

**COURSE DESCRIPTION**  
***COURSE/ SUBJECT ANESTHESIA AND RESUSCITATION***  
***YEAR 2/ SECOND SEMESTER***  
***DEGREE IN DENTISTRY***  
***MODALITY/ REGULAR ATTENDANCE COMPULSORY***  
***ACADEMIC YEAR 2021/2022***  
***FACULTY OF MEDICINE***

## 1. COURSE/SUBJECT IDENTIFICATION

### 1.-COURSE/SUBJECT:

Name: Anesthesia and Resuscitation		
Code: b230   16296		
Year (s): second	Semester (s): second	
Type: : compulsory	ECTS: 3	Hours ECTS: 30
Language: English	Modality: attendance on campus	
Degree (s): Dentistry		
School which the course is taught: Medicine		

### 2.-ORGANIZATION OF THE COURSE:

Department: Dentistry
Area of knowledge: Medicine/Surgery

## 2. LECTURERS OF THE COURSE/SUBJECT

### 1.-LECTURERES:

Responsible of the Course	CONTACT
Name:	Miguel Angel Reina Perticone MD PhD
Phone (ext):	917089900 Ext.: 2523
Email:	miguelangel@perticone.e.telefonica.net
Office:	Madrid Montepríncipe University Hospital
Teaching and Research profile	Doctor en Medicina por Universidad Rey Juan Carlos, Madrid. Profesor Agregado
Research Lines	Human spinal meninges Human peripheral nerves Researcher with National recognition by the Minister (CNEAI) by four periods of six years

Lecturer(s)	CONTACT
Name:	Margarita Sánchez Castilla MD PhD
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<b>Lecturer(s)</b>	<b>CONTACT</b>
Name:	Danilo Blanco MD
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<b>Lecturer(s)</b>	<b>CONTACT</b>
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## 2.-TUTORIALS:

For any queries students can contact lecturers by e-mail, phone or visiting their office during the teacher's tutorial times published on the students' Virtual Campus.

## 3. COURSE DESCRIPTION

The subject Anaesthesia and Resuscitation will enable students to acquire theoretical knowledge as well as practical skills essential to the performance of anaesthetic techniques that ensure pain free dental treatment. Techniques will be selected according to the characteristics of the dental procedure applied in each circumstance and to the medical conditions affecting patients. Relevant aspects of pharmacological interactions between medication taken by patients for the treatment of diseases and drugs administered in anaesthetic techniques and resuscitation will be reviewed.

In addition, students will learn about the diagnosis of possible complications and adverse effects related to different anaesthetic techniques as well as about the specific treatment and basic resuscitation techniques involved in the stabilization of the patient's vital functions. Students will acquire abilities necessary to assure effective airway management, ventilation, and cardiovascular stability.

This subject reviews local anaesthetic techniques common to dental practice. Theoretical knowledge about general anaesthetic techniques provided specifically

by anaesthesiologists in hospitals will be outlined. Basic principles will be described in order to aid dentistry students to identify complex cases in the dental clinic and to evaluate the risk involved in the anaesthetic technique required for the dental procedure.

## 4. COMPETENCIES

### 1.-COMPETENCIES

Code	Basic and General Competencies
CG.16	Understanding of the fundamentals of action, indications and efficacy of drugs and other therapeutic interventions, knowing their contraindications, interactions, systemic effects and interactions on other organs, based on the available scientific evidence

Code	Specific Competencies
CE.31	Knowledge of the pharmacological bases of the different local and general anesthetic techniques, as well as the role of sedation and general anesthesia in the management in dentistry.

### 2.-LEARNING OUTCOMES:

Code	Learning outcomes
	<p>Adequate perioperative assessment and early recognition of the risk factors which increase morbidity and mortality during the perioperative period. Focusing on risks related to the intended surgery, concurring diseases and type of anaesthesia. Aim at improving preoperative management in order to achieve effective preoperative optimization of patients and minimize postoperative complications.</p> <ul style="list-style-type: none"> <li>-Design of appropriate anaesthetic plan based on evidence through the correct interpretation of clinical findings.</li> <li>- Understanding of important aspects related to the informed consent for the proposed treatment.</li> <li>-Knowledge of the types of anaesthetic techniques available for clinical dentistry as well as the indications for their respective administration.</li> </ul> <p>Selection of suitable monitoring to measure periodically and record physiological signs and symptoms, which enable early detection of possible complications during the perioperative period.</p> <ul style="list-style-type: none"> <li>-Identification and selection of material appropriate for the practice of each anaesthetic technique and correct handling of material and interpretation of related information.</li> <li>-Knowledge of the physiological systemic response to stress due to surgery and trauma, pharmacology of anaesthetic drugs, stages of general anaesthesia, classification of general anaesthetic agents, pharmacokinetics of volatile and gaseous anaesthetic agents as well as total intravenous</li> </ul>

	<p>anaesthesia.</p> <ul style="list-style-type: none"> <li>-Accurate description of the anatomy of the airway, gaseous Exchange at alveolo-capillary level, mechanics of ventilation and criteria for airway protection</li> <li>-Assessment of the airway to correctly identify signs of potential difficulties in the management of the airway.</li> <li>- Understanding the basic management of the airway assuring oxygenation of the lungs. Recognize equipment and devices in the management of the airway such as laryngoscopes, video laryngoscopy, fiberoptic laryngoscopy as well as supra and infraglottic devices. Description of techniques and complications related to the manipulation of the airway.</li> </ul> <p>Correct identification of relevant elements in the anaesthetic machine and description of different types of breathing circuits for controlled and spontaneous ventilation. – Knowledge of the features of acute pain and understanding of the mechanism of action of analgesic drugs, their indications, interactions and contraindications</p>
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## 5. LEARNING ACTIVITIES

### 1.- DISTRIBUTION OF STUDENTS` ASSIGNMENT:

Total hours of the course	90
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Code	Name	On-campus hours
	Theory	21
	Practical sessions	12
TOTAL Presence Hours		33

Code	Name	Not on-campus hours
	Self student work	57

### 2.-DESCRIPTION OF LEARNING ACTIVITIES:

Activity	Definition
<b>Lecture</b>	Learning activity oriented preferably to the competence of acquisition of knowledge (competence 1 MECES) and representative of more theoretical subjects. This activity gives priority to the transmission of knowledge by the professor, with the previous preparation or later study from the student

<b>Seminar</b>	Learning activity which highlights the participation of the student in the reasoned interpretation of the contents and the sources of the area of study. It is oriented preferably to the competence of the application of knowledge (competence 2 MECES), and also to the ability of gathering, interpreting, and judging information and relevant data (competence 3 MECES). It is representative of mixed profile activities or subjects; theories and practices
<b>Academic tutoring</b>	Activity aimed at guide during the formative process, with individual or group attention.
<b>Practice</b>	Learning activity oriented preferably to the competence of application of knowledge (competence 2 MECES) and representative of subjects or practical activities (labs, radio studies, TV studies and/or any other proper space).

## 6. ASSESMENT OF LEARNING

### 1.-CLASS ATTENDANCE:

- In order to be eligible for examination by continuous assessment students must attend at least 75% of scheduled class time (attendance sheets will be used). As students may be absent 25% of the classes, no attenuating circumstances will be accepted for absences.
- 100% attendance at practical cases is required.

### 2.-ASSESSMENT SYSTEM AND CRITERIA:

ORDINARY EXAMINATION (continuous assessment)		
Code	Name	Percentage
	Regular assistance and active participation	10 %
	Oral presentation of the research assignment	(20%) A pass mark is compulsory I
	Final Exam	70% of the final Mark
	Total	100 %

<b>RE-TAKE EXAM/EXTRAORDINARY EXAMINATION</b>		
Code	Name	Percentage
	Exam paper (theory and practise questions)	100 %
	Total	100 %

### 3.-DESCRIPTION OF ASSESSMENT CRITERIA:

Assesment criteria	Definition
Evaluación continua	Regular attendance and participation is expected and exercises will be set throughout the course to assess student's progress. Midterm examinations in this subject are not the norm and participation will not grant final examination exemptions. It will represent 10% of the Final grade, if the Ordinary Examination or Extraordinary are passed.
Ordinary examination	<p>Final exam will assess knowledge of topics covered in the theoretical, practical and seminar sessions and listed in the syllabus. The exam will consist of multiple choice questions. In order to pass the course, a minimum score of 5/10 is required in the final mark (100%). In addition, students are expected to carry out a research assignment, which will be presented in class.</p> <p>Any student, who is not presented at final exam in ordinary or extraordinary call, will be qualified as "NOT PRESENTED", although they have made any academic activity by continuous assessment.</p>
RE-TAKE EXAM/EXTRAORDINARY EXAMINATION	<p>For those students failing the final exam, a second opportunity will take place as a resit exam. This exam will include all the contents of the subject listed in the syllabus, with a similar format to the above-mentioned final exam, which will constitute 100% of the resit mark. A minimum score of 5/10 is required in the final mark (100%).</p> <p>Any student, who is not presented at final exam in ordinary or extraordinary call, will be qualified as "NOT PRESENTED", although they have made any academic activity by continuous assessment.</p>

## 7. COURSE PROGRAMME

### 1.- COURSE PROGRAMME:

## **THEORETICAL AND PRACTICAL WORK PROGRAMME:**

Introduction, meeting Lecturers, aims. Course chronogram and exams schedule. Seminars. Research procedures and methods. Exams. Bibliography. Means of communication.

General principles of topical, local, regional and general anaesthesia and nerve blocks

Anatomy for anaesthetic blocks in dentistry

History of anaesthesia in dentistry.

Preoperative assessment, implications for medical conditions and preoperative management.

Anaesthetic blocks specific to dentistry and oral surgery. Techniques, indications and contraindications. Choice of local anaesthetic and additive drugs. Therapeutic, maximum safe dosage and local anaesthetic toxicity.

Complications from regional and local anaesthesia.

General anaesthesia for dental treatment in patients with medical conditions. Indications, stages and techniques.

Pharmacology of opioids and benzodiazepines.

Pharmacology of general induction agents anaesthetic gases and vapours and neuromuscular blocking agents.

Airway management in general anaesthesia. Equipment, modes of pulmonary ventilation, lung ventilators, complications. Airway equipment, laryngeal mask, endotracheal intubation and types of endotracheal tubes. Patient monitoring during general anaesthesia (respiratory and cardiovascular).

Sedation techniques for dental treatment in outpatient clinics. Types of sedation.

Intraoperative management of patients undergoing general anaesthesia

Invasive procedures: peripheral venous cannulation and central venous access. Techniques and complications.

Postoperative care in the recovery room. Monitoring, equipment and discharge

Postoperative pain management. Dental and maxillofacial pain pathways. Analgesic effects of anaesthetic blocks, analgesics, anti-inflammatory drugs, NSAIDs. Treatment specifications and contraindications. Management of chronic dental and maxillofacial pain at the chronic pain clinic.

Presentation of research assignments.

Causes, symptoms and treatment of vasovagal, seizures, hypertensive crisis, hypo/hyperglycaemia, angina/acute myocardial infarction. Sudden cardiac arrest.

## **8. RECOMMENDED READING**

### **1.- ESSENTIAL BIBLIOGRAPHY:**

Roewer N, Thiel H. Anestesia texto y atlas. 4º Ed. Editorial Médica Panamericana: 2011.

Stanley F. Malamed. Manual de Anestesia Local. Sexta Edición. Elsevier. 2013.

### **2.- ADDITIONAL BIBLIOGRAPHY:**

Miller R. Miller Anesthesia. 7ºEd. Elsevier: 2010.



Barash P. Clinical Anesthesia. 6º Ed. Lippincott: 2009.

Duke J. Anesthesia. Secrets. Elsevier; 2011.

#### **4.- WEB RESOURCES :**

## **9. ATTITUDE IN THE CLASSROOM**

### **1.- REGULATIONS**

Any irregular act of academic integrity (no reference to cited sources, plagiarism of work or inappropriate use of prohibited information during examinations) or signing the attendance sheet for fellow students not present in class will result in the student not being eligible for continuous assessment and possibly being penalized according to the University regulations.

The same rule will apply to those students that, without permission from the teacher, make use of electronic devices (computers, mobile phones, etc.) in the classroom.

Likewise, all materials used in this course, including notes, tests, assignments, etc. are covered by copyrights which forbid you from sharing class materials with any group. The Professors reserve all copyright and other intellectual property rights associated with their material (notes, tests, assignments, etc.). You are in violation of the law if you post/text/share any course materials for use by others.