



Quality Assurance Unit



**Tanta University
Faculty of Medicine**

**Department of Tropical medicine and infectious
diseases**

Course Specifications

**Doctorate degree of Tropical medicine and Infectious
Diseases**

Critical care course

TROPID 9005

Semester 3

2024 -2025

Course Specifications: Critical care course for Tropical Medicine and Infectious Diseases Doctorate degree 2024-2025

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University: Tanta

Faculty: Medicine

Department: Tropical
medicine and infectious
diseases

A- Administrative Information

1. Course title: Critical care
2. Department offering the program: Tropical medicine and infectious diseases department.
3. Department responsible for the course: Anesthesiology, surgical intensive care and pain management department.
4. Course code: TROPID 9005
5. Level: Second part- third semester

No. of credit hours: 8 credit hours

- Theoretical: 5 credit hours = 75 hours
- Clinical: 3 credit hours = 90 hours

NB: Other credit hours parallel to the course in the same semester

- Scientific activities at the Tropical medicine and infectious diseases department: 1 credit hour = 60 hours
- Elective courses at the Tropical medicine and infectious diseases department: 1 credit hour = 15 hours

Authorization date of course specification: 3/11/2024

B- Professional Information

1 – Overall Course aims

This course aims to help the students acquire basic knowledge and skills of care for critically ill patients suffering from hepatic, gastrointestinal, endemic or infectious diseases

2 – Intended learning outcomes (ILOs):

A-knowledge and understanding:

1. *By the end of the course, graduates should be able to:*
 - a. 1- List the criteria for admission of patients to an ICU and criteria for discharge.
 - a. 2- Point out indications, limitations and complications of mechanical ventilation.
 - a.3- Identify normal body fluid distribution, indications and complications of fluid therapy and types of fluids used.

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- a. 4- Characterize the commonly used inotropes and vasopressors.
- a. 5- Identify the theories, principles, diagnosis and management of acid-base and electrolyte disturbances.
- a. 6- Recognize the diagnosis and management of sepsis and septic shock.
- a. 7- List the bundles of care commonly used in ICU.

B-Intellectual skills

By the end of the course, graduates should be able to:

- b. 1- Analyze a case of coma with a sound medical approach.
- b. 2- Interpret ABG, ECG and ventilator parameters.
- b. 3- Plan to manage cases of electrolyte or acid-base disturbances.
- b. 4- Differentiate sepsis and septic shock from other causes of shock.
- b. 5- Rationalize the use of Inotropes and vasopressors in sound indications.
- b. 6- Justify the weaning from mechanical ventilation.

C-Professional & practical skills

By the end of the course, students should be able to:

- c. 1- Apply a central venous line.
- c. 3- Introduce an endotracheal tube.
- c. 3- Obtain arterial blood samples.
- c. 4- Monitor a patient's vital parameters and manage any disturbance as regards hemodynamics, ventilation, acid base balance or electrolytes.
- c. 5- Perform oxygen therapy as indicated.
- c. 6- Practice CCU related care bundles
- c. 7- Practice basic and advanced life support.

D-General transferable skills

By the end of the course, students should be able to:

- d. 1- Communicate effectively with medical team, patients, and relatives including the ability of breaking bad news.
- d. 2- Apply different learning resources to acquire knowledge and information.
- d. 3- Adopt the practice of continuous medical education.

3-Course contents

Topics	Theoretical	Clinical	Total credit hours
Critical care	2	6	8

Detailed curriculum and logbook are annexed

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The course topics

	Clinical 6 credit hours / 180 taught hours	Theoretical 2 credit hours / 30 taught hours
<u>1. Criteria for ICU admission and discharge</u> <ul style="list-style-type: none"> Criteria for admission of the patient to ICU Criteria for discharge of the patient from ICU 		2
<u>2. Management of critically ill patient and advanced life support</u> <ul style="list-style-type: none"> ABCDE approach Chain of survival Basic life support Advanced life support (ALS) 	20	1
<u>3. Airway management</u> <ul style="list-style-type: none"> Airway manoeuvres and equipment Endotracheal intubation 	10	1
<u>4. Monitoring of patients in ICU</u> <ul style="list-style-type: none"> Oxygen therapy and monitoring Ventilation monitoring Hemodynamic monitoring 	40	2
<u>5. Principles of mechanical ventilation and weaning from ventilation</u> <ul style="list-style-type: none"> Indications of mechanical ventilation Complications of mechanical ventilation Weaning from mechanical ventilation Monitoring of patient on mechanical ventilator 	10	3
<u>6. Shock, hypovolemia, and fluid therapy</u> <ul style="list-style-type: none"> Body fluid distribution in humans Types of fluids used Indications and complications of fluid therapy 		5
<u>7. Vasoactive agents in ICU</u> <ul style="list-style-type: none"> Inotropes Vasopressors 		2

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	Clinical 6 credit hours / 180 taught hours	Theoretic 2 credit h / 30 taught
<u>8. Acid-base disturbances</u>	20	7
<ul style="list-style-type: none"> • Arterial blood sampling • Interpretation of ABG • Management of Acid-base disturbances 		6
<u>9. Electrolyte disturbances</u>	20	
<ul style="list-style-type: none"> • Causes of electrolyte disturbances • Management of electrolyte disturbances 		5
<u>10. Management of coma</u>	10	
<ul style="list-style-type: none"> • _Assessment of a comatosed patient • Management of a comatosed patient 		
<u>11. Establishing vascular access in ICU</u>	10	2
<ul style="list-style-type: none"> • Central venous line placement and care 		
<u>12. Sepsis and septic shock</u>	20	5
<ul style="list-style-type: none"> • Management of sepsis and septic shock 		
<u>13. Bundles of care in ICU</u>		5
<ul style="list-style-type: none"> • Ventilator associated pneumonia prevention bundle • Central line bundle • Severe sepsis bundle • Urinary catheter care bundle 	20	
	180	30
Total	(6+2) 8 credit hours	

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4-Teaching and learning methods

Lectures, seminars, journal clubs, clinical training, bedside teaching, grand rounds, case presentation, assignments, conference participation observation and hands on practice

Methods of teaching and learning	ILOS
Lectures	a1-6
Clinical training	b1-5, c1-4, d1-5

5-Student Assessment

End of semester theoretical and clinical exams: These are pass or fail exams. The student is required to pass these with a grade of at least C – to be allowed to sit the Final second part of the MD exam.

6- Weighing of assessments

Student should pass the end semester exams.

7- List of references:

7.1 Course notes:

7. 2 Text books:

- Jameson, J. L, Fauci A. S., Kasper D. L., Hauser, S. L., Longo, D. L., and Loscalzo, J. (2018): *Harrison's Principles of Internal Medicine*, 20th edition. McGraw-Hill.
- Papadakis, M. A., McPhee, S. J. and Rabow, M. W. (2021): *Current Medical Diagnosis & Treatment* 60th edition. McGraw-Hill.
- Paul L. Marino (2022): Marino 's the ICU book 4th edition . Wolters Kluwer.
- Editors: Jean-Louis Vincent, Frederick A. Moore, Rinaldo Bellomo, John J. Marini (2022): *Textbook of Critical Care*. 8th Edition. Churchill Livingstone/Elsevier

7.3 Recommended books:

- Macleod, J. G., Japp, A. G., Robertson, C., Hennessey, I. A. M., & Elsevier (Amsterdam). (2013). *Macleod's clinical diagnosis*. Edinburgh: Churchill Livingstone/Elsevier.
- Douglas, G., Nicol, F. and Robertson, C. (2013): *Macleod's clinical examination* 13th edition. Edinburgh: Churchill Livingstone, Elsevier.
- Glynn, M., and Drake, M.D. (2012): *Hutchison's clinical methods: An Integrated Approach to Clinical Practice*. 23rd ed. Edinburgh: Saunders.

7.4 Periodicals and web sites

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8- Other resources/ facilities required for teaching and learning to achieve the above ILOs

ICUs of the Anesthesiology, surgical intensive care and pain management department.

9- We certify that all the information required to deliver this course is contained in the above specifications and will be implemented

We verify that the above course information is accurate.

Program coordinator: Prof. Ferial El-Kalla Signature.....

Course coordinator: Ass. Prof. Nehad Hawash Signature.....

Head of the department: Prof. Dina Ziada Signature.....

Head of quality assurance unit: Prof. Dina Ziada Signature.....