program
Para-medical professions

Specialization	**Sterilization**
Course Number	**020811231**
Course Title	**Epidemiology**
Credit Hours	**(3)**
Theoretical Hours	**(2)**
Practical Hours	**(3)**

Brief Course Description:

The course deals with the definition of epidemiology .Then, it deals with Epidemiologic orientation to health and disease. Concentration is put on Epidemiological aspects of communicable diseases and Epidemiological surveillance and Screens for diseases.

Course Objectives:

Upon the completion of the course, the student will be able to: 1-What does Epidemiology mean?

- Types and Sources of health data
- Epidemiologic orientation to health and disease
- Epidemiologic studies Epidemiologic aspects of communicable diseases 5- Epidemiological surveillance and Screens for disease

Detailed Course Description:

Unit Number	Unit Name	Unit Content	Time Needed
1.	**Introduction to Epidemiology**	• Definition • General information	
	General Principles of Epidemiology	Epidemiology Infectious disease process Epidemiology concepts Tools of the trade Epidemiology Variables Concepts of cause	
2.	**Epidemiologic Orientation to Health and Disease:**	• Health and disease. • Natural history of disease. Epidemiology Triangle: -Agent, • Host • Environment. Investigation of an epidemic Diseases distribution. Prevention: -levels of Prevention	
3.	**Epidemiologic studies:**	• Observational studies • descriptive studies • analytica studies Experimental studies. Interventional studies	

4.	**Epidemiology of communicable diseases**	• A-Terminology and components of communicable diseases. • B-Mode of transmission. • C-Principles of communicable disease control. • D-principles of non – communicable disease prevention.	
5.	**8- Epidemiology of non- communicable diseases**	-Definition: Principles of non – communicable disease control -Risk factors -Prevention -Control	
6.	**Epidemiological surveillance and Screens for diseases :**	• Definition. • Method • Purpose. • Types of screens Tests • Case- finding • Diseases suitable for screening	

program Para-medical professions	
Specialization	**Sterilization**
Course Number	**020811121**
Course Title	**Biostatistics**
Credit Hours	**(3)**
Theoretical Hours	**(3)**
Practical Hours	**(0)**

وصف المادة الدراسية :

يتناول المساق العملية الاحصائيه من حيث جمع البيانات وعرضها والتركيز على مقاييس النزعه المركزيه للبيانات المبوبه وغير المبوبه ومقاييس التشتت ومنحنى التوزيع الطبيعي والإحصاء التحليلي من حيث الفرضيات وقبولها ورفضها والدلائل الاحصائيه ومستوياتها و الارتباط وإشكالها وتربيع كأي والتركيز على الإحصاءات الحيوية من حيث النسب وتعدد السكاني ومقاييس الخصوبه والمراضه والوفيات .

أهداف المادة :

بعد دراسة المادة يتوقع من الطالب إن يكون قادرا على تحقيق الأهداف التالية :

1. مبادئ علم الاحصاء الاساسيه وتطبيقاتها
2. أهمية الاحصاء واستخداماته في المجالات الصحية
3. مصادر المعلومات وجمعها أو تصنيفها
4. حساب مقاييس النزعه المركزيه ومقاييس التشتت واستعمالاتها
5. حساب مقاييس السكانية والخصوبة والوفاة
6. بعض الاستنتاجات الاحصائيه والدلالة الاحصائيه في مجالات الاحصاء التحليلي

رقم المادة	اسم المادة	محتويات المادة	الزمن
.1	**المقدمة**	تعريف الاحصاء ومراحل العملية الاحصائيه استعمال الاحصاء في المجالات الصحية والطبية مصادر المعلومات والبيانات وتعريفها وتصنيفاتها ,المجتمع الإحصائي , العينة ، المسح الشامل , الاستبانه استعمالاتها ومكوناتها	
.2	**العملية الاحصائية**	العملية الاحصائية : جمع البيانات وعرضها جدوليا وبيانيا ورقميا الجداول البسيطة الاعمدة والمستطيلات الخط المتكسر الخط المنحي ,الدائره الصور الخريطه الوبائيه التوزيعات التكراريه :بناء جدول التوزيع التكراري , التكرارت النسبيه والمئويه , التكرار المتجمع النسبي والمئوي , اقل من اكثر من عرض التوزيعات بيانيا اشكال التوزيعات التكراريه	
.3	**مقاييس النزعه المركزيه للبيانات غير المبوبه والمبوبه**	مقاييس النزعة المركزية المبوبة وغير المبوبة الوسط الحسابي ,الوسط المرجح ,الوسط الهندسي ,الوسيط ,المنوال ,استخراها وحسابها وبيانيا خصائص مقاييس النزعه المركزية وصفاتها	

.4	**مقاييس التشتت للبيانات غير المبوبة والمبوبة**	المدى الانحراف المتوسط الانحراف المتوسط المطلق التباين الانحراف المعياري معامل الاختلاف (التباين)	
.5	**منحنى التوزيع الطبيعي**	خصائصه واستعمالاته وأهميته في الاحصاء والابحاث	
.6	**مقدمة في الاحصاء التحليلي**	الفرضيات :فرضية العدم (الصفرية) والفرضية البديلة قبول الفرضية ورفضها الدلاله الاحصائيه ومستوياتها الارتباط اشكاله ,معامل الارتباط تربيع كأي , استعمالاته ودلالاته	
.7	**الاحصاء الحيوي**	النسب والمعدلات وتصنيفاتها :الخام والنوعيه والمعيره المعدله التعداد السكاني العام ,الهرم السكاني ,محتوياتها وإشكالها تقدير عدد السكان مقاييس الخصوبه مقاااييس المراضه مقاييس الوفيات معدلات الوفاة النوعيه حسب جنس والسن وسبب الوفاة مفهوم توقع الحياة	

program Para-medical professions	
Specialization	**Common**
Course Number	**020800111**
Course Title	**First Aids**
Credit Hours	**(3)**
Theoretical Hours	**(2)**
Practical Hours	**(3)**

Brief Course Description:

This course is designed to introduce the student into emergency medical care providing him with the knowledge and skills that make him able to do patient assessment and choose first Aid priorities and the more suitable instruments which allow him to manage Airway Obstruction, shock and bleeding, soft-Tissue injuries (wounds), soft tissue Injuries (Burns) trauma and fractures, medical emergency (Allergies Reaction) and medical emergency (Poisoning) and, environmental emergency, and altered mental status, It also introduces him to the skills needed for doing CPR.

Course Objectives:

Upon the completion of the course, the student will be able to:

- The general rules, ethics and basis of First Aid:
- How to examine and assess the causality safely and effectively.
- How to deal with common first Aid Emergency.
- How to assess many varying emergency situations to determine what patient care is needed and to provide the necessary care.
- How / CPR is done safely

Detailed Course Description:

Time Needed	Unit name	Unit Content	Time Needed
1.	**Introduction**	• Introduction to emergency medical care. • Definition of first aid. • Equipment and supplies. • Medical, legal and ethical.	2 lect-theory
2.	**Patient assessment**	• Primary survey. • Secondary survey for patient (trauma). • Baseline vital signs.	1 lect-2hours practical
3.	**The air way**	• Oxygen sources. • Equipment for oxygen delivery. • Masks. • Airway accessories. • Suction	2 lect
4.	**Shock and bleeding**	• Definition. • Assessing shock. • Causes, classification. • Emergency care for shock. • Types of bleeding. • Emergency care for bleeding. • Bleeding from (ears, nose, and mouth) and emergency care.	
5.	**Soft – Tissue Injuries (wounds)**	• Definition. • Closed injuries. • Open injuries. • Emergency for soft-tissue injuries(dressing and bandages	

6.	**Soft tissue injuries (burns)**	• Definition. Classification, and Causes • Severity of Burns. • Emergency medical Care for Burn Patients.	
7.	**Trauma And Fractures**	• Fractures and Dislocation, Causes and Diagnosis. • Emergency Care for patients with Fractures. • Splinting, Principles of splinting, Equipments. • Spinal cord injury Assessment Signs and Symptoms, Emergency Medical Care of the Spine – Injured Patient.	
8.	**Medical Emergency (poisoning)**	• Assessment of allergies Reactions. • Cause, signs and symptoms. • Emergency medial	
9.	**Medical Emergency (poisoning)**	• History of poisoning. • Types and signs and symptoms. • Use of activated charcoal.	
10.	**Environmental Emergency**	• Heat stroke, Heat Exhaustion, Heat cramps (Definition, Diagnosis, and Management). • Hypothermia (Signs and Symptoms, Emergency care)	

		• Drowning.	
11.	**Altered Mental Status**	• Diabetic Emergency. • Seizures. • Emergency care of patients with Altered Mental status.	
12.	**Airway Obstruction**	• Choking – Heimlich Maneuver (Adults, Children) • Choking.	
13.	**CPR**	• CPR (Adults, Children) • CPR (Infants)	
14.	**First Aid priorities**	• Case classification & triage	

program Para-medical professions	
Specialization	**Sterilization**
Course Number	**020811141**
Course Title	**Infection Control**
Credit Hours	**2**
Theoretical Hours	**2**
Practical Hours	**0**

Brief Course Description:

This course is designed to provide the student with knowledge needed to introduce him/her to concepts (Importance) and purpose of infection control, disease transmission cycle. It also deals with the transmission of infection in the health care setting. Moreover, it concentrates on the importance of infection prevention practices and safe handling of disposal of clinical wastes and sharps decontaminating equipment . Finally ,it deals with the role of housekeeping in infection prevention.

Course Objectives:

- Provide explanation related to special problems and selected infectious diseases.
- Identify Laboratory data indicating the presence of infection.
- Understand essential facts about interventions that prevent and control infections.
- Provide medical wastes management and guidelines for employees who handle, manage, and transport storage and disposal waste.
- Identify basic responsibilities of the central committee for control of hospital infections.
- Provide explanation about surveillance of infection in hospitals.

Detailed Course Description:

Unit Number	Unit Name	Unit Content	Time Needed
1.	**Impotence and purpose of infection control**	• Introduction. • Overview of Infectious Diseases. • Who Is At Risk Of Infection? • The Disease – Transmission Cycle. • Transmission of Infection in the health care Setting. • Importance Following Infection Prevention Practices. • Misconceptions about Infection Transmission.	
2.		• Terms Definition. • Six links in chain of infection and Measures that break each link in the chain. • Four stages of an infectious process. • Causal factors of nosocomial infection. • People at risk of acquiring infection.	
3.		• Viral Hepatitis (A,B,C,D,E). • Infection in the Immunocompromised Host (HIV). • Respiratory tract infection (Tuberculosis, Pneumonia). • Guidelines related to the special Problem of renal units. • Guidelines for infection	

		prevention and control in flexible endoscopy.	
4.		• Guidelines about storage • Handling of clinical specimens.	
5.	**Antiseptics And disinfectants And Aseptic Techniques**	• Concepts and definitions of medical and surgical asepsis. • Interventions to prevent infections. • Interventions to protect body Defences and personal protective equipments. • Essentials of hand washing and use of gloves. • Overview of antiseptics and disinfectants. • Types of protective asepsis (Isolation) precautions. • Precautions taken in each type of Protective Asepsis. • Precautions taken in each type of protective asepsis.	
6.	**Safe Handling And disposal Of Clinical Wastes And Sharps**	• Introduction. • Disposal and decontaminationof needles and other sharps. • Management of injuries from needles and other sharps. • Importance of proper waste disposal. • Sorting, handling, internal storage, and disposal of medical waste. • Disposal, liquid medical waste and hazardous chemical waste. • Building a drum incinerator and	

		a buried site.	
7.	**Decontaminating Equipment**	• Introduction. • Steps of processing instruments and other items. • Proper order of the steps of processing. • Organizing an area for processing Instruments and other Items.	
8.	**House Keeping**	• Introduction. • Role Of housekeeping in infection prevention. • General housekeeping guidelines. • Housekeeping Activities In client – care and non – client care areas. • Cleaning up spills.	

program Para-medical professions	
Specialization	**Sterilization**
Course Number	**020811251**
Course Title	**Medical Equipment and instruments**
Credit Hours	**(3)**
Theoretical Hours	**(2)**
Practical Hours	**(3)**

Brief Course Description:

The course is designed to provide the students with the basic technical knowledge needed for him/her to deal in a safe way with machines & apparatuses used in the C.S.S.D perform simple checks maintenances and know when to ask for technical help when needed. Know various kinds of surgical instruments & proper way of dealing with them.

Course Objectives:

Upon the completion of the course, the student will be able to:

- Know all machines & apparatuses used in the C.S.S.D. & their operation.
- Know how to perform daily checks on these machines and ask for preventive and periodic checks.
- Know all kinds of surgical instruments used in surgery by name, know the damages caused by chemicals & other factors to these instruments & know the proper ways of preventing such damages
- Know how to estimate the needs of to instruments an sterilization materials on weekly & annual basis, for proper department supplies teaching

Detailed Course Description:

Time Needed	Unit Name	Unit Content	Unit Number
1.	**Introduction to machines, apparatuses used in C.S.S.D & surgical instruments that are processed in the department**	• Machines used in cleaning process. • Different Kinds Of Sterilizer. • Monitoring Machines. • Categories of surgical instruments.	
2.	**Design & operation of machines & apparatuses used in C.S.S.D and their daily, preventive & periodic checks**	• Steam sterilizers. • Hot air sterilizers. • ETO sterilizers. • Formaldehyde sterilizers. • Plasma gas sterilizers. • Mechanical washing machines. • Pre-Flusher machines. • Ultrasonic cleaning machines, • Heat sealing machines. • Biological test incubators.	
3.	**Types of surgical instruments used in various kinds surgical procedures**	• General surgery instruments. • Orthopaedic surgery instruments. • Gynaecology & obstetric instruments. • Neurosurgery instruments. • Eye, ear, nose & throat instruments.	

		• Oral surgery instruments.	
4.	**Checks & care of surgical instruments**	• Cleanness. • Integrity. • Function ability.	
5.	**Surface Changes Of Surgical Instruments,**	• Metal deposits • Organic residues.	
	Causes, Treatment & Prevention	• Spotting caused by time. • Silicates & other compounds. • Black discoloration. • Metal corrosion: • Pitting corrosion. • Fritting corrosion. • Stress corrosion cracking. • Surface corrosion. • Contact corrosion. • Crevice corrosion. • Plastic & rubber aging. • Plastic & rubber swelling. • Plastic stress cracks.	
6.	**Inventory & Supplies in C.S.S.D department.**	• Materials needed on weekly basis & ordering process. • Estimation & ordering annual needs of sterilization materials. • Estimation & ordering Annual needs of surgical instruments. • Procedures for replacing damaged instruments.	

program Para-medical professions	
Specialization	**Sterilization**
Course Number	**020811161**
Course Title	**Sterilization 1**
Credit Hours	**(3)**
Theoretical Hours	**(3)**
Practical Hours	**(0)**

Brief Course Description:

This course is designed to provide the student with knowledge & technical skills related to various methods of sterilization to enable him/her to use & choose the proper method of sterilization for each material & instrument undergo for sterilization, assuring sterilization quality, proper handling & storage of sterilized materials,

Course Objectives:

Upon the completion of the course, the student will be able to:

- Understand the concept of sterilization & sterilization cycle.
- Describe the design of C.S.S.D and know the criteria of each work area in the department.
- Know how to deal with contaminated materials & instruments, also to deal with medical waste included in used materials.
- Know the cleaning process, methods of cleaning & chemicals used in the cleaning process.
- Know the methods of disinfection, levels of disinfection & chemicals used in disinfection process.
- Deal with instruments that need special care.
- Understand the importance of packaging of sterile materials &know the materials used in packaging & know the wrapping techniques.
- Understand the importance of personal protection & know the materials used for this purpose

Detailed Course Description:

Unit Number	Unit Content	Unit Name	Time Needed
1.	**Introduction To Sterilization**	• Sterilization Concept. • Sterilization Cycle. • History & development of sterilization Science. • Design & Work Areas Of C.S.S.D.	
2.	**Decontaminatio n**	• Contamination. • Decontamination. • Collection, Transportation & Reception of Contaminated Instruments. • Contaminated instruments & medical equipments: • Anesthesia instruments. • Respiratory equipments. • Surgical instruments. • Suction equipments. • Prevention of cross infection.	
3.	**Cleaning**	• Concept & importance of cleaning. • Dealing with medical waste accompanying used instruments. • Sorting & Soaking. • Cleaning Methods: • Manual.	

		• Mechanical. • Water: • Types. • Quality. • Uses. • Cleaning Factors: • Chemical Factors. • Mechanical Factors. • Temperature. • Time. • Chemicals Used In Cleaning. • Rinsing & Drying. • Cleaning Quality Control. • Personal protection.	
4.	**Cleaning & Care Of Instruments Need Special Treatment**	• Micro Surgical Instruments. • Dental Instruments. • Scopes. • Rigid. • Flexible. • Surgical Motor Systems. • Supple Instruments	
5.	**Disinfection**	• Concept of disinfection. • Methods of disinfection. • Thermal. • Chemical. • Disinfection levels • High Level Disinfection. • Intermediate Level	

		Disinfection. • Low Level disinfection. • Chemicals used in disinfection.	
6.	**Inspection**	• Inspection Environment • Inspection Techniques. • Repair & replacement of Damaged Instruments.	
7.	**Assembly & Packaging**	• Concept of Assembly. • Process of Instruments Assembly. • Principles of Packaging. • Materials Used In Packaging. • Packaging Process: • Textile Packs construction. • Surgical Instruments Packaging. • Containerized packaging. • Pouches Packaging. • Wrapping Techniques: • Envelop fold. • Parcel fold. • Accessories for packaging: • Indicator Tapes & Internal Chemical Indicators. • Trays & Baskets. • Protection Materials.	

		• Heat Sealing Machines. • Workstation For Packaging.	

program Para-medical professions	
Specialization	**Sterilization**
Course Number	**020811162**
Course Title	**Sterilization 1/ Practical**
Credit Hours	**(3)**
Theoretical Hours	**(0)**
Practical Hours	**(9)**

Brief Course Description:

This course is designed to provide the student with technical skills needed To enable him/her to perform all C.S.S.D. duties using proper machines, proper methods & proper techniques, maintaining high standards of ethics, safety and cleanliness, emphasizing on the end result of the sterilization process, to provide safe instruments for proper patient use.

Course Objectives:

Upon the completion of the course, the student will be able to:

- Adhere to the rules of people flow & work flow in the department.
- Perform the daily needed checks on machines used in the department.
- Collect, transport, receive used instruments from operation theater & other departments.
- Perform decontamination, cleaning, disinfection, processing (inspection, Assembly & packaging) maintaining high standards of cleanliness and safety.

Detailed Course Description:

Unit Number	Unit Name	Unit Content	Time Needed
1.	**Design & Work areas Of C.S.S.D.**	• People flow, work flow &air flow in C.S.S.D department. • Location of sterilizers & other machines. • Preparation of work areas for daily work. • Daily checks on machines & apparatuses used in the department, before and after use.	
2.	**Decontamination**	• Collection, transportation & reception of used instruments from Operation Theatre & other departments. • Decontamination • Decontamination process: • Surgical instruments decontamination. • Respiratory equipments decontamination. • Anaesthesia instruments decontamination. • Cart decontamination.	

3.	**Cleaning**	• Management of medical waste accompanying used instruments. • Disassembly of surgical instruments. • Initial cleaning : • Manual cleaning. • Mechanical (using pre flushers). • Sorting of instruments. • Manual cleaning: • Preparation of used instruments for cleaning. • Preparation of facilities & apparatuses needed. • The use of cleaning agents (chemical & enzymatic). • Mechanical cleaning : • Machine preparation for use. • Cleaning agents & disinfectants. • Instruments preparation • Machine loading. • Machine operation: cleaning & disinfection cycles. • Machine unloading. • Rinsing: • Manual. • Mechanical. • Drying: • Manual. • Mechanical. • Personal protection : • Equipments.	

		• Measures. • In process quality control : • Visual inspection. • Specialized tests.	
4.	**Cleaning Of Instruments Need Special Care**	• Thermal Disinfection (Mechanical). • Dental instruments. • Scopes : • Flexible endoscopes. • Rigid endoscopes. • Surgical motor systems. • Supple instruments & respiratory equipments.	
5.	**Disinfection**	• Microsurgical instrument. • Liquid chemical disinfection: • Facilities: Materials • Disinfectants. • Process. • Machine disinfection (using washer disinfectors) : • Thermal disinfection. • Chemo thermal disinfection.	
6.	**Inspection**	• Inspection process. • Dryness. • Cleanness. • Integrity. • Function ability. • Lubrication. • 6-2 Repair & replacement of damaged instruments.	

7.	**Assembly & packaging**	• Area Preparation: • Cleanness • Packaging Materials • Surgical Instruments Process: • Packaging Process: • Textiles Packs construction. • Surgical instruments Packaging. • Containerized packaging. • Pouches packaging. • Packaging Techniques. • Envelop Fold. • Parcel fold. • The use of packaging accessories: • Protective materials. • Chemical indicators • Trays & baskets. • Heat sealing machines.	

program Para-medical professions	
Specialization	**Sterilization**
Course Number	**020811261**
Course Title	**Sterilization (2)**
Credit Hours	**(3)**
Theoretical Hours	**(3)**
Practical Hours	**(0)**

Brief Course Description:

This course is a continuation of sterilization **1**and designed to provide the student with knowledge & technical skills related to various methods of sterilization to enable him/her to use & chose the proper method of sterilization for each material & instrument undergo for sterilization, assuring sterilization quality, proper handling & storage of sterilized materials,

Course Objectives:

Upon the completion of the course, the student will be able to:

- Know the sterilization methods used in hospitals and industry & their applications.
- Know the dangers related to certain sterilization methods & know the proper methods to protect himself & others against these dangers.
- Know the conditions needed for proper storage of sterilized materials & know the principles of storage & distribution of sterile materials.
- Know the importance of monitoring sterilization quality & methods used in monitoring sterilization quality.

Detailed Course Description:

Unit Number	Unit Name	Unit Content	Time Needed
1.	**Introduction to sterilization & Methods Of Sterilization**	• Sterilization Methods Used In Medical Field. • High temperature Sterilization: • Steam (Wet Heat) Sterilization. • Dry heat Sterilization. • Low Temperature Sterilization. • Ethylene Oxide Gas Sterilization. • Formaldehyde Sterilization. • Plasma Gas Sterilization Using Hydrogen Peroxide. • Chemical Sterilization (Chemical). • Design & Work Areas of C.S.S.D. • Radiation Sterilization. • Filtration Sterilization.	
2.	**Steam Sterilization**	• Steam as Sterilization agent • Types Of Steam Sterilizers. • Pre Vacuum. • Gravity displacement. • Flash • Daily Check on Sterilisers. • Materials Sterilized By Steam. • Advantages & Disadvantages. • Sterilization process monitoring.	
3.	**Dry Heat Sterilization**	• Hot Air as Sterilizing Agent. • Type of Hot Air Sterilizers: • Gravity Convection Ovens. • Mechanical convection ovens. • Packaging Materials • Materials Sterilized By Dry Heat. • Advantages & disadvantages. • Sterilization Process Monitoring.	

4.	**Ethylene oxide gas sterilization**	• ETO As Sterilizing Agent. • Types of ETO Sterilizers: • Pure Gas Sterilizers. • Mixed Gas Sterilizers. • Materials Sterilized by ETO. • Aeration of Sterilized Materials. • Advantages & Disadvantages. • Sterilization process monitoring.	
5.	**Formaldehyde Sterilization**	• Formaldehyde as Sterilizing Agent. • Materials Sterilized B • Advantages & Disadvantages. • Sterilization Process Monitoring.	
6.	**Plasma Gas Sterilization**	• Plasma Gas as Sterilizing Agent. • Plasma Sterilization Process. • Wrapping Materials used for plasma Sterilization. • Materials Sterilized by plasma. • Advantages & Disadvantages. • Sterilization Process Monitoring.	
7.	**Radiation Sterilization**	• Gamma Ray Sterilization. • Electron Acceleration. • Ultraviolet Irradiation. • Advantages & Disadvantages of Radiation Sterilization.	
8.	**Filtration Sterilization**	• Filtration Sterilization of Liquids. • Filtration Sterilization of Gases.	
9.	**Liquid Chemical Sterilization**	• Chemicals as Sterilizing Agents. • Equipments That Can Be Sterilized By Chemicals. • Chemical Sterilization Process. • Chemicals Used In Chemical Sterilization. • Advantages & Disadvantages of chemical Sterilization. • Monitoring Of Chemical Sterilization Effectiveness.	

10.	**Storage & Sterile Materials Distribution**	• Storing Non- Sterile Materials & Instruments. • Storing Sterile Materials & Instruments. • Sterile Materials Distribution Area. • Distribution Systems • Delivery Methods of Sterile Materials. • Traceability Systems.	
11.	**In Process Sterilization Quality Control**	• Indicators Used In Monitoring Sterilization Quality. • Mechanical. • Chemical. • Biological. • Methods Used In Monitoring Sterilization Quality: • Equipment Control. • Exposure Control. • Pack Control. • Load Control. • Random Swab Cultures from Sterilized Materials. • Documentation Record Keeping.	

program Para-medical professions	
Specialization	**Sterilization**
Course Number	**020811262**
Course Title	**Sterilization 2/ Practical**
Credit Hours	**(3)**
Theoretical Hours	**(0)**
Practical Hours	**(9)**

Brief Course Description:

This course is designed to provide the student with technical skills needed to enable him/her to perform all C.S.S.D. duties using proper machines, proper methods & proper techniques, maintaining high standards of ethics, safety and cleanliness, emphasizing on the end result of the sterilization process, to provide safe instruments for patient use.

Course Objectives:

Upon the completion of the course, the student will be able to:

- Perform sterilization process using proper sterilization method suitable for each material, maintaining high standards of cleanliness and safety.
- Practice proper handling, storage & distribution of sterile materials & maintain their sterility.
- Use mechanical, chemical & biological monitoring to ensure effectiveness of the sterilization process.
- Keep records & document information necessary for proper running of the department.
- Perform decontamination, cleaning, disinfection, processing (inspection, assembly & packaging), marinating high standards of cleanliness and safety.

Detailed Course Description:

Unit Number	Unit Name	Unit Name	Time Needed
1.	**Steam sterilization**	• Daily checks on sterilizers: • Chamber cleanness. • Drains. • Bowie & Dick test. • Leak test. • Loading. • Operation. • Unloading. • Troubleshooting. • Release of sterilized materials. • Storage of sterilized materials.	
2.	**Dry Heat Sterilization**	• Daily checks on hot air ovens: • Chamber cleanness. • Electrical function ability. • Loading. • Unloading. • Troubleshooting. • Release of sterilized materials. • Storage of sterilized materials.	

3.	**Ethylene Oxide Gas Sterilization**	• Daily checks on sterilizers: • Chamber cleanness. • Distilled water chamber (humidification chamber). • Drains. • Compressed air. • Loading. • Operation. • Unloading, using safety measures. • Aeration of sterilized materials. • Troubleshooting. • Release of sterilized materials. • Storage of sterilized materials.	
4.	**Plasma Gas Sterilization**	• Daily checks on sterilizers : • Chamber cleanness. • Hydrogen peroxide cassettes • Special packaging materials. • Loading. • Operation. • Unloading. • Troubleshooting. • Release of sterilized materials. • Storage of sterilized materials.	

5.	**Liquid Chemical Sterilization**	• Medical equipments sterilized by liquid chemicals. • Preparation of the cleaned medical equipments for sterilization. • Facilities: equipments & materials. • Chemical agents used in sterilization. • Sterilization process, • Sterilization assurance. • Troubleshooting.	
6.	**Storage & Distribution Of sterile Materials**	• Environmental control of storage area : • Daily damp cleaning of shelves & floors. • Daily record of the temperature & humidity. • Hand washing (sinks or hand rub dispensers). • Stock arrangement : • Methods: • Functional. • Alphabetical. • Numerical. • Rules. • Stock rotation. • maintaining sterility of the sterile materials : • Shelf life. • Dealing with materials • Handling of sterile materials. • Packaging integrity. • Storage conditions. • Distribution:	

		• Distribution systems. • Delivery methods.	
7.	**In process sterilization quality control**	• Equipments monitoring: • Mechanical indicators. • Record of the cycle. • Leak tests. • Bowie & Dick test. • Computerized cycle monitoring. • Exposure monitoring : • External chemical indicators (Sterilization tape). • Internal chemical indicators. • Load monitoring : • Biological indicators. • Random swab culturing from sterilized materials. • Documentation & record keeping : • Pack labelling. • Traceability system. • Record of biological & chemical tests results. • Sterile store records. • Equipments maintenance records. • Incident records. • Computerized record keeping. • Recall system.	

program Para-medical professions	
Specialization	**Sterilization**
Course Number	**21115171**
Course Title	**Infection control /practical**
Credit Hours	**(3)**
Theoretical Hours	**(0)**
Practical Hours	**(9)**

Brief Course Description:

This course is designed to provide the student with knowledge needed to introduce him/her to concepts (Importance) and purpose of infection control, disease transmission cycle. It also deals with the transmission of infection in the health care setting. Moreover, it concentrates on the importance of infection prevention practices and safe handling of disposal of clinical wastes and sharps decontaminating equipment .

Finally, it deals with the role of housekeeping in infection prevention.

Course Objective

Upon the completion of the course, the student will be able

- perform Laboratory data indicating the presence of infection.
- essential facts about interventions that prevent and control infections. .use medical wastes management and guidelines for employees who handle, manage, and transport storage and disposal waste.
- use basic responsibilities of the central committee for control of hospital infections.
- Perform explanation about surveillance of infection in hospitals.

Detailed Course

Unit Number	Unit Name	Unit Content	Time Needed
1.	**Impotence and purpose of infection control**	• Introduction. • Overview of Infectious Diseases. • Who Is At Risk Of Infection? • The Disease – Transmission Cycle. • Transmission of Infection in the health care Setting. • Importance Following Infection Prevention Practices. • Misconceptions about Infection Transmission.	
2.		• Terms Definition. • Measures that break each link in the chain. • Four stages of an infectious process. • Causal factors of nosocomial infection. • Mangment doing People at risk of acquiring infection.	
3.		• Guidelines related to thespecial Problem of renal units. • Guidelines for infection prevention and control in flexible endoscopy.	
4.		• Guidelines about storage • Handling of clinical specimens.	

5.	**Antiseptics And disinfectants And Aseptic Techniques**	• Concepts and definitions of medical and surgical asepsis. • Interventions to prevent infections. • Interventions to protect body Defences and personal protective equipments. • Essentials of hand washing and use of gloves. • Overview of antiseptics and disinfectants. • Types of protective asepsis (Isolation) precautions. • Precautions taken in each type of Protective Asepsis. • Precautions taken in each type of protective asepsis.	
6.	**Safe Handling And disposal Of Clinical Wastes And Sharps**	• Introduction. • Decontamination • Management of injuries from needles and other sharps. • Importance of proper waste disposal. • Sorting, handling, internal storage, and disposal of medical waste. • How to deal Disposal, liquid medical waste and hazardous chemical waste. • Building a drum incinerator and a buried site.	

7.	**Decontaminating Equipment**	• Introduction. • Steps of processing instruments and other items. • Proper order of the steps of processing. • Organizing an area for processing Instruments and other Items.	
8.	**House Keeping**	• Introduction. • Role Of housekeeping in infection prevention. • General housekeeping guidelines. • Housekeeping Activities In client – care and non – client care areas. • Cleaning up spills.	

program Para-medical professions	
Specialization	**Sterilization**
Course Number	**020811271**
Course Title	**Quality Assurance Control**
Credit Hours	**(3)**
Theoretical Hours	**(3)**
Practical Hours	**(0)**

Brief Course Description:

This course deals with the main concepts of quality, the dimensions of quality, quality assurance designing, quality Improvement and problem solving. It concentrates on the quality assurance process and the quality of sterility after sterilization of medical instruments and medical materials and the integration of quality activity in the hospital.

Course Objectives:

Upon the completion of the course, the student will be able to:

- Main Concepts Of Quality
- Dimensions Of Quality
- Quality Assurance Process
- Area Design For CSSD
- Quality Of Machines
- Quality Of sterility After Sterilization
- Integration Of Quality Activity in the hospital

Detailed Course Description:

Unit Number	Unit Name	Unit contacts	Time Needed
1.	ain Concepts Of Quality	• Main concepts Of Quality: • Quality control • Total Quality Management. • Quality Assurance. • Health System Components (Input, Process, Output).	
2.	Dimensions Of Quality	• Dimensions of Quality. • Technical Competence. • Accessibility. • Effectiveness. • Efficiency. • Continuity. • Safety. • Persecutions On The meaning Of Quality. • The Approach to Quality Assurance.	
3.	ıality Assurance Process	• Quality Assurance Designing. • Planning. • Sitting Standards. • Communicating Standards. • Quality Control. • Quality Improvement / problem solving. • Identifying the problem. • Defining the problem operationally. • Choosing a Team. • Analyzing and Studying	

		• Developing Solutions. • Implementing and Evaluating.	
4.	**Area Design For CSSD**	• Ceiling Quality • Lighting Quality. • Walls Quality. • Flooring Quality. • Air Flow and Pressure. • Total Layout.	
5.	**Quality Of Machines**	• Washers. • Quality of Wart. • Quality Chemical Indicators. • Daily And Weekly maintenances. • Sterilizers: • Daily air flow Test. • Chemical Indicators. • Dialogical Indicators. • Daily And Weekly maintenances.	
6.	**Quality Of sterility After Sterilization**	• Quality Of sterility After Sterilization. • Package Cheek up. • Package Types Storage. • Shelf Life 0.	
7.	**Transport**	• Quality of Cars. • Quality of lifts. • Quality of Open Cars. • Quality of Vehicles.	

8.	**Integration Of Quality Activity in the hospital**	• Clean Utility. • Dirty Utility. • Restricted Areas. • Operation Room.	
9.	**Record Keeping**	• Receive Record Keeping. • Wash Record Keeping. • Pack Record Keeping. • Sterilize Record Keeping. • Delivery Record Keeping. • Maintenance Record Keeping.	
10.	**Mechanical Equipment**	• Incident resorptive record keeping log book policies and procedures In CSSD.	

program Para-medical professions	
Specialization	**Sterilization**
Course Number	**020811291**
Course Title	**Field Training**
Credit Hours	**(3)**
Theoretical Hours	**(0)**
Practical Hours	**280 Training hours**

Brief Course Description:

This course is designed to provide the student with proper skills as a CSSD technician who will work in a hospital or a medical clinic as a final stage to train him/her to be legible to receive contaminated instruments and to sterilize them .The course will provide him/her with the proper way of how contaminated instruments are cleaned by using all the manual, and mechanical methods.Moreover,it deals with the Proper usage of PPE & cleaning chemicals & a paroles. Then, the course will guide the students to how instruments are inspected after cleaning as a set and put in the proper package with the proper quality assurance technic. Finally, the course will provide the students with the skills that enable him to conduct proper machine testing (Washers, Sterilizes, etc….).

Course Objectives:

Upon the completion of the course, the student will be able to:

- How contaminated instruments are received.
- How contaminated instruments are cleaned by using all methods (manual, mechanical)
- Proper usage of PPE & cleaning chemicals & paroles.
- How to inspect instruments after cleaning.
- How to prepare instruments as a set and pack them in a proper package with the proper quality assurance technic.
- Conduct proper machine testing (Washers, Sterilizes, etc….).
- Store sterilized packages and instrument properly and follow FIFO rules.
- Transport sterile materials to final destinations (O.R, words, E.D…).
- Conduct a dirty pick up and transport contaminated instruments.

Detailed Course Description:

Unit Number	Unit Name	Unit Contact	Time Needed
1.	**Sterilization flow**	**Orientation:** • Receiving : • Wear all PPE Gown, Gloves, mask, eye protection. • Handle everything carefully as if dangerously contaminated. • Follow paper work procedures. • Rinse under running cold water. Cleaning: • Make sure mouth is fully covered. • Open all instruments and disassemble all components. • Use plastic brushes to reach all grooves and hollow instruments. • Follow all chemical instructions for safety and delusion. **Inspection:** • Inspect under well laminated area and use magnifying glass if needed. • Run clean brushes in conflation to make sure they are clean. • Lubricate all joints that need so. • Inspect proper function of instrument before set up.	

2.	**Dissemblin g and packaging**	• Follow chart index every time. • Follow quality assurance. • Backdating.	
3.	**Sterilization**	• Orientation. • Sterilize by: • Steam. • Dry heat. • EO • Plasma.	
4.	**Scopes**	• Orientation. • Rigid. • Cleaning. • Disinfecting. • Sterilization. • Flexible: • Cleaning. • Disinfection • Sterilization.	
5.	**Storage**	• Orientation • Application of personal safety measures. • Practice 7 storage arrangements (classification). • Documentation.	
6.	**Bacteriology**	• Orientation. • Application of Biosafety measures. • Media preparation. • Practice of bacterial culture. • Identification of bacterial growth. • Documentation.	

program Para-medical professions	
Specialization	**Sterilization**
Course Number	**020811252**
Course Title	**Medical Equipment and instruments practical**
Credit Hours	**(1)**
Theoretical Hours	**(0)**
Practical Hours	**(3)**

Brief Course Description:

The course is designed to proveid the students with the basic technical knowledge needed for him/her to deal in a safe way with machines & apparatuses used in the C.S.S.D perform simple checks maintenances and know when to ask for technical help when needed. Know various kinds of surgical instruments & proper way of dealing with them

Course Objectives:

Upon the completion of the course, the student will be able to:

- perform all machines & apparatuses used in the C.S.S.D. & their operation.
- pratice how to perform daily checks on these machines and ask for preventive and periodic checks.
- useall kinds of surgical instruments used in surgery by name, know the damages caused by chemicals & other factors to these instruments & know the proper ways of preventing such damages
- perform how to estimate the needs of to instruments an sterilization materials on weekly & annual basis, for proper department supplies teaching

Detailed Course Description:

Unit Number	Unit Name	Unit Content	Time Needed
1.	**Design & operation of machines & apparatuses used in C.S.S.D and their daily, preventive & periodic checks**	• Steam sterilizers. • Hot air sterilizers. • ETO sterilizers. • Formaldehyde sterilizers. • Plasma gas sterilizers. • Mechanical washing machines. • Pre-Flusher machines. • Ultrasonic cleaning machines, • Heat sealing machines. • Biological test incubators.	
2	**Types of surgical instruments used in various kinds surgical procedures**	• General surgery instruments. • Orthopaedic surgery instruments. • Gynaecology & obstetric instruments. • Neurosurgery instruments. • Eye, ear, nose & • Oral surgery instruments.	
3	**Checks & care of surgical instruments**	• Cleanness. • Integrity. • Function ability.	
4.	**Surface Changes Of Surgical Instruments,**	• Metal deposits • Organic residues.	

5	**Causes, Treatment & Prevention**	• Spotting caused by time. • Silicates & other compounds. • Black discoloration. • Metal corrosion: • Pitting corrosion. • Fritting corrosion. • Stress corrosion cracking. • Surface corrosion. • Contact corrosion. • Crevice corrosion. • Plastic & rubber aging. • Plastic & rubber swelling. • Plastic stress cracks.	
6	**Inventory & Supplies in C.S.S.D department.**	• Materials needed on weekly basis & ordering process. • Estimation & ordering annual needs of sterilization materials. • Estimation & ordering Annual needs of surgical instruments. • Procedures for replacing damaged instruments.	