular). - Bypass surgery. -Medical management of cerebrovascular Ischemia.	-Clinical round with senior staff -Perform under supervision of senior staff	- Procedure presentatio n - Log book - Chick list

E. Carry out patient management plans for common conditions mentioned in A.A	- Clinical round with senior staff - Perform under supervision of senior staff	
F. Use information technology to support patient care decisions and patient education in common clinical situations related to before-mentioned vascular diseases.		
F. Provide health care services aimed at preventing health problems related to before-mentioned vascular diseases like: -Early diagnosis of carotid stenosis by duplex scanning so patients could benefit from the best medical treatment.		
G. Provide patient-focused care in common conditions related to before-mentioned vascular diseases, while working with health care professionals, including those from other disciplines		
H. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records)		

D-General Skills as in unit 1

Unit (Module) 8 Management of Lymphatic diseases

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: □ Lymphedema.	-Didactic (lectures, seminars, tutorial) -Clinical rounds seminars Clinical rotations - Service teaching	-OSCE at the end of each year -Log book & portfolio
B. **Mention the principles of** • Circulatory dynamics and pathophysiology of lymphatic system. • Non-operative management of chronic lymphedema. • Excisional operations for lymphedema □ Lymphatic reconstructions.		
C. State update and evidence based Knowledge of the following diseases □ Chronic lymphedema.		
D. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to Chronic lymphedema.		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to Chronic lymphedema.		

F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of		
Chronic lymphedema.		
G. Mention the ethical and scientific principles of medical research methodology.		
H. State the impact of common health problems in the field of Chronic lymphedema on the society and how good clinical practice improve these problems.		

B-Intellectual outcomes as in unit 1

C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Obtain proper history and examine patients in caring and respectful behaviors.	-Didactic (lectures, seminars, tutorial) - Outpatient -Inpatient - Case presentation - Direct observation	- Log book - Objective structure clinical examination (OSCE) - One MCQ examination at the second half of the second year

B. Order the following non invasive and invasive diagnostic procedures - Routine investigations for fitness, coagulation profile. -Duplex scanning. –lymphography and lymph scintigraphy.	-Clinical round with senior staff - Observation -Post graduate teaching -Hand on workshops	-Procedure presentation - Log book - Chick list
C. Interpret the following non invasive and invasive diagnostic procedures –lymphography and lymph scintigraphy.	-Clinical round with senior staff -Observation Post graduate teaching Hand on workshops	
D. Prescribe the following therapeutic procedures: - Excisional operations for chronic lymphedema. - Non-operative treatment of chronic lymphedema.	-Clinical round with senior staff - Perform under supervision of senior staff	- Procedure presentation - Log book - Chick list
E. Carry out patient management plans for common conditions mentioned in A.A	- Clinical round with senior staff - Perform under supervision of senior staff	
F. Use information technology to support patient care decisions and patient education in common clinical situations related to chronic lymphedema.		

G. Provide health care services aimed at preventing health problems related to chronic lymphedema like: -Early diagnosis and family assurance and instructions to avoid chronic edema.		
H. Provide patient-focused care in common conditions related to chronic lymphedema, while working with health care professionals, including		
those from other disciplines		
I. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets. (Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records)		

D-General Skills as in unit 1

Unit (Module) 9 Management of Venous diseases

A- Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions: • Deep venous thrombosis. • Superficial Thrombophlebitis. • Chronic Venous Insufficiency and varicose veins.	-Didactic (lectures, seminars, tutorial) -Clinical rounds seminars Clinical rotations -Service teaching	-OSCE at the end of each year -log book & portfolio
B. **Mention the principles of** • Hypercoagulable states. • Management of DVT. • Classification of chronic venous insufficiency • Operative and non-operative management of varicose veins.		
C. State update and evidence based Knowledge of the following diseases • Management of DVT. • Management of varicose veins		
D. Memorize the facts and principles of the relevant basic and clinically supportive		

sciences related to before-mentioned vascular diseases.		
E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to the before-mentioned vascular diseases.		
F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of		
before-mentioned vascular diseases.		
G. Mention the ethical and scientific principles of medical research methodology.		
H. State the impact of common health problems in the field of before-mentioned vascular diseases on the society and how good clinical practice improves these problems.		

B-Intellectual outcomes as in unit 1

C-Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Obtain proper history and examine patients in caring and respectful behaviors.	-Didactic (lectures, seminars, tutorial) - Outpatient -Inpatient - Case presentation - Direct observation	- Log book - Objective structure clinical examination (OSCE) - One MCQ examination at the second half of the second year
B. Order the following non invasive and invasive diagnostic procedures - Routine investigations for fitness, coagulation profile. -Duplex scanning. -CT angiography	-Clinical round with senior staff - Observation -Post	-Procedure presentatio n - Log book - Chick list

-MRA -Phlebography -Conventional Angiography	graduate teaching -Hand on workshops	
C. Interpret the following non invasive and invasive diagnostic procedures - Duplex scanning. -CT angiography -MRA - Phlebography -Conventional Angiography	-Clinical round with senior staff -Observation Post graduate teaching -Hand on workshops	
D. Prescribe the following therapeutic procedures: - Surgical stripping and ligation. - Surgical ligation of perforators. - Sclerotherapy (liquid and foam). - Medical management of DVT. -Venous thrombolysis. -Application of IVC filter.	-Clinical round with senior staff - Perform under supervision of senior staff	- Procedure presentatio n - Log book - Chick list
E. Carry out patient management plans for common conditions mentioned in A.A	- Clinical round with senior staff - Perform under supervision of senior staff	
F. Use information technology to support patient care decisions and patient education in common clinical situations related to before-mentioned vascular diseases.		

G. Provide health care services aimed at preventing health problems related to before-mentioned vascular diseases like: -Early diagnosis by duplex scanning to avoid fatal		
pulmonary embolism or post-thrombotic venous hypertension syndrome.		
H. Provide patient-focused care in common conditions related to before-mentioned vascular diseases, while working with health care professionals, including those from other disciplines		
I. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets. (Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records)		

D- General Skills as in unit 1

4. Course contents (topic s/modules/rotation

Course Matrix

Time Schedule: Second part

Topic	Covered ILOs			
	Knowledge A	**Intellectual B**	**Practical skill C**	**General Skills D**
Unit 1 Vascular Diagnosis				
Vascular laboratory.	A-E	A-D	A,D-F	A-P
Physiologic assessment of peripheral arterial occlusive disease.	A-E	A-D	A,D-F	A-P
Physiologic assessment of venous disease.	A-E	A-D	A,D-F	A-P
Arterial duplex scanning.	A-E	A-D	A-F	A-P
Venous duplex scanning.	A-E	A-D	A-F	A-P
Principles of arteriography	A-E	A-D	A,D-F	A-P
Unit 2 Basic Vascular Science				
Atherosclerosis and medical management of atherosclerosis.	A-E	A-D	A-D	A-P
Thromboangitis obleritans (Buerger's disease).	A-E	A-D	A-D	A-P
Arterial fibromuscular dysplasia.	A-E	A-D	A-D	A-P
Intimal hyperplasia	A-E	A-D	A-D	A-P
Inflammatory vascular diseases.	A-E	A-D	A-D	A-P
Uncommon arteriopathies.	A-E	A-D	A-D	A-P

Unit 3 Vascular trauma				
Extremity vascular trauma	A,C,D-H	A-D	A-J	A-P
Abdominal vascular trauma	A,C,D-H	A-D	A-J	A-P
Thoracic vascular trauma	A,C,D-H	A-D	A-J	A-P
Head and neck vascular trauma	A,C,D-H	A-D	A-J	A-P
Mechanism of vascular injury and mode of presentation.	B, D-H	A-D	A-J	A-P
Types of vascular repair	B, D-H	A-D	A-J	A-P
Mechanism of vascular injury and mode of presentation.	B, D-H	A-D	A-J	A-P
Types of vascular surgical exposures	B, D-H	A-D	A-J	A-P
UNIT 4 Management of lower extremity ischemia: Acute ischemia and critical limb ischemia				
Acute ischemia.	A,C,D-H	A-D	A-J	A-P
Chronic ischemia.	A,C,D-H	A-D	A-J	A-P
Acute embolic and thrombotic extremity ischemia.	B, D-H	A-D	A-J	A-P
Compartment syndrome.	B, D-H	A-D	A-J	A-P
Critical Limb ischemia	B, D-H	A-D	A-J	A-P
Unit 5 Neurovascular conditions involving the upper extremity, angioaccess and vascular malformations				

Vasospastic disorders, Raynaud's phenomenon.	A,C,D-H	A-D	A-J	A-P
Neurogenic thoracic outlet syndrome, arterial TOS, subclavian axillary vein thrombosis.	A,C,D-H	A-D	A-J	A-P
Diagnosis and treatment of upper extremity ischemia.	A,C,D-H	A-D	A-J	A-P
Types and management of vascular malformations.	A,C,D-H	A-D	A-J	A-P
Arteriovenous	B.D-H	A-D	A-J	A-P
Malformations.				
Creation of vascular access for Hemodialysis	B.D-H	A-D	A-J	A-P
Arteriovenous Malformations.	B.D-H	A-D	A-J	A-P
Unit 6 Arterial Aneurysms. Visceral ischemia, Portal hypertension.				
Arterial Aneurysms.	A,C,D-H	A-D	A-J	A-P
Visceral ischemic syndrome.	A,C,D-H	A-D	A-J	A-P
Portal hypertension.	A,C,D-H	A-D	A-J	A-P
Pathogenesis and management of different types of arterial aneurysms.	B.D-H	A-D	A-J	A-P
Types of intestinal ischemia.	B.D-H	A-D	A-J	A-P

Management of intestinal ischemia.	B.D-H	A-D	A-J	A-P
Updates in management of Portal hypertension.	B.D-H	A-D	A-J	A-P
Unit 7: Management of extra-cranial cerebrovascular diseases				
Ischemic cerebrovascular disease.	A,C,D-H	A-D	A-H	A-P
Aneurysms of extracranial carotid artery.A,C.D-H	A,C,D-H	A-D	A-H	A-P
Uncommon disorders affecting the carotid artery	A,C,D-H	A-D	A-H	A-P
Cerebrovascular and vertebrobasilar ischemia.	A,C,D-H	A-D	A-H	A-P
Vascular disorders affecting the carotid artery.	B.D-H	A-D	A-H	A-P
Complications following the carotid endartrectomy.	B.D-H	A-D	A-H	A-P
Unit 8 management of lymphatic diseases				
lymphedema	A,C, D-H	A-D	A-I	A-P
Circulatory dynamics and pathophysiology of lymphatic system.	B,D-H	A-D	A-I	A-P
Non-operative management of chronic lymphedema.	B,D-H	A-D	A-I	A-P
Excisional operations for lymphedema	B,D-H	A-D	A-I	A-P
Lymphatic reconstructions.	B,D-H	A-D	A-I	A-P

Unit 9 management of venous diseases				
Deep venous thrombosis.	A, D-H	A-D	A-I	A-P
Superficial Thrombophlebitis.	A, D-H	A-D	A-I	A-P
Chronic Venous Insufficiency and varicose veins.	A, D-H	A-D	A-I	A-P
Hypercoagulable states.	B,C,D-H	A-D	A-I	A-P
Management of DVT.	B,C,D-H	A-D	A-I	A-P
Classification of chronic venous insufficiency	B,C,D-H	A-D	A-I	A-P

5. Course Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Outpatient
3. Inpatient
4. Case presentation
5. Direct observation
6. journal club
7. Critically appraised topic.
8. Educational prescription
9. Clinical rounds
10. Clinical rotation
11. Senior staff experience
12. Case log
13. Observation and supervision
14. Written & oral communications
15. Simulation

16. Hand on work shop
17. Service teaching
18. Perform under supervision of senior staff
19. Postgraduate teaching

6. Course Methods of teaching/learning: for students with poor achievements

1. Extra Didactic (lectures, seminars, tutorial) according to their needs
2. Extra training according to their needs

7. Course assessment methods:

i. Assessment tools:

1. Oral examination
2. Clinical examination
3. Written examination
4. Objective structure clinical examination (OSCE)
5. Procedure/case Log book and Portfolios
6. Simulation
7. Record review (report)
8. Patient survey
9. 360o global rating
10. Check list evaluation of live or recorded performance
11. MCQ Exam

ii. Time schedule: At the end of second part

iii. Marks: 1200

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

- Rutherford's Vascular Surgery: 9th edition , 2018

iii. **Recommended books**

- Comprehensive Vascular and Endovascular Surgery: 2nd edition, 2009

-Haimovici's Vascular Surgery sixth edition, 2018

iv. Periodicals, Web sites, … etc

- Journal of Vascular Surgery

-European Journal Of vascular and endovascular surgery -Journal of endovascular Therapy.

v. Others

None

9. Signatures

Course Coordinator: Dr. Hesham Aboloyoun	**Head of the Department:** Prof. Dr. Ayman Hasaballa
Date: ……	**Date: ……**

ANNEX 2
Program Academic Reference Standards (ARS)

1- Graduate attributes for master degree in Vascular Surgery

***The Graduate (after residence training and master degree years of study) must*:**

1- Have the capability to be a scholar, understanding and applying basics, methods and tools of scientific research and clinical audit *in Vascular Surgery*.

2- Appraise and utilise scientific knowledge to continuously update and improve clinical practice in related specialty.

3- Acquire sufficient medical knowledge in the basic biomedical, clinical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care in the field of *Vascular Surgery*.

4- Provide patient care that is appropriate, effective and compassionate for dealing with common health problems and health promotion using evidence-based and updated information.

5- Identify and share to solve health problems in his specialty. **6-** Acquire all competencies –including the use of recent technologies- that enable him to provide safe, scientific, and ethical and evidence based clinical care including update use of new technology in *Vascular Surgery*.

7- Demonstrate interpersonal and communication skills that ensure effective information exchange with individual patients and their families and teamwork with other health professions, the scientific community and the public.

8- Function as supervisor, and trainer in relation to colleagues, medical students and other health professions.

9- Acquire decision making capabilities in different situations related to *Vascular Surgery*.

10- Show responsiveness to the larger context of the health care system, including e.g. the organisation of health care, partnership with health care providers and managers, practice of cost-effective health care, health economics, and resource allocations.

11- Be aware of public health and health policy issues and share in system-based improvement of health care. **12-** Show appropriate attitudes and professionalism.

13- Demonstrate skills of lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages in *Vascular Surgery* or one of its subspecialties.

2- Competency based Standards for clinical master degree graduates

2.1- Knowledge and understanding

By the end of the program, the graduate should demonstrate satisfactory knowledge and understanding of

2-1-A- Established basic, biomedical, clinical, epidemiological and behavioral sciences related conditions, problem and topics. **2-1-B-** The relation between good clinical care of common health problems in the specialty and the welfare of society.

2-1-C- Up to date and recent developments in common problems related to *Vascular Surgery*.

2-1-D- Ethical and medicolegal principles relevant to practice in *Vascular Surgery*.

2-1-E -Quality assurance principles related to the good medical practice in *Vascular Surgery*.

2-1-F- Ethical and scientific basics of medical research.

2.2- Intellectual skills:

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

2-2-A- Correlation of different relevant sciences in the problem solving and management of common diseases of *Vascular Surgery*.

2-2-B- Problem solving skills based on data analysis and evaluation (even in the absence of some) for common clinical situations related to *Vascular Surgery*.

2.2- C- Demonstrating systematic approach in studying clinical problems relevant to *Vascular Surgery*.

2-2-D- Making alternative decisions in different situations in *Vascular Surgery*.

2.3- Clinical skills

***By the end of the program, the graduate should be able to* 2-3-A** - Provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

2-3-B- Demonstrate patient care skills relevant to *Vascular Surgery* for patients with common diseases and problems. **2-3- C-** Write and evaluate reports for situations related to the field of *Vascular Surgery*.

2.4- General skills

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

Competency-based outcomes for Practice-based Learning and Improvement

2-4-A- Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence,, improvements in patient care and risk management.

2-4-B- Use all information sources and technology to improve his practice.

2-4-C- Demonstrate skills of teaching and evaluating others.

Competency-based objectives for Interpersonal and Communication Skills

2-4-D- Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and other health professionals.

Competency-based objectives for Professionalism

2-4-E- Demonstrate professionalism behaviors, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.

- ***Competency-based objectives for Systems-based Practice***

2-4-F- Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively use system resources to provide care that is of optimal value.

2-4-g- Demonstrate skills of effective time management.

2-4-H- Demonstrate skills of self and continuous learning.

Annex 3, Methods of teaching/learning

Annex 3, Methods of teaching/learning

	Patient care	Medical knowledge	Practice-based learning/ Improvement	Interpersonal and communication skills	Professionalism	Systems based practice
Didactic (lectures, seminars, tutorial)	X	X		X	X	X
journal club,	X	X	X			
Educational prescription	X	X	X	X	X	X
Present a case (true or simulated) in a grand round	X	X	X	X	X	
Observation and supervision	X		X	X	X	X
conferences		X	X	X		X
Written assignments	X	X	X	X	X	X
Oral assignments	X	X	X	X	X	X

Teaching methods for knowledge

- Didactic (lectures, seminars, tutorial)
- journal club
- Critically appraised topic
- Educational prescription (a structured technique for following up on clinical questions that arise during rounds and other venues).
- Present a case (true or simulated) in a grand round
- Others

Teaching methods for patient care

- Observation and supervision /Completed tasks procedure/case logs
- On-the-job" training without structured teaching is not sufficient for this skill (checklists).
- Simulation is increasingly used as an effective method for skill/ teamwork training.

Teaching methods for other skills

- Written communication (e.g., orders, progress note, transfer note, discharge summary, operative reports, and diagnostic reports).
- Oral communication (e.g., presentations, transfer of care, interactions with patients, families, colleagues, members of the health care team) and/or non verbal skills (e.g., listening, team skills)
- Professionalism, including medical ethics, may be included as a theme throughout the program curriculum that includes both didactic and experiential components (e.g., may be integrated into already existing small group discussions of vignettes or case studies and role plays, computer-based modules) and may be modeled by the faculty in clinical practice and discussed with the resident as issues arise during their clinical practice.

Annex 4, Assessment methods

Annex 4, ILOs evaluation methods for master's degree students.

Method	Practical skills	K	Intellectual	General skills			
	Patient care	K	I	Practice-based learning/ Improvement	Interpersonal and communication skills	Professionalism	Systems-based practice
Record review	X	X	X		X	X	X
Checklist	X				X		
Global rating	X	X	X	X	X	X	X
Simulations	X	X	X	X	X	X	
Portfolios	X	X	X	X	X		
Standardized oral examination	X	X	X	X	X		X
Written examination	X	X	X	X			X
Procedure/ case log	X	X					
OSCE	X	X	X	X	X	X	X

Annex 4, Glossary of Master Degree doctors assessment methods

- Record Review – Abstraction of information from patient records, such as medications or tests ordered and comparison of findings against accepted patient care standards.
- Chart Stimulated Recall – Uses the MSc doctor's patient records in an oral examination to assess clinical decisionmaking.
- Mini clinical evaluation: Evaluation of Live/Recorded Performance (single event) – A single resident interaction with a patient is evaluated using a checklist. The encounter may be videotaped for later evaluation.
- Standardized Patients (SP) – Simulated patients are trained to respond in a manner similar to real patients. The standardized patient can be trained to rate MSc doctor's performance on checklists and provide feedback for history taking, physical

examination, and communication skills. Physicians may also rate the MSc doctor's performance.

- Objective Structured Clinical Examination (OSCE) – A series of stations with standardized tasks for the MSc doctors to perform. Standardized patients and other assessment methods often are combined in an OSCE. An observer or the standardized patient may evaluate the MSc doctors.

- Procedure or Case Logs – MSc doctors prepare summaries of clinical experiences including clinical data. Logs are useful to document educational experiences and deficiencies.

- PSQs – Patients fill out Patient Survey questionnaires (PSQs) evaluating the quality of care provided by a MSc doctors.

- Case /problems – assess use of knowledge in diagnosing or treating patients or evaluate procedural skills.
- Models: are simulations using mannequins or various anatomic structures to assess procedural skills and interpret clinical findings. Both are useful to assess practice performance and provide constructive feedback.
- 360 Global Rating Evaluations – MSc doctors, faculty, nurses, clerks, and other clinical staff evaluate MSc doctors from different perspectives using similar rating forms.
- Portfolios – A portfolio is a set of project reports that are prepared by the MSc doctors to document projects completed during the MSc study years. For each type of project standards of performance are set. Example projects are summarizing the research literature for selecting a treatment option, implementing a quality improvement program, revising a medical student clerkship elective, and creating a computer program to track patient care and outcomes.

- Examination MCQ – A standardized examination using multiple-choice questions (MCQ). The in-training examination and written board examinations are examples.
- Examination Oral – Uses structured realistic cases and patient case protocols in an oral examination to assess clinical decision-making.
- Procedure or Case Logs – MSc doctors prepare summaries of clinical experiences including clinical data. Logs are useful to document educational experiences and deficiencies.

- PSQs – Patients fill out Patient Survey questionnaires (PSQs) evaluating the quality of care provided by MSc doctors.

Annex 5, Program evaluation tools

By whom	Method	sample
Quality Assurance Unit	Reports Field visits	#
External Evaluator (s):According to department council External Examiner (s): According to department council	Reports Field visits	#
Stakeholders	Reports Field visits questionnaires	#
Senior students	questionnaires	#
Alumni	questionnaires	#

Annex 6, Program Correlations:

مصفوفة توافق المعايير القومية القياسية العامة لبرامج الماجستير مع المعايير الأكاديمية المعتمدة من كلية الطب – جامعة أسيوط لدرجة الماجستير في جراحة الشرايين

I- General Academic Reference Standards (GARS) versus Program ARS

1- Graduate attributes

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
1- Have the capability to be a scholar, understanding and applying basics, methods and tools of scientific research and clinical audit in *Vascular Surgery*.	1- إجادة تطبيق أساسيات و منهجيات البحث العلمي واستخدام أدواته المختلفة
2- Appraise and utilise scientific knowledge to continuously update and improve clinical practice in *Vascular Surgery*.	2-تطبيق المنهج التحليلي واستخدامه في مجال التخصص
3- Acquire sufficient medical knowledge in the basic biomedical, clinical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care in *Vascular Surgery*.	3-تطبيق المعارف المتخصصة و دمجها مع المعارف ذات العلاقة في ممارسته المهنية
4- Provide patient care that is appropriate, effective and compassionate for dealing with common health problems and health promotion using evidence-based and update information.	4-إظهار وعيا بالمشاكل الجارية و الرؤى الحديثة في مجال التخصص
5- Identify and share to solve health problems in *Vascular Surgery*.	5-تحديد المشكلات المهنية و إيجاد حلولا لها
6- Acquire all competencies that enable him to provide safe, scientific, ethical and evidence based clinical care including update use of new technology in *Vascular Surgery*.	6-إتقان نطاق مناسب من المها ارت المهنية المتخصصة، واستخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية
7- Demonstrate interpersonal and communication skills that ensure effective information exchange with individual	7-التواصل بفاعلية و القدرة على قيادة فرق العمل

patients and their families and teamwork with other health professions, the scientific community and the public. 8- Function as supervisor, and trainer in relation to colleagues, medical students and other health professions	
9- Acquire decision making capabilities in different situations related to *Vascular Surgery*	8–اتخاذ الق ارر في سياقات مهنية مختلفة
10- Show responsiveness to the larger context of the health care system, including e.g. the organisation of health care, partnership with health care providers and managers, practice of cost-effective health care, health economics, and resource allocations.	9– توظيف الموارد المتاحة بما يحقق أعلي استفادة و الحفاظ عليها
11- Be aware of public health and health policy issues and share in system-based improvement of health care.	11–إظهار الوعي بدوره في تنمية المجتمع و الحفاظ على البيئة في ضوء المتغي ارت العالمية و الإقليمية
12- Show appropriate attitudes and professionalism.	11–التصرف بما يعكس الالت ازم بالن ازهة و المصداقية و الالت ازم بقواعد المهنة
13- Demonstrate skills of lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages in *Vascular Surgery* or one of its subspecialties.	12–تنمية ذاته أكاديميا و مهنيا و قاد ار علي التعلم المستمر

2. Academic standard

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
2.1.A -Established basic, biomedical, clinical, epidemiological and behavioral sciences related conditions, problems and topics.	2-1-أ-النظريات و الأساسيات المتعلقة بمجال التعلم وكذا في المجالات ذات العلاقة.
2.1.B- The relation between good clinical care of common health problems in *Vascular Surgery* and the welfare of society.	2-1-ب-التأثير المتبادل بين الممارسة المهنية وانعكاسها علي البيئة.
2.1. C- Up to date and recent developments in common problems related to *Vascular Surgery*	2-1-ج-التطوارت العلمية في مجال التخصص.
2.1. D- Ethical and medicolegal principles relevant to practice in the *Vascular Surgery*	2-1-د-المبادئ الأخلاقية و القانونية للممارسة المهنية في مجال التخصص.
2.1. E-Quality assurance principles related to the good medical practice in *Vascular Surgery*.	2-1-هـ .- مبادئ و أساسيات الجودة في الممارسة المهنية في مجال التخصص
2.1. F- Ethical and scientific basics of medical research.	2-1-و- أساسيات وأخلاقيات البحث العلمي
2.2. A-Correlation of different relevant sciences in the problem solving and management of common diseases of *Vascular Surgery*. 2.2. B- Problem solving skills based on data analysis and evaluation (even in the absence of some) for common clinical situations related to *Vascular Surgery*.	2-2-أ- تحليل و تقييم المعلومات في مجال التخصص والقياس عليها لحل المشاكل
2.2. B- Problem solving skills based on data analysis and evaluation (even in the absence of some) for common clinical situations related to *Vascular Surgery*.	2-2-ب- حل المشاكل المتخصصة مع عدم توافر بعض المعطيات

2.2. A-Correlation of different relevant sciences in the problem solving and management of common diseases of *Vascular Surgery*.	2-2-ج- الربط بين المعارف المختلفة لحل المشاكل المهنية
2.2. C- Demonstrating systematic approach in studying clinical problems relevant to the *Vascular Surgery*	2-2-د- إج اراء د ارسة بحثية و /أو كتابة د ارسة علمية منهجية حول مشكلة بحثية
2.4.A-Demonstrate practice-based learning and Improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management	2-2ه .- تقييم المخاطر في الممارسات المهنية في مجال التخصص
2.4.A-Demonstrate practice-based learning and Improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management	2-2-و- التخطيط لتطوير الأداء في مجال التخصص
2.2.D- Making alternative decisions in different situations in the field of *Vascular Surgery*.	2-2-ز- اتخاذ الق ارارت المهنية في سياقات مهنية متنوعة
2.3.A- provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. 2.3.B- Demonstrate patient care skills relevant to *Vascular Surgery* for patients with common diseases and problems.	2-3-أ- إتقان المها ارت المهنية الأساسية و الحديثة في مجال التخصص
2.3.C- Write and evaluate reports for Situation related to *Vascular Surgery*	2-3-ب- كتابة و تقييم التقارير المهنية
2.3.A- provide patient care that is compassionate, appropriate, and effective for the treatment of health	2-3-ج- تقييم الطرق و الأدوات القائمة في مجال التخصص

problems and the promotion of health. 2.3.B- Demonstrate patient care skills relevant to that specialty for patients with common diseases and problems.	
2.4.D- Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and other health professionals.	2-4-أ-التواصل الفعال بأنواعه المختلفة
2.4.A-Demonstrate practice-based learning and improvement skills that investigation and evaluation involves of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management 2.4.B- Use all information sources and technology to improve his practice.	2-4-ب- استخدام تكنولوجيا المعلومات بما يخدم الممارسة المهنية
2.4.A-Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management 2.4.B- Use all information sources and technology to improve his practice. 2.4.E-Demonstrate professionalism behavior, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.	2-4-ج- التقييم الذاتي وتحديد احتياجاته التعلمية الشخصية
2.4.A-Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of	2-4-د- استخدام المصادر المختلفة للحصول على المعلومات و المعارف

their own patient care, appraisal and assimilation of scientific evidence, , improvements in patient care and risk management.	
2.4. C- Demonstrate skills of teaching and evaluating others.	2-4-هـ .- وضع قواعد ومؤشرات تقييم أداء الآخرين
2.4. F- Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively use system resources to provide care that is of optimal value.	2-4-و- العمل في فريق ، وقيادة فرق في سياقات مهنية مختلفة
2.4.G- Demonstrate skills of effective time management.	2-4-ز- إدارة الوقت بكفاءة
2.4.H- Demonstrate skills of self and continuous learning.	2-4-ح- التعلم الذاتي و المستمر

Comparison between ARS and ILOS for master degree in Vascular Surgery.

(ARS)	(ILOs)
2-1- Knowledge and understanding **2-1-A-** Established basic, biomedical, clinical, epidemiological and behavioral sciences related conditions, problem and topics.	***2-1- Knowledge and understanding*** **2-1-A**- Explain the essential facts and principles of relevant basic sciences including, Anatomy and Embryology , pharmacology and Microbiology related to Vascular Surgery. **2-1-B-** Mention essential facts of clinically supportive sciences including Basics of General Surgery related to Vascular Surgery. **2-1-C-** Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment of the common diseases and situations related to Vascular Surgery.
2-1-B The relation between good clinical care of common health problem in the Vascular Surgery and the welfare of society.	**2-1-H-** State the impact of common health problems in the field of Vascular Surgery on the society and how good clinical practice improve these problems.
2-1-C- Up to date and recent developments in common Problems related to the field of Vascular Surgery.	**2-1-C-** Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment of the common diseases and situations related to Vascular Surgery. **2-1-D-** Give the recent and update

	developments in the pathogenesis, diagnosis, prevention and treatment of common diseases related to Vascular Surgery.
2-1-D- Ethical and medicolegal Principles relevant to practice in the Vascular Surgery field.	**2-1-E-** Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to the field of Vascular Surgery.
2-1-E-Quality assurance principles related to the good medical practice in the Vascular Surgery field.	**2-1-F-** Mention the basics and standards of quality assurance to ensure good clinical practice in the field of Vascular Surgery.
2-1-F- Ethical and scientific basics of medical research.	**2-1-G-** Mention the ethical and scientific principles of medical research methodology**.**
***2-2- Intellectual skills*:** **2-2-A-**Correlation of different relevant sciences in the problem solving and management of common diseases of the Vascular Surgery.	***2-2- Intellectual skills:*** **2-2-A-** Correlate the facts of relevant basic and clinically supportive sciences with clinical reasoning, diagnosis and management of common diseases of the Vascular Surgery.

2-2-B-Problem solving skills based on data analysis and evaluation (even in the absence of some) for common clinical situations related to Vascular Surgery.	**2-2-B-** Demonstrate an investigatory and analytic thinking approach (problem solving) to common clinical situations related to Vascular Surgery.
2-2-C- Demonstrating systematic approach in studding clinical problems relevant to the Vascular Surgery field.	**2-2-C-** Design and /or present a case or review (through seminars/journal clubs.) in one or more of common clinical problems relevant to the Vascular Surgery field.
2-2-D Making alternative decisions in different situations in the field of the Vascular Surgery.	**2-2-D-** Formulate management plans and alternative decisions in different situations in the field of the Vascular Surgery.

continuous (ARS)	continuous (ILOs)
2-3- Clinical skills:	***2/3/1/Practical skills (Patient Care :)***
2-3-A- Provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.	**2-3-1-A-** Obtain proper history and examine patients in caring and respectful behaviors.
2-3-B- Demonstrate patient care skills relevant to that Vascular Surgery for patients with common diseases and problems.	**2-3-1-B-** Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-todate scientific evidence, and clinical judgment for common conditions related to Vascular Surgery.
	2-3-1-C- Carry out patient management plans for common conditions related to Vascular Surgery.
	2-3-1-D- Use information technology to support patient care decisions and patient education in common clinical situations related to Vascular Surgery.

	2-3-1-E- Perform competently non invasive and invasive procedures considered essential for the Vascular Surgery. **2-3-1-F-** Provide health care services aimed at preventing health problems related to Vascular Surgery. **2-3-1-G-** Provide patient-focused care in common conditions related to Vascular Surgery, while working with health care professionals, including those from other disciplines.
2-3-C- Write and evaluate reports for situations related to the field of Vascular Surgery.	**-3-1-H** Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets. (Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records).
2-4- General skills **2-4-A-** Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management	***2/3/2 General skills*** **2-3-2-A-** Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use logbooks). **2-3-2-B-** Appraises evidence from scientific studies. **2-3-2-C-** Conduct epidemiological studies and surveys.

2-4-B- Use all information sources and technology to improve his practice.	**2-3-2-C-** Conduct epidemiological studies and surveys. **2-3-2-D**.Perform data management including data entry and analysis and using information technology to manage information, access on-line medical information; and support their own education.
2-4-C- Demonstrate skills of teaching and evaluating others.	**2-3-2-E-** Facilitate learning of students other health care professionals including their evaluation and assessment.
2-4-D- Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and other health professionals.	**2-3-2-F-** Maintain therapeutic and ethically sound relationship with patients. **2-3-2-G-** Elicit information using effective nonverbal, explanatory, questioning, and writing skills. **2-3-2-H-** Provide information using effective nonverbal, explanatory, questioning, and writing skills. **2-3-2-I-** Work effectively with others as a member of a health care team or other professional group.
2-4-E-Demonstrate professionalism behaviors, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.	**2-3-2-J-** Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society. **2-3-2-K**- Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices. **2-3-2-L**-Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.

2-4-F- Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively use system resources to provide care that is of optimal value.	**2-3-2-M**-Work effectively in relevant health care delivery settings and systems including good administrative and time management **2-3-2-N-** Practice cost-effective health care and resource allocation that does not compromise quality of care. **2-3-2-O**- Assist patients in dealing with system complexities.
2-4-G- Demonstrate skills of effective time management	**2-3-2-M**-Work effectively in relevant health care delivery settings and systems including good administrative and time
	management
2-4-H- Demonstrate skills of self and continuous learning.	**2-3-2-A-** Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use logbooks).

III-Program matrix Knowledge and Understanding

Course	Program covered ILOs							
	2/1/A	2/1/B	2/1/C	2/1/D	2/1/E	2/1/F	2/1/G	2/1/H
Course 1 : Anatomy and embryology	✓							
course 2 : Pharmacology	✓							
course 3 : Microbiology	✓							
Course 4 : General Surgery	✓	✓	✓	✓	✓	✓	✓	✓
Course 5 : Vascular Surgery	✓	✓	✓	✓	✓	✓	✓	✓

Intellectual

Course	Program covered ILOs			
	2/2/A	2/2/B	2/2/C	2/2/D
Course 1 : Anatomy and embryology	✓			
course 2 : Pharmacology	✓			
course 3 : Microbiology	✓			
Course 4 : General surgery	✓	✓	✓	✓
Course 5 : Vascular Surgery	✓	✓	✓	✓

Practical Skills (Patient Care)

Course	Program covered ILOs							
	2/3/1/A	2/3/1/B	2/3/1/C	2/3/1/D	2/3/1/E	2/3/1/F	2/3/1/G	2/3/1/H
Course 1 : Anatomy and embrtology								
course 2 : Pharmacology								
course 3 : Microbiology								
Course 4 : General Surgery	✓		✓	✓	✓			
Course 5 : Vascular Surgery	✓	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Program covered ILOs							
	2/3/2/A	2/3/2/B	2/3/2/C	2/3/2/D	2/3/2/E	2/3/2/F	2/3/2/G	2/3/2/H
Course 1 : Anatomy and embryology		✓		✓			✓	✓
course 2 : Pharmacology				✓			✓	
course 3 : Microbiology				✓			✓	
Course 4 : General Surgery				✓			✓	
Course 5 : Vascular Surgery	✓	✓	✓	✓	✓	✓	✓	✓

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General Skills

Course	Program covered ILOs						
	2/3/2/I	2/3/2/J	2/3/2/K	2/3/2/L	2/3/2/M	2/3/2/N	2/3/2/O
Course 1 : Anatomy and embryology		✓			✓		
course 2 : Pharmacology		✓			✓		
course 3 : Microbiology		✓			✓		
Course 4 : General Surgery		✓			✓		
Course 5 : Vascular Surgery	✓	✓	✓	✓	✓	✓	✓

Annex 7, Additional information:

Department Information:

Equipments and Specialized Units:

- Vascular Surgery patients' wards: 36 beds.
- Daily Vascular Surgery out patients' clinic (new patients, follow up post discharge appointments, discharged critical care patients Follow up clinic)
- Diagnostic, Interventional Ultrasonography Unit and colored Doppler ultrasound (Duplex Arterial Mapping, Duplex guided percutaneous interventions, venous scanning, foam sclera therapy under duplex, screening for AAA, carotid duplex scanning).
- Scientific Library (Vascular Surgery diseases Books and periodicals), MD, MSc thesis. - Seminar room with data show
- Data base filing of all the cases, procedures and outpatient clinic data.

-Endovascular unit (working days Tuesday and Thursday) for diagnostic and therapeutic interventions for critical limb ischemia management, embolisation of vascular malformations and bleeding vessels in trauma patients, thrombolysis, permacath (CVL) fixation for CRF patients, embolisation of pelvic vein in pelvic congestion syndrome and management of renovascular hypertension.

-operative theatre including 3 rooms for conventional open surgery and future single room for hybrid procedure (open and endovascular simultaneously) equipped with mobile C-Arm.

Staff members

Prof. Hassan Bakr ELbadawy

Prof. Bahgat Abdel Hamid Thabet

Prof. Mohamed Alaa Mubarak

Prof. Mostafa Saad Khalil

Dr. Khaled Abdel Aziz Attalla

Dr. Ayman Elsayed Hasaballa

Dr. Ashraf Gamal Taha

Dr. Ahmed Hassan Bakr

Dr. Haitham Aly Hassan

Dr. Mahmoud Ismail Ahmed

Dr. Mohamed Ibrahim Ahmed

Dr. Hesham Elsayed Mohamed Aboloyoun

Dr. Ashraf Mohamed Abu-bakr El-Naggar

Dr. Osman Mahmoud Ahmed

Dr. Ahmed khairy Sayed

Dr. Mohamed Gamal Galal

Dr. Mostafa Mohamed Al-Mehrezy

Dr. Ahmed Mostafa Nagi

Opportunities within the department

- Vascular Surgery patients' wards: 36 beds.
- Scientific Library
- Seminar room with data show
- Electronic Library of Scientific Seminars, case presentations. - Data base filing of all the cases, procedures and outpatient clinic data.

Department quality control insurance for completing the program

- Evaluation by the Department head and stuff members.
- Regular assessments. Log book monitoring.
- Recent equipments and Specialized Units.

(End of the program specifications)