DEN3002 Clinical Medical Sciences in Dentistry-III

Course title	Code	Semester	Type of course	Course structure and volume (hours)			ECTS
Clinical Medical Sciences in Dentistry-III (anesthesiology, surgery, emergency, radiology and radiation protection)	DEN3002	VI	Mandatory	LECTURE	40	120	4
				Seminar	6		
				Teaching in Stimulatory environment (TSE)	12		
				Teaching in clinical environment (TCE)	10		
				Midterm EX.	1		
				FINAL EX.	2		
				INDEP. WORK	49		

Faculty, the educational program and level of education	School of Medicine and Health Sciences One cycle (5-years duration) Higher Educational program "Dentistry"
Staff	**Ana Kavtaradze- Invıted Teacher, MD** Mob: 593 93 93 89 Emaıl: ana.kavtaradze@bauinternational.edu.ge **Nikoloz Onashvili – Invited Teacher, MD** Mob: +995 599 434844 Emaıl: nikoloz.onashvili@bauinternational.edu.ge **Tea Zurabashvili-Invited Teacher, MD** Mob:599270847 Emaıl: tea.zurabashvili@bauinternational.edu.ge **Emzar Diasamidze– Invited Teacher, MD** Mob: 577302912 Emaıl: emzar.diasamidze@bauinternational.edu.ge Personal one-to-one consultation can be arranged at an agreed upon date and time.
Duration	4 weeks
Prerequisite	DEN2003
Aim	This course will introduce the student to basic principles and methods a in anesthesiology, emergency, surgery, radiology and radiation protection; This course aims to discuss basic questions related to general surgery, bases of aseptic and antiseptic, general and local response to injury and it's main complications, common surgical procedures. General anesthesia, anesthetic monitoring, special anesthetic consideration; Complications occurring during and after anesthesia; Special emphasis will be given to radiation production, protection, and ethics. Radiographic imaging techniques, film processing, quality assurance procedures, radiographic anatomy.
Methods of Teaching/Learning	Interactive lectures, Seminars, TSE, TCE

Assessment System and Criteria	**Attendance - student is obliged to attend 70% of the total number of the learning course** The knowledge of the student is evaluated by 100 point-based evaluation system out of which 40 points is allocated for the current activity assessment, 20 for each midterm exam and 40 points for the final exam. **1. Current activity assessment - 40 points, including the following:** ● CBD - 5x10=10 points (calculating average); ● DOPS – 4X5=20 points; ● Mini-CEX 2x5= 10 points; **Case Based Discussion (CBD) – 10 points** Student will discuss cases in front of lecturer. Each case will be evaluated with maximum 10 points. There is 5 assessment component for each case: **1. Defines the problem- 2 points** What are the issues raised in this case? What are the pathological processes? What problems are you trying to resolve? **2. Integrates information - 2 points** What relevant information you have? How will the data/information/evidence you have will help you to make your decision? How did you use the data/information/evidence available to you in this case? What other information could have been useful? **3. Prioritizes options of diagnostic methods - 2 points** What are your options? Which did you choose? Why did you choose this particular one? What are the advantages/disadvantages of your decision? How do you balance them? **4. Justifies decision of treatment - 2 points** How do you justify your decision? What are the implications of your decision? What evidence/information have you to support your choice? Can you give an example? Can you apply it to this case? **5. Upholds duties of a doctor - 2 points** What ethical framework did you refer to in this case? How did you apply it? How did you establish the patient's point of view? What are your responsibilities/duties? How do they apply to this case? How did you make sure you observed them? Why are they important? **Evaluation criteria for each five components:** 2 points – in full compliance 1 point – partially compliant 0 points – non compliant **Directly Observed Procedural Skills (DOPS) assessment criteria - 5 points** Student will perform following practical assignments on the manikin:

Assessed Competencies	Poor (0 points)	Fair (0.5 points)	Competent (1 point)
Preparation/aftercare/safety			
Technical expertise			
Clinical Reasoning/Judgement			
Organization and efficiency/time management			
Professional conduct			
Total score:			

Complexity of the task:	Low	Medium	High

Mini clinical evaluation exercise (Mini-CEXs) 5 points

Exercise will be performed in clinical environment (simulation or bed side) in the process of student's individual work with patient. Each exercise will be evaluated with 5 criteria, maximum 1 point for each.

Good - 1 point,
Satisfactory - 0.5 Points,
Unsatisfactory - 0 points,

1. Medical Interviewing Skills (score 1)
- Encourages the patient to communicate about his medical history;
- Sets appropriate questions to obtain information;
- Responds appropriately to emotion and non-verbal signals.

2. Physical Examination Skills (score 1)
- Maintains a logical and efficient sequence;
- Maintains a balance between general and hypothetical focused research;
- Informs the patient;
- Shows sensitivity to patient's comfort and modesty.

3. Professional Qualities (score 1)
- Shows respect, commitment, empathy, and generates confidence;
- Responds adequately to discomfort and embarrassment;
- Responds appropriately to the need for privacy and information.

4. Problem analysis, clinical reasoning (score1)
- Uses appropriately and selectively diagnostic procedures;
- Considers properly risks and profit.

5. Communication with the patient (score 1)

- Explains in understandable terms for the patient indications for examination and treatment;
- Asks for informed consent where necessary;
- Discusses the policy;
- Provides information in accordance with the law on patients' rights.
- Informs patient regarding disease prevention and healthy lifestyle.

2. Midterm Exams - 20 points;

The exam is conducted in test form (MCQ. Max score 0.4) form. The highest possible score is 20.

3. Final Exam - 40 points

Final Exam is conducted in a combined form:
MCQ- 50 questions (One question- max score 0.4), totally 20 points.
Oral form -5 Clinical Cases each scored at maximum 4 points. Totally 20 points.

Prerequisites for Final Exam are:

- Prerequisite for Final Exam is the situation when at least 70 % of the Mini-CEXs and DOPS scores are achieved.
- 70% of learning course hours should be attended.

Final Exam Case analysis (written assignment) (4 points)

Students will discuss/analyze clinical case according to study materials individually in written manner.

Points Grading Scale

4 interpretation of examination results are correct, diagnosis is defined correctly, is evidence based, knows etiology, pathogenesis, clinical flow, treatment plan is defined correctly;

3 interpretation of examination results are correct, diagnosis is defined correctly, is evidence based, knows etiology, pathogenesis, clinical flow, treatment plan is not correct;

2 interpretation of examination results are correct, diagnosis is defined correctly, is evidence based, does not know etiology, pathogenesis, clinical flow, treatment plan is not correct;

1 interpretation of examination results are correct, diagnosis is incorrect, treatment plan is not correct;

0 Interpretation of examination results are incorrect, diagnosis is incorrect, and treatment plan is incorrect.

The exam is considered being passed by the student if he / she receives **50% or more** out of the highest evaluation for the exam (40x50/100=20 points). When the total evaluation of the student (current evaluation + midterm exam evaluation + final exam evaluation) is more that 40 but less than 51 points, even though the exam grade threshold is passed, the learning course is considered not being covered and the student is given the right to exam retake during the additional examination period.

If the final evaluation for the Learning Course, after taking the additional exam, (current evaluation + midterm exam evaluation + final exam evaluation) is less than 51%, the learning course is not considered covered and it must be taken again.

In summary, the student is awarded the credit in case he/she accumulates minimum 51% out of 100%.

	Within the educational component of the educational program, in case of FX assessment, a makeup exam is appointed no later than 5 days after announcement of the examination results. **Positive scores:** ● (A) Excellent- 91 or more points; ● (B) Very Good- 81-90 points; ● (C) Good- 71-80 points; ● (D) Satisfactory- 61-70 points; ● (E) Enough- 51-60 points; **Negative scores:** ● (FX) Failure - 41-50 points: the student needs more independent work and is granted a single attempt of exam retake; ● (F) Fail - 40 points or less: the student's conducted work is not sufficient and needs to take the course again. After the results of final exams are available, students with FX assessment have a right to retake an exam during an additional exam week in the same semester. An interval between a final and a corresponding additional exam must be at least 5 days after the results of a final exam become available.
The core literature	1. Basics of Anesthesia- by Ronald D. Miller MD and Manuel Pardo; Elsevier Saunders; 6th ed., 2011; 2. Essential Surgery : Problems, Diagnosis and Management: With STUDENT CONSULT Online Access-Quick, Clive RG; Saeb-Parsy, Kourosh; Churchill Livingstone; 5th.ed. 2014; e-book; 3. Essential Practice of Surgery : Basic Science and Clinical Evidence-Norton ,Jeffrey A;Bollinger; Springer; 2002; 4. TINTINALLI'S EMERGENCY MEDICINE-A COMPREHENSIVE STUDY GUIDE-JUDITH E..TINTINALLI; MC GRAW HILL EDUCATION MEDICAL;7TH.ED; 2011 5. Grainger & Allison's diagnostic radiology: a textbook of medical imaging-Andy Adam; Churchill Livingstone; V-I, II; 6th.ed. 2015;
The auxiliary literature	1. HARWOOD-NUSS CLINICAL PRACTICE OF EMERGENCY MEDICINE-WOLFSON,ALLAN B. WOLTERS KLUWER; 6TH.ED; 2015. 2. Schwartz's principles Of Surgery - Brunicardi, Charles F. Mc Graw Hill Education; 10th.ed. 2015;

Learning Outcomes

NQF *	COURSE LEARNING OUTCOMES	PROG. LO	Lecture	Seminar	Teaching in simulation environment	Teaching in clinical environment	Midterm ex.	Final exam	ASSES. METH.
KNOWLEDGE AND AWARENESS	● Defines what is the general, regional and local anesthesia. ● Summarizes the preparation of anesthesia table to surgical operation. ● States which premedication drugs can be applied, types of general anesthetics can be applied; types of muscle relaxant drugs may apply ● Knows the methods of management in postoperative period, it's complications and prevention ● Defines the symptoms and clinical findings of common surgical diseases. ● Explains main stages of perioperative management of patients ● Understands of the radiological anatomy of the head and neck with a particular emphasis on the maxilla, mandible and the teeth and the basic principles of alternative imaging systems, including CT ● Demonstrate an understanding of compliance with radiation safety and protection, including the principles of protection, justification, optimization and limitations of exposure ● Knows and identifies how to manage of medical emergencies in the practice of clinical dentistry, in particular, basic life support; cardiac arrest and myocardial infarction; syncope and postural hypotension; hyperventilation; the diabetic patient; the asthmatic patient, the epileptic patient; management of anaphylactic shock and other allergic reactions ; haemorrhage and shock	**9.2**	**X**	**X**		**X**	**X**	**X**	**MCQs, CBD, Oral Exam**

SKILL	● provides step-by-step first aid to patients with various pathologies ● Demonstrates competency with the appropriate use of emergency drugs, the handling other medical emergencies the dentist may face in the practice of clinical dentistry; ● Demonstrate leadership of the dental team in managing medical emergencies ● Uses of conventional and digital radiographic systems and the interpretation of images ● Demonstrates the effective use of clinical audit in relation to radiation in dentistry ● apply in practice knowledge about life support. ● produce patients consultation, conversations with his / her relatives and third persons in intensive care department using ethical and legal basis of medicine ● Has ability to identify the needs and interests of the patient. ● Collect all necessary information about history of disease based on the general principles of ethics and deontology and making an appropriate record ● Demonstrates critical self-assessment and peer assessment sharing skills and as a result understands when to seek help or advice. Correctly sets the limits of one's own capabilities. Reveals professional responsibility for his actions and decisions.	1.1 6.3 6.5. 8.1. **4.1**		**X**	**X**	**X**		**X**	**CBD, DOPS, MINI-cex; Oral Exam**
RESPONSIBILITY AND AUTONOMY	● has the capacity to adapt new situations ● has the ability to renew knowledge permanently ● has ability of critical thinkining and decision making	**11.6** **11.5** **11.3**		**X**		**X**			**CBD MINI-cex;**

Supplement 1

Learning Course Content

WEEK №	Topics	Lecture (hs)	Sem (hs)	TSE (hs)	TCE (hs)
I	Introduction to Anesthesia. General Anesthesia (Maintenance, Monitoring and Termination of General Anesthesia); Gas anesthetics; Vaporizable liquid anesthetics; Intravenous anesthetics; Antagonists of intravenous anesthetic drugs; Local anesthetic drugs; Ester type, amide-type local anesthetic drugs; Depolarizing muscle relaxant drugs; Non-depolarizing neuromuscular blocking agents. Muscle relaxants antagonists drugs; Hypotensive drugs adrenergic drugs ; The drugs used for sedation; Anticholinergic and antihistamine drugs; Drugs that reduce stomach acid and the volume; Airway Patency Assessment and Endotracheal Intubation. Alternative Airway Techniques; Pre-anesthetic Evaluation and Preparation; Monetization Preparing ETT, LMA, combi tube; Preparing infusion pomp, blood pomp; Preparing fiber optic materials, PCA; Maintaining the anesthesia apparatus's parts; Choice of anesthesia technique. Anesthetic monitoring, special anesthetic consideration. Preparing the air-way, face mask, laryngoscope Complications occurring During and After Anesthesia; Liquid-Electrolyte, Acid Base Balance; In- and outpatient surgery anesthesia, Anesthesia at organ transplantation, Post-anesthesia recovery; Postoperative pain management. DOPS MINI-CEX 2 CBD	15	3	4	3
II	Medical terminology, surgical terms; Patient History taking in general surgery; Asepsis, antisepsis and disinfection; Surgical infection and usage of antibiotics; PBC Metabolic and endocrine response to injury; Bleeding, hemostasis, blood transfusion; Symptoms and clinical findings of common surgical diseases, Main stages of perioperative management of patients Upper and lower gastrointestinal bleeding; Melena; Algorithms for bleeding; Hematemesis; Rectal bleeding/hematochezia; Anorectal pain; CBD DOPS	15	3	4	3
III	**Midterm exam**	1			

III	Cardiopulmonary arrest; Frostbite; Crush Injury; Heat Stroke Hypothermia/Hyperthermia Basic Life Support; Advanced Life Support Accidents and Emergency Medicine; Syncope; Intoxications Drowning/Near-drowning CBD DOPS MINI-CEX	5		4	3
IV	Radiological anatomy of the head and neck, and especially of the jaws and teeth. Radiation Characteristics Dental X-Ray Image, equipment and films. Characteristics principles of imaging systems, including CT. Dental Radiographs & the Dental Radiographer; conventional and digital radiographic systems DOPS, CBD	5			1
XVII-XI	**Final Exam**				2