7. Learning Resources:	
1- Required Textbook(s)	
	1. Joseph M.C., Vetta R.W. , Taylor R.K. Critical care Medicine . 2nd .2011
2- Essential References.	
	1. Shoemader .woliam C. et al Text book of critical care. W B Saunders Company Philadelphia 2007.
3- Electronic Materials and Web Sites *etc*.	
	http://www.google.com

7. Course Policies:	
1.	**Class Attendance:** At least 75 % of the course hours should be attended by the student. Otherwise, he/she will not be allowed to attend the final exam
2.	**Tardy:** any student who is late for more than 15 minutes from starting the lecture will not be allowed to attend the lecture and will be considered absent.
3.	**Exam Attendance/Punctuality:** Any student who is late for more than 30 minutes from starting the exam will not be allowed to attend the exam and will be considered absent.
4.	**Assignments &Projects:** Assignments and projects will be assessed individually unless the teacher request for group work
5.	**Cheating**: Cheating by any means will cause the student failure and he/she must re-study the course
6.	**Plagiarism**: Plagiarism by any means will cause the student failure in the course. Other disciplinary procedures will be according to the college rules.

Course Plan (Syllabus)

I. Information about Faculty Member Responsible for the Course:								
Name of Faculty Member	Prof.	Office Hours						
Location&Telephone No.		SAT	SUN	MON	TUE	WED	THU	
E-mail	@hotmail.com		x					

II. Course Identification and General Information:						
1.	Course Title:	Medical Technology				
2.	Course Number & Code:	MCCN01				
3.	Credit hours: 3	C.H				Total
		Th.	Seminar	Pr.	F. Tr.	

		2	-	1	-	3
4.	**Study level/year at which this course is offered:**	First year/ first semester				
5.	**Pre –requisite:**					
6.	**Co –requisite :**	-				
7.	**Program (s) in which the course is offered**	Critical care nursing				
8.	**Language of teaching the course:**	English				
9.	**System of Study:**	Semester system				
10	**Mode of delivery:**	Full time				
11	**Location of teaching the course:**	Faculty of Nursing				

III. Course Description:

The course focuses on understanding and management of Arterial Lines; Central venous Lines; Pulmonary Artery Catheters, Pulse Oximetry SpO2; Capnography - EtCO2, intercostal catheters & Underwater Sealed Drainage. Defibrillation: Manual External & Automated external defibrillation (AED), cardiac monitors, ventilators (SIMV,CMV, weaning from ventilator), continuous positive airway pressure (CPAP), bi-level positive airway pressure (BiPAP), infusion pumps, syringe pumps, , intra-aortic balloon therapy, heart lung machine, heart mate, pulse contour cardiac output (PICCO), active humidifiers, Baer Hugger & blood warmer, cell saver-autologous blood recovery system, Intracranial pressure monitoring, pacemakers and ICD, prisma dialysis machine , extracorporeal membrane oxygenation (ECMO) and plasmapheresis.

IV. Intended learning outcomes (ILOs) of the course:

1. Understanding and management of Arterial and Central Lines, Pulse Oximetry SpO2 and Capnography
2. Understanding and management of Infusion, Underwater Sealed Drainage and Hemodynamic monitoring Defibrillation, Baer Hugger & amp, Intracranial pressure monitoring
3. Interpretation and management of Basics of ECG
4. Explain when mechanical ventilation is needed and how the ventilator modes and settings are determined.
5. Recognize components and normal values of the conduction system and the related PQRST of the ECG tracing and hemodynamic monitoring.
6. Differentiate normal and abnormal values for ABG analysis; respiratory acidosis, respiratory alkalosis, metabolic acidosis and metabolic alkalosis
7. Apply leads for cardiac monitoring, interpret and monitor cardiac rhythms
8. Monitor hemodynamic status, and recognize signs and symptoms of hemodynamic instability
9. Manage patients requiring 12-lead ECG, arterial catheter, cardiac catheterization, cardioversion, central venous pressure monitoring, defibrillation and invasive hemodynamic monitoring.
10. Apply pulmonary therapeutic interventions related to mechanical ventilation such as airway clearance, intubation, weaning, extubation, respiratory monitoring devices, therapeutic gases, thoracentesis and tracheostomy with mechanical ventilation.

V. Course Content:

Distribution of Semester Weekly Plan of Course Topics/Items and Activities.

A – Theoretical Aspect:

Order	Topics List	Week Due	Contact Hours
1	Arterial and Central Lines	1	2
2	Pulse Oximetry SpO2 and Capnography	2	2
3	Infusion	3-4	4
4	Underwater Sealed Drainage.	5	2
5	Hemodynamic monitoring	6-7	4
6	Midterm exam	8	2
7	Cardiac Dysrhythmias	9-11	6
8	Defibrillation	12	2
9	Baer Hugger & amp	13	2

10	Intracranial pressure monitoring	14	2
11	Mechanical Ventilation	15-16	4
12	Final exam	17	2
Number of Weeks /and Units Per Semester		**16**	**32**

B - Clinical Aspect:

Order	Tasks/ Experiments	Number of Weeks	Contact hours	Learning Outcomes
1	• Arterial Lines • Central venous Lines • Pulmonary Artery Catheters	1-2	6	c4
2	Pulse Oximetry SpO2 Capnography	3-4	6	c4
3	Infusion	5	3	c4
4	Underwater Sealed Drainage.	6	3	c4
5	Hemodynamic monitoring	7-8	6	c4
6	Dysrhythmia	9-11	12	c4
7	Defibrillation	12	3	c4
8	Baer Hugger & amp	13		c4
9	Intracranial pressure monitoring	14		c4
10	Mechanical ventilation	15-16	6	c4
11	Final clinical exam	17	3	c2,c4.c5
Number of Weeks /and Units Per Semester		**17**	**51**	-

VI. Teaching strategies of the course:

1. Lecture - Discussion
2. Demonstration

VII. Assignments:

No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	Write about EEG	a1,a4,b2	5-10	10

VIII.Schedule of Assessment Tasks for Students During the Semester

No.	Assessment Method	Week Due	Mark	Proportion	Aligned

				of Final Assessment	Course Learning Outcomes
1	Student assignment	5th - 12th week	10	10 %	a1,a4,b2
2	Presentation	4st - 14th week	20	20 %	a1,a4,b2
3	Mid-term exam	7th or 8th week	20	20%	a1,a4,b2
4	Final exam	16th-17th week	50	50 %	a1,a4,b2
	Total Theory Weight		**100**	**100%**	

Clinical part					
Assessment	**Type of Assessment Tasks**	**Week Due**	**Mark**	**Proportion of Final Assessment**	**Aligned Course Learning Outcomes**
1	Attendance and Attitude	14th week	10	10%	a5,c2,c3,c4,c5
2	Semester work	1st - 14th week	50	10%	a5,c2,c3,c4,c5
3	Final exam (theory/oral)	15th week	15	50%	a5,c2,c3,c4,c5
4	Final exam (practical)	16th-17th week	25	30%	a5,c2,c3,c4,c5
	Total Practical Weight		**100**	**100%**	

VIII. Learning Resources:	
1- Required Textbook(s)	
	1. Joseph M.C., Vetta R.W. , Taylor R.K. Critical care Medicine . 2nd .2011
2- Essential References.	
	1. Shoemader .woliam C. et al Text book of critical care. W B Saunders Company Philadelphia 2007.
3- Electronic Materials and Web Sites *etc*.	
	http://www.google.com

IX. Course Policies:	
1.	**Class Attendance:** At least 75 % of the course hours should be attended by the student. Otherwise, he/she will not be allowed to attend the final exam
2.	**Tardy:** any student who is late for more than 15 minutes from starting the lecture

	will not be allowed to attend the lecture and will be considered absent.
3.	**Exam Attendance/Punctuality:** Any student who is late for more than 30 minutes from starting the exam will not be allowed to attend the exam and will be considered absent.
4.	**Assignments & Projects:** Assignments and projects will be assessed individually unless the teacher request for group work
5.	**Cheating**: Cheating by any means will cause the student failure and he/she must re-study the course
6.	**Plagiarism**: Plagiarism by any means will cause the student failure in the course. Other disciplinary procedures will be according to the college rules.

Course Specification

I.	Course Identification and General Information:	
1	Course Title:	Critical care nursing II

2	**Course Code &Number:**	**MCCN03**				
3	**Credit hours: 4**	C.H				TOTAL
		Th.	Seminar	Pr	Tr.	
		2	-	-	2	4
4	**Study level/ semester at which this course is offered:**	First year/ Second semester				
5	**Pre –requisite:**					
6	**Co –requisite :**	-				
7	**Program (s) in which the course is offered:**	Critical care nursing				
8	**Language of teaching the course:**	English				
9	**Location of teaching the course:**	Faculty of Nursing				
10	**Prepared By:**	Dr. Fauz Abolghth				
11	**Date of Approval**	2022				

II. Course Description:

The course focuses on the essentials nursing interventions undertaken for the patient admitted to critical care unit, identification of the priorities and principles of caring for a critically ill patient and his family.

III. Intended learning outcomes of the course (ILCOs) and their alignment to Program Intended learning outcomes (PILOs)

ILCOs	PILOs
1. Identify concepts and principles of assessment and nursing process pertaining to complex medical and surgical conditions.	A5

2. Discuss etiology, clinical manifestations, complications, diagnosis and management of most critical diseases.	A4
3. Expire the psychosocial and teaching needs surrounding therapy for patients and their family and arrange to meet such needs.	B1
4. Use critical care nursing modalities in the critical care units.	C2
5. Apply assessment, measures history, physical examination and diagnosis to identify a specific body system disorder.	C3
6. Manage patients with critical care diseases.	C4
7. Apply nursing care plan to critical ill patients.	C5
8. Communicate effectively with patients and their families.	D3

(A) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
a4. Discuss etiology, clinical manifestations, complications, diagnosis and management of most critical diseases.	Lecture Discussion Demonstration	Short answer questions Objective type
a5. Identify concepts and principles of assessment and nursing process pertaining to complex medical and surgical conditions.	Lecture Discussion Demonstration	Short answer questions Objective type

(B) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
b1. Expire the psychosocial and teaching needs surrounding therapy for patients and their family and arrange to meet such needs.	Lecture Discussion Demonstration	Short answer questions Objective type

(C) Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
c2. Use critical care nursing modalities in the critical care units.	Presentation Role ply	Short answer questions Objective type

	Clinical session	Clinical evaluation
c3. Apply assessment, measures history, physical examination and diagnosis to identify a specific body system disorder.	Presentation Role ply Clinical session	Short answer questions Objective type Clinical evaluation
c4. Manage patients with critical care diseases.	Presentation Role ply Clinical session	Short answer questions Objective type Clinical evaluation
c5. Apply nursing care plan to critical ill patients.	Presentation Role ply Clinical session	Short answer questions Objective type Clinical evaluation

(D) Alignment Course Intended Learning Outcomes of General and Transferable Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
d3. Communicate effectively with patients and their families.	Lecture-Discussion Demonstration	Short answer questions Objective type

IV. Course Content:

A – Theoretical Aspect:

Order	Units/Topics List	Sub Topics List	No. of Weeks	Contact hours	Learning Outcomes
1	Coronary components of critical care nursing	• Assessment of cardiovascular system • Related anatomy and physiology • Assessment of cardiovascular function ○ Diseases of the coronary arteries ○ Arrhythmias ○ Carcinogenic shock ○ Pacemakers ○ Cardiovascular surgery ○ Cardiac assist devices ○ Clinical death and cardiopulmonary resuscitation	2	4	a4,a5,b1, d3

2	Pulmonary components of critical care nursing	• Related anatomy and physiology
		• Assessment of respiratory system
		• Nursing process pertaining to pulmonary function
		• Acute respiratory failure
		• Chronic obstructive pulmonary diseases
		  ○ Chronic bronchitis
		  ○ Pulmonary emphysema
		  ○ Bronchial asthma
		  ○ Status asthmatics
		• Restrictive diseases of lung
		  ○ Pulmonary embolism
		  ○ Pneumothorax
		  ○ Pulmonary edema
		  ○ Pneumonia
		• Thoracic surgery
		• Nursing process pertaining to patients requiring
		• Assistance with mechanical ventilation
			4	8	a4,a5,b1, d3

3	Medical components of critical care nursing	Nursing process pertaining to: • Hepatic failure • Diabetic acidosis • Hyperosmolar hyperglycemic nondetocidotic diabetes • Endocrine changes in critically III patient • Drug over dosage • Disseminated intravascular coagulation • Multiple organ failure • Acquired immunodeficiency	4	8	a4,a5,b1, d3

		syndrome			
4	Midterm exam		1	2	a4,a5,b1, d3

5	Surgical components of critical care nursing	• Fluid and electrolyte imbalance
		• Total parenteral nutrition
		• Pain
		• Nursing process pertaining to complex surgical conditions
		  ○ Acute abdomen
		  ○ Transplantation
		  ○ Bleeding in surgical patient
		  ○ Septic syndrome
		  ○ Pancreatic disease
		• Postoperative patient in critical care unit
		• Preventing post anesthetic complication
			4	8	a4,a5,b1, d3

6	Neurological components of critical care nursing	• Nursing process pertaining to specific neurological conditions
		  ○ Space occupying lesions
		  ○ Head injury
		  ○ Ischemic brain injury
		  ○ Epilepsy
		  ○ Acute spinal cord injury
		  ○ Giuliani – barre syndrome
		  ○ Cerebrovascular accident
		  ○ Neurosurgery
			2	4	a4,a5,b1, d3

7	Final exam		1	2	a4,a5,b1 d3

Number of Weeks /and Units Per Semester	16	32	

B– Practical/clinical Aspect:				
Order	**Tasks/ Experiments**	**Number of Weeks**	**Contact hours**	**Learning Outcomes**
1	critical care nursing of coronary	1-2	6	c2,c3,c4,c5
2	critical care nursing of pulmonary	3-6	12	c2,c3,c4,c5
3	critical care nursing of Medical conditions	7-10	12	c2,c3,c4,c5
4	critical care nursing of Surgical components	11-14	12	c2,c3,c4,c5
5	Final exam	15-16	6	c2,c3,c4,c5
Number of Weeks /and Units Per Semester		16	48	

V. Teaching strategies of the course:

1. Lecture Discussion
2. Demonstration
3. Role play
4. Clinical session

VI. Assignments:

No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	Apply nursing care plan on 3 patients with critical diseases.	a5, c2,c3,c4,c5	5-10	10

VII. Schedule of Assessment Tasks for Students During the Semester

No.	Assessment Method	Week Due	Mark	Proportion of Final	Aligned Course Learning

				Assessment	Outcomes
1	Student assignment	5th- 12thweek	10	10 %	a4,a5,b1,d3
2	Presentation	4st - 14thweek	20	20 %	a5, c2,c3,c4,c5
3	Mid-term exam	7th or 8th week	20	20%	a4,a5,b1,d3
4	Final exam	16th-17th week	50	50 %	a4,a5,b1,d3
Total Theory Weight			**100**	**100%**	

Clinical part					
Assessment	**Type of Assessment Tasks**	**Week Due**	**Mark**	**Proportion of Final Assessment**	**Aligned Course Learning Outcomes**
1	Attendance and Attitude	14th week	10	10%	a5,c2,c3,c4,c5
2	Semester work	1st - 14th week	50	10%	a5,c2,c3,c4,c5
3	Final exam (theory/ oral)	15th week	15	50%	a5,c2,c3,c4,c5
4	Final exam (practical)	16th-17th week	25	30%	a5,c2,c3,c4,c5
	Total Practical Weight		**100**	**100%**	

I. Learning Resources:

1- Required Textbook(s)

1. Adam S.K. & Osborne critical care nursing 1st ed . Oxford University press oxford 2007.
2. Hudak C.M & Benz J.J critical care nursing A holistic approach. Lippincott Philadelphia 2009.

2- Essential References.

1. Harkreader H., (2000). Client teaching. Fundamentals of nursing: Caring and clinical judgment.1st ed. W. B. Saunders Company.

3- Electronic Materials and Web Sites *etc*.

1. http://www.google.mu/

II. Course Policies:

1. Class Attendance: At least 75 % of the course hours should be attended by the

	student. Otherwise, he/she will not be allowed to attend the final exam
2.	Tardy: any student who is late for more than 15 minutes from starting the lecture will not be allowed to attend the lecture and will be considered absent.
3.	Exam Attendance/Punctuality: Any student who is late for more than 30 minutes from starting the exam will not be allowed to attend the exam and will be considered absent.
4.	Assignments &Projects: Assignments and projects will be assessed individually unless the teacher request for group work
5.	Cheating: Cheating by any means will cause the student failure and he/she must re-study the course
6.	Plagiarism: Plagiarism by any means will cause the student failure in the course. Other disciplinary procedures will be according to the college rules.

Course Plan (Syllabus)

Course Specification

I. Course Identification and General Information:						
1	Course Title:	Master thesis				
2	Course Code &Number:	MCCN07				
3	Credit hours: 6	C.H				TOTAL
		Th.	Seminar	Pr	Tr.	
		-	-	6	-	6
4	Study level/ semester at which this course is offered:	Second year/ first and Second semester				
5	Pre –requisite:	-				
6	Co –requisite :	-				
7	Program (s) in which the course is offered:	Critical care nursing				
8	Language of teaching the course:	English				
9	Location of teaching the course:	Faculty of Nursing				
10	Prepared By:	Prof. Nabil Al-Rabeei				
11	Date of Approval	2022				

II. Course Description:

Research project allows the students to practically implement the theoretical knowledge as a small research study.

III. Intended learning outcomes of the course (ILCOs) and their alignment to Program Intended learning outcomes (PILOs)		
ILCOs		**PILOs**
1.Prepare and submit Master Thesis and apply presentation.		C6
(A) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
Not applicable	-	-
(B) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
Not applicable	-	-

(C) Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
c1. Prepare and submit Master Thesis and apply presentation.	Students Presentation Committee member decision	Quality of research project include: • Introduction and objectives • Literature review • Research methodology • Results • Discussion , conclusion and recommendations • References • Presentation
(D) Alignment Course Intended Learning Outcomes of General and Transferable Skills to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
Not applicable	-	-

IV. General format of master thesis			
Order	**Topics List**	**Week Due**	**Contact Hours**
	A written format of a research work is known as thesis. All such works may differ considerably in scope of treatment and details of presentation. Even then all types of research reports are expected to follow a general uniform, common pattern of format, style and structure. The general format of research report is evolved and it has become a tradition in academic area. It is viewed as he following: **A. Preliminary Section** • *Title of the Study* • *Certification* • *Acknowledgment* • *Dedication* • *List of Tables* • *List of Figures* • *Abbreviations* • *Terminology definition* • *Abstract* **B. Main Body of Report** **Chapter 1: Introduction** 1.1Background of the Study 1.2 Problem statement 1.3.Rationale of the Study ***Chapter 2:*** **Literature Review** 2.1 Review of relevant theoretical literature 2.2 Review of relevant empirical literature ***Chapter 3:*** **Objectives of the study** 3.1 General Objective 3.2 Spesific objectives ***Chapter 4:*** **Research Methodology** 4.1 Study Setting 4.2 Study Desgin 4.3 Population and sample of the study	-	-

	4.4 Inclusion and exclusion criteria 4.5 Sample Size 4.6 Sampling Methods 4.7 Data collection technique and Instrument 4.8 Pilot study 4.9 Data processing and analysis 4.10 Ethical Considerations ***Chapter 5:*** **Results** 5.1 Description of data analysis 5.2 Interpretation and presentation of results ***Chapter 6:*** **Discussion** 6.1 Presentation of major findings 6.2 Identification of limitations 6.3 Discussion of the implications ***Chapter 7:*** **Conclusions and Recommendations** 7.1 Identification of Conclusion 7.2 Recommendations for further research ***References*** ***Appendices***		
Number of Weeks /and Units Per Semester			

B– Practical Aspect: ***(if any)***			
Order	**Topics List**	**Week Due**	**Contact Hours**
1	**Research process :** 1. Formulating the Research Problem 2. Reviewing the literature 3. Formulating the research objectives/ hypothesis 4. Selection the research design 5. Data collection 6. Data analysis 7. Data interpretation 8. Preparation and presentation of the research report	**16**	**48**
Number of Weeks /and Units Per Semester		**16**	**48**

III. Teaching strategies of the course:

1. Field work and training by supervisor.
2. Students presentation
3. Committee member decision

V. Master thesis assessment

Each master thesis will be assessed by a committee of three members as follows

Items
Committee member decision

I. Learning Resources:

1- Required Textbook(s) (maximum two).

1. Health Research Methodology (2005). WHO Manual.
2. Kothari C.R. (2004). Research Methodology, 2nd Edt. New Age International Pub.

2- Essential References.

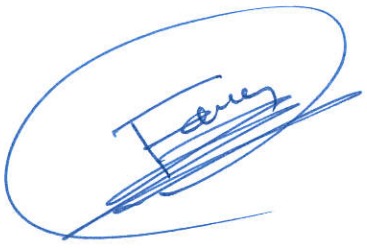
1. Fox dewed J (2000). Textbook of fundamental of research in nursing. Appleton century goft Norwalk Connecticut 2000.

3- Electronic Materials and Web Sites *etc.*

1. www.google.com

II. Course Policies:

According to graduate study roles and regulation



IX.	Course Policies:
1.	**Class Attendance:** At least 75 % of the course hours should be attended by the student. Otherwise, he/she will not be allowed to attend the final exam
2.	**Tardy:** any student who is late for more than 15 minutes from starting the lecture will not be allowed to attend the lecture and will be considered absent.
3.	**Exam Attendance/Punctuality:** Any student who is late for more than 30 minutes from starting the exam will not be allowed to attend the exam and will be considered absent.
4.	**Assignments & Projects:** Assignments and projects will be assessed individually unless the teacher request for group work
5.	**Cheating**: Cheating by any means will cause the student failure and he/she must re-study the course
6.	**Plagiarism**: Plagiarism by any means will cause the student failure in the course. Other disciplinary procedures will be according to the college rules.

Courses specification 1st year 2nd semester

Course Specification

1.	Course Identification and General Information:					
1	**Course Title:**	**Medical Technology**				
2	**Course Code &Number:**	**MCCN01**				
3	**Credit hours: 3**	C.H				TOTAL
		Th.	Seminar	Pr	Tr.	
		2	-	1		3

4	**Study level/ semester at which this course is offered:**	First year/ Second semester
5	**Pre –requisite:**	-
6	**Co –requisite :**	-
7	**Program (s) in which the course is offered:**	**Critical care nursing**
8	**Language of teaching the course:**	English
9	**Location of teaching the course:**	Faculty of Nursing
10	**Prepared By:**	Prof.
11	**Date of Approval**	2022

2. Course Description:

The course focuses on understanding and management of Arterial Lines; Central venous Lines; Pulmonary Artery Catheters, Pulse Oximetry SpO2; Capnography - EtCO2, intercostal catheters & Underwater Sealed Drainage. Defibrillation: Manual External & Automated external defibrillation (AED), cardiac monitors, ventilators (SIMV,CMV, weaning from ventilator), continuous positive airway pressure (CPAP), bi-level positive airway pressure (BiPAP), infusion pumps, syringe pumps, , intra-aortic balloon therapy, heart lung machine, heart mate, pulse contour cardiac output (PICCO), active humidifiers, Baer Hugger & blood warmer, cell saver-autologous blood recovery system, Intracranial pressure monitoring, pacemakers and ICD, prisma dialysis machine , extracorporeal membrane oxygenation (ECMO) and plasmapheresis.

III. Intended learning outcomes of the course (ILCOs) and their alignment to Program Intended learning outcomes (PILOs)

ILCOs	PILOs
1. Understanding and management of Arterial and Central Lines, Pulse Oximetry SpO2 and Capnography	A1
2. Understanding and management of Infusion, Underwater Sealed Drainage and Hemodynamic monitoring Defibrillation, Baer Hugger & amp, Intracranial pressure monitoring	A1
3. Interpretation and management of Basics of ECG	B2
4. Explain when mechanical ventilation is needed and how the ventilator modes and settings are determined.	A4
5. Recognize components and normal values of the conduction system and	B1

the related PQRST of the ECG tracing and hemodynamic monitoring. 6. Differentiate normal and abnormal values for ABG analysis; respiratory acidosis, respiratory alkalosis, metabolic acidosis and metabolic alkalosis 7. Apply leads for cardiac monitoring, interpret and monitor cardiac rhythms 8. Monitor hemodynamic status, and recognize signs and symptoms of hemodynamic instability 9. Manage patients requiring 12-lead ECG, arterial catheter, cardiac catheterization, cardioversion, central venous pressure monitoring, defibrillation and invasive hemodynamic monitoring. 10. Apply pulmonary therapeutic interventions related to mechanical ventilation such as airway clearance, intubation, weaning, extubation, respiratory monitoring devices, therapeutic gases, thoracentesis and tracheostomy with mechanical ventilation.	B4 C2 C2 C4 C2

(A) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
a1. Understanding and management of Arterial and Central Lines, Pulse Oximetry SpO2 and Capnography	Lecture Discussion	Essay type Short answer Objective type
a2. Understanding and management of Infusion, Underwater Sealed Drainage and Hemodynamic monitoring Defibrillation, Baer Hugger & amp, Intracranial pressure monitoring	Lecture Discussion	Essay type Short answer Objective type
a3. Explain when mechanical ventilation is needed and how the ventilator modes and settings are determined.	Lecture Discussion	Essay type Short answer Objective type

(B) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	**Teaching strategies**	**Assessment Strategies**
b1. Interpretation and management of Basics of ECG	Lecture Discussion Demonstration	Short answer Objective type
b2. Recognize components and normal values of the conduction system and the related PQRST of the ECG tracing	Lecture Discussion Demonstration	Short answer Objective type

and hemodynamic monitoring.		
b3. Differentiate normal and abnormal values for ABG analysis; respiratory acidosis, respiratory alkalosis, metabolic acidosis and metabolic alkalosis	Lecture Discussion Demonstration	Short answer Objective type

(C) Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
c1. Apply leads for cardiac monitoring, interpret and monitor cardiac rhythms	Lecture Discussion Demonstration	Short answer Objective type
c2. Monitor hemodynamic status, and recognize signs and symptoms of hemodynamic instability	Lecture Discussion Demonstration	Short answer Objective type
c3.Manage patients requiring 12-lead ECG, arterial catheter, cardiac catheterization, cardioversion, central venous pressure monitoring, defibrillation and invasive hemodynamic monitoring.	Lecture Discussion Demonstration	Short answer Objective type
c4. Apply pulmonary therapeutic interventions related to mechanical ventilation such as airway clearance, intubation, weaning, extubation, respiratory monitoring devices, therapeutic gases, thoracentesis and tracheostomy with mechanical ventilation.	Lecture Discussion Demonstration	Short answer Objective type
(D) Alignment Course Intended Learning Outcomes of General and Transferable Skills to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
Not applicable	-	-

3. Course Content:

A – Theoretical Aspect:

Order	Units/Topics List	Sub Topics List	No. of Weeks	Contact hours	Learning Outcomes
1	Arterial and Central Lines	• Arterial Lines • Central venous Lines • Pulmonary Artery Catheters	1	2	a1,a4,b2
2	Pulse Oximetry SpO2 Capnography	• Pulse Oximetry SpO2 • Capnography: EtCO2, intercostal catheters &amp	1	2	a1,a4,b2
3	Infusion	• Infusion pumps • syringe pumps • intra-aortic balloon therapy • heart lung machine, heart mate • pulse contour cardiac output (PICCO) • active humidifiers	2	4	a1,a4,b2
4	Underwater Sealed Drainage.	• Underwater Sealed Drainage.	1	2	a1,a4,b2
5	Hemodynamic monitoring	• Components, normal values, how values are obtained or calculated • care of the patient with hemodynamic monitoring • Interpreting hemodynamic values	2	4	a1,a4,b2
6	Midterm exam		1	2	a1,a4,b2
7	Cardiac Dysrhythmias	• Review of Conduction System • Basics of ECG Interpretation • Dysrhythmia: • The Sinus Rhythms(Normal Sinus Rhythm, Sinus Tachycardia, and Sinus	3	6	a1,a4,b2

		Bradycardia and Sinus Arrhythmia), The Atrial Rhythms (Wandering Pacemaker, Atrial Tachycardia, Atrial Fibrillation and Atrial Flutter), The Junctional Rhythms (Junctional Escape Rhythm, Accelerated Junctional Rhythm and Junctional Tachycardia), The Heart Blocks (First Degree, Second Degree Type I and II and Third Degree Heart Block), The Ventricular Rhythms(Ventricular Tachycardia, Ventricular Fibrillation and Idioventricular Rhythm).			
8	Defibrillation	• Defibrillation: Manual • External &amp • Automated external defibrillation (AED) • Cardiac monitors	1	2	a1,a4,b2
9	Baer Hugger & amp	• Baer Hugger & blood warmer • cell saver-autologous blood recovery system	1	2	a1,a4,b2
10	Intracranial pressure monitoring	• Intracranial pressure monitoring • prisma dialysis machine • extracorporeal membrane oxygenation (ECMO) and plasmapheresis.	1	2	a1,a4,b2
11	Mechanical Ventilation	• Principles of mechanical ventilation • Ventilator modes and	2	4	a1,a4,b2

		settings • Ventilator changes effect on blood gases/ Weaning • Complications of ventilator • ABG analysis: o Oxygenation, devices o Review ABGs o Failure, exacerbations • ARDS, arrest • SIMV, CMV, weaning from ventilator • Continuous positive airway pressure (CPAP) • Bi-level positive airway pressure (BiPAP)			
12	Final exam		1	2	a1,a4,b2
Number of Weeks /and Units Per Semester			**16**	**32**	

B - Clinical Aspect:

Order	Tasks/ Experiments	Number of Weeks	Contact hours	Learning Outcomes
1	• Arterial Lines • Central venous Lines • Pulmonary Artery Catheters	1-2	6	c2
2	• Pulse Oximetry SpO2 • Capnography: EtCO2, intercostal catheters &amp	3-4	6	c2
3	• Infusion	5	3	c2
4	• Underwater Sealed Drainage.	6	3	c2
5	Hemodynamic monitoring: • Monitor hemodynamic status	7-8	6	c2

	• Interpreting hemodynamic • Nursing care of the patient			
6	Dysrhythmias: Apply leads for cardiac monitoring, interpret and monitor cardiac rhythms Manage patients requiring: • 12-lead ECG • arterial catheter • cardiac catheterization • cardioversion • central venous pressure monitoring • Defibrillation and invasive hemodynamic monitoring.	9-11	12	c4
7	Defibrillation	12	3	c2
8	Baer Hugger & amp	13		c2
9	Intracranial pressure monitoring	14		c2
10	Mechanical ventilation: Apply pulmonary therapeutic interventions related to mechanical ventilation such as: • airway clearance • intubation • weaning • Extubation • respiratory monitoring devices • therapeutic gases • thoracentesis • tracheostomy	15-16	6	c2
11	Final clinical exam	17	3	c2,c4.c5
Number of Weeks /and Units Per Semester		**17**	**51**	-

I. Teaching strategies of the course:

1. Lecture Discussion
2. Presentation
3. Role playing
4. Case study reviews

5. Assignments 6. Activities

4. Teaching strategies of the course:
1. Lecture - Discussion 2. Demonstration

5. Assignments:

No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	Write about EEG	a1,a4,b2	5-10	10

6. Schedule of Assessment Tasks for Students During the Semester

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Student assignment	5th - 12th week	10	10 %	a1,a4,b2
2	Presentation	4st - 14th week	20	20 %	a1,a4,b2
3	Mid-term exam	7th or 8th week	20	20%	a1,a4,b2
4	Final exam	16th-17th week	50	50 %	a1,a4,b2
	Total Theory Weight		**100**	**100%**	

Clinical part

Assessment	Type of Assessment Tasks	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Attendance and Attitude	14th week	10	10%	a5,c2,c3,c4,c5
2	Semester work	1st-14thweek	50	10%	a5,c2,c3,c4,c5
3	Final exam (theory/oral)	15th week	15	50%	a5,c2,c3,c4,c5
4	Final exam (practical)	16th-17th week	25	30%	a5,c2,c3,c4,c5
	Total Practical Weight		**100**	**100%**	

7. Learning Resources:	
1- Required Textbook(s)	
	1. Joseph M.C., Vetta R.W. , Taylor R.K. Critical care Medicine . 2nd .2011
2- Essential References.	
	1. Shoemader .woliam C. et al Text book of critical care. W B Saunders Company Philadelphia 2007.
3- Electronic Materials and Web Sites *etc*.	
	http://www.google.com

7. Course Policies:	
1.	**Class Attendance:** At least 75 % of the course hours should be attended by the student. Otherwise, he/she will not be allowed to attend the final exam
2.	**Tardy:** any student who is late for more than 15 minutes from starting the lecture will not be allowed to attend the lecture and will be considered absent.
3.	**Exam Attendance/Punctuality:** Any student who is late for more than 30 minutes from starting the exam will not be allowed to attend the exam and will be considered absent.
4.	**Assignments &Projects:** Assignments and projects will be assessed individually unless the teacher request for group work
5.	**Cheating**: Cheating by any means will cause the student failure and he/she must re-study the course
6.	**Plagiarism**: Plagiarism by any means will cause the student failure in the course. Other disciplinary procedures will be according to the college rules.

Course Plan (Syllabus)

I. Information about Faculty Member Responsible for the Course:							
Name of Faculty Member	Prof.	Office Hours					
Location&Telephone No.		SAT	SUN	MON	TUE	WED	THU
E-mail	@hotmail.com		x				

II. Course Identification and General Information:						
1.	Course Title:	Medical Technology				
2.	Course Number & Code:	MCCN01				
3.	Credit hours: 3	C.H				Total
		Th.	Seminar	Pr.	F. Tr.	

Courses specification 1st year-1st semester

Course Specification

I. Course Identification and General Information:						
1	Course Title:	SPSS Statistics				
2	Course Code &Number:	MNSG01				
3	Credit hours: 3	C.H				TOTAL
		Th.	Seminar	Pr	Tr.	
		2	-	1	-	3
4	Study level/ semester at which this course is offered:	First year/First semester				
5	Pre –requisite:	-				
6	Co –requisite :	-				
7	Program (s) in which the course is offered:	Critical care nursing				
8	Language of teaching the course:	English				
9	Location of teaching the course:	Faculty of Nursing				
10	Prepared By:	Professor. Nabil Al-Rabeei				
11	Date of Approval	2022				

II. Course Description:

This course logically guides students through the fundamentals of using SPSS and is structured so as to provide effective training in the 4 stages of a typical data analysis process-data definition and input, data modification, data analysis and data presentation. To learn how to import data into SPSS and set it up ready for further analysis.

III. Intended learning outcomes of the course (ILCOs) and their alignment to

Program Intended learning outcomes (PILOs)	
ILCOs	**PILOs**
1. Identify concepts and principles of data entry, analysis, presentation and interpretation.	A1
2. Summarize data through the appropriate use of tables, graphs, and descriptive statistics.	D4
3. Select appropriate statistical methods for testing research hypotheses and answering research questions.	B1
4. Apply appropriate measurements and data analysis techniques by SPSS program.	C2

(A) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
a1. Identify concepts and principles of data entry, analysis, presentation and interpretation.	Lecture Discussion Demonstration	Short answers Objective type

(B) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
b1. Select appropriate statistical methods for testing research hypotheses and answering research questions.	Lecture Discussion Demonstration	Short answers Objective type

C. Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
c1. Apply appropriate measurements and data analysis techniques by SPSS program.	Lecture Student assignment Practice Session	Short answer questions Objective type Practical Exam

(D) Alignment Course Intended Learning Outcomes of General and Transferable Skills to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
d1. Summarize data through the appropriate use of tables, graphs, and descriptive statistics.	Lecture Student assignment Practice Session	Short answer questions Objective type Practical Exam

III. Course Content:

A – Theoretical Aspect:

Order	Units/Topics List	Sub Topics List	No. of Weeks	Contact hours	Learning Outcome
1	Feature of the SPSS Program	• Introduction to SPSS • Preliminaries: o Running SPSS o Entering SPSS • Three Primary SPSS Windows o The Data Editor o The Output Viewer o The Syntax Editor. • Switching Between Windows • Common Window Features: o Title Bar o Menu Bar o Toolbar o Status Bar o • Unique Window Features: • Data Editor o Data View o Variable View • Output Viewer • Syntax Editor	1	2	a1
2	The Menus – Overview	• Common Menus • Unique Menus • The Menus – Up Close o File Menu o Edit Menu o View Menu o Data Menu o Transform Menu o Analyze, Window,	1	2	a1,b1

		and Add-Ons Menus ○ Graphs Menu ○ Utilities Menu ○ Help Menu ○ Insert Menu ○ Format Menu ○ Run Menu			
3	Data File Preparation	• Data Entry • Defining Variables • Practice Data Entry	1	2	a1,d1
4	Steps of testing statistical hypothesis	• State statistical hypothesis • Chose the appropriate statistical test • Specify the level of significance • Conduct the statistical tests • Decide to reject or accept hypothesis	1	2	a1,d1
5	Descriptive Statistics	• Descriptive • Frequency • Crosstabs	1	2	a1,d1
6	Parametric test	• Independent Samples T-Test ○ Overview ○ Assumptions ○ Running Procedure ○ Reading Output ○ Interpretation	1	2	a1,b1,d1
7	Midterm exam		1	2	a1,b1,d1
8	Nonparametric Tests	• Mann-Whitney test o Overview o Assumptions o Running Procedure o Reading Output ○ Interpretation	1	2	a1,b1,d1

9	Parametric test	• Paired Samples T-Test o Overview o Assumptions o Running Procedure o Reading Output • Interpretation	1	2	a1,b1,d1
10	Nonparametric Tests	• Wilcoxon signed rank test o Overview o Assumptions o Running Procedure o Reading Output • o Interpretation	1	2	a1,b1,d1
11	Parametric test	• One-Way ANOVA o Overview o Assumptions o Running Procedure o Reading Output o Interpretation	1	2	a1,b1,d1
12	Nonparametric Tests	• Kruskal-Wallis test o Overview o Assumptions o Running Procedure o Reading Output • o Interpretation	1	2	a1,b1,d1
13	Parametric test	• One-Way Repeated measure ANOVA o Overview o Assumptions o Running Procedure o Reading Output o Interpretation	1	2	a1,b1,d1
14	Nonparametric Tests	• Friedman test o Overview o Assumptions o Running Procedure o Reading Output • o Interpretation	1	2	a1,b1,d1

15	Nonparametric Tests: relationship	• Chi-Squared for independent ○ Overview ○ Assumptions ○ Running Procedure ○ Reading Output ○ Interpretation	1	2	a1,b1,d1
16	Final exam		1	2	a1,b1,d1
Number of Weeks /and Units Per Semester			**16**	**32**	

B – Practical Aspect:

Order	Tasks/ Experiments	Number of Weeks	Contact hours	Learning Outcomes
1	• Feature of the SPSS Program ○ Running SPSS ○ Entering SPSS ○ Three Primary SPSS Windows ○ Switching Between Windows	1	1	d1
2	• Working with data ○ Opening SPSS Files ○ Saving SPSS Files ○ Exporting and Importing Data ○ Merging Two Data Files ○ Printing	1	1	c1,d1
3	• Data File Preparation	2	2	c1,d1
4	• Steps of testing statistical hypothesis ○ Normality distribution	1	1	c1,d1
5	• Descriptive Statistics ○ Descriptive ○ Frequency ○ Crosstabs	1	1	c1,d1
6	• Independent Samples T-Test ○ Running Procedure ○ Reading Output ○ Interpretation	1	1	c1,d1
7	Midterm exam	1	1	c1,d1
8	• Mann-Whitney test	1	1	c1,d1

	○ Running Procedure ○ Reading Output ○ Interpretation			
9	• Paired Samples T-Test ○ Running Procedure ○ Reading Output ○ Interpretation	1	1	c1,d1
10	• Wilcoxon signed rank test o Running Procedure o Reading Output o Interpretation	1	1	c1,d1
11	▪ One-Way ANOVA ○ Running Procedure ○ Reading Output ○ Interpretation	1	1	c1,d1
12	• Kruskal-Wallis test. ○ Running Procedure ○ Reading Output ○ Interpretation	1	1	c1,d1
13	• One-Way Repeated measure ANOVA ○ Running Procedure ○ Reading Output ○ Interpretation	1	1	c1,d1
14	• Chi-Squared of Independence ○ Running Procedure ○ Reading Output ○ Interpretation	1	1	c1,d1
15	Final exam	1	1	c1,d1
Number of Weeks /and Units Per Semester		16	32	

IV. Teaching strategies of the course:

1. Lecture - Discussion
2. Demonstration
3. Student assignment
4. Practical session
5. Presentation:
   - McNemar test
   - Cochran Q test
   - One sample t-test
   - One sample chi-square test

V. Assignments:

No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	One assignment for each statistical test	a1, b1, d1	2-14	20

VI. Schedule of Assessment Tasks for Students during the Semester: Theoretical part and Practical part

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Presentation	4th and 12th week	10	10%	a1 , b1, d1
2	Assignments	5th and 12th week	20	20%	a1 , b1, d1
3	Mid-term exam	7th or 8th week	20	20%	a1 , b1, d1
4	Final exam	16th-17th week	50	50 %	a1 , b1, d1
	Total Theory Weight		**100**	**100%**	

VIII. Learning Resources:

1- Required Textbook(s) (maximum two).

1. SPSS Programming and Data Management. A Guide for SPSS and SAS® Users, 3rd ed. Raynald Levesque and SPSS Inc, 2001.

2- Essential References.

1. An Introduction to Biostatistics: A manual for students in Health Sciences: P.S.S. Sundar Rao, J. Richard Prentice Hall , New Delhi, 2005.
2. Bio-Statistics: A foundation for Analysis in the Health Sciences: Daniel, W.W., John Wiley and Pub., Canada, 2006.

	3. Handbook of Statistics: Krishnaiah, P.K. Rao, C.R. (ed), Elsevier Science Pub. Netherlands, 2011.
3- Electronic Materials and Web Sites *etc*.	
	www.google.com

IX. Course Policies:	
1.	**Class Attendance:** At least 75 % of the course hours should be attended by the student. Otherwise, he/she will not be allowed to attend the final exam
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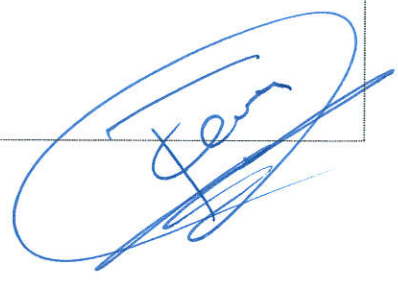
Course Plan (Syllabus)

I. Information about Faculty Member Responsible for the Course:							
Name of Faculty Member	Prof. Nabil Ahmed Al-Rabeei	**Office Hours**					
Location&Telephone No.	734699333	**SAT**	**SUN**	**MON**	**TUE**	**WED**	**THU**
E-mail	nabilalrabeei@hotmail.com		x				

II. Course Identification and General Information:						
1.	**Course Title:**	**SPSS Statistics**				
2.	**Course Number & Code:**	**MNSG01**				
3.	Credit hours: 3	**C.H**			**Total**	
		Th.	**Seminar**	**Pr.**	**F. Tr.**	
		2	-	1		**3**
4.	Study level/year at which this course is offered:	First year/First semester				
5.	Pre –requisite:	--				
6.	Co –requisite :	**--**				
7.	Program (s) in which the course is offered	Critical care nursing				
8.	Language of teaching the course:	English				
9.	System of Study:	Semester system				
10.	Mode of delivery:	Full time				
11.	Location of teaching the course:	Faculty of Nursing				

III. Course Description:

This course logically guides students through the fundamentals of using SPSS and is structured so as to provide effective training in the 4 stages of a typical data analysis process-data definition and input, data modification, data analysis and data presentation. To learn how to import data into SPSS and set it up ready for further analysis.