

LAST REVIEW: 2010 - 2011

NEXT REVIEW: 2015 - 2016

STATUS: A

COURSE TITLE: PAIN CONTROL & DENTAL ANESTHESIA

COMMON COURSE NUMBER: DES 1050

CREDIT HOURS: 1

CONTACT HOUR BREAKDOWN

CLOCK HOURS:

(Voc. Course ONLY)

Lecture: 1

Lab: 0

Clinic: 0

Other: N/A

PREREQUISITE(S): DEH 1002, DEH 1002L, DEH 2400, DEH 1800, DEH 1800L,
DEH 2300, DEH 1802, DEH 1802L, DEH 2701

COREQUISITE(S): DEH 2804L, DEH 2701L

PRE/COREQUISITE(S): n/a

COURSE DESCRIPTION This course provides a study of agents used in dentistry for local anesthesia and pain control.

UNIT TITLES

1. Pain and Anxiety
2. The Twelve Cranial Nerves, Neuroanatomy of Trigeminal Nerve
3. Local Anesthetic Solutions and injection sites/ Topical Anesthetic
4. Prevention, Recognition and Management of Complications and Emergencies Related to Pain Control
5. Pharmacologic Methods of Pain and Anxiety Control
6. Treatment of Stomatitis and Oropharyngeal Pain in the Oncology Patient

EVALUATION:

GRADING: Grades will be determined by the following:

Tests -2	- 45%
Class participation	- 05%
Assignments	- 10%
Final Examination	- 40%

The student's letter grade for this course will be determined by the departmental percentage scale:

92 - 100 = A
83 - 91 = B
75 - 82 = C
66 - 74 = D

F

Assignments:

- There will be two assignments: 1. In class handout on twelve cranial nerves.
2. Complete mathematic equations to determine maximum safe dosages for local anesthetic in healthy and cardiac compromised patients. This handout is completed in class.

A final grade of "C" or higher must be achieved in all Dental Hygiene courses for continuance in the Program.

All graded examinations and projects will be retained by the Dental Hygiene Department for the purpose of maintaining the student's academic records. The student may have access to his/her file upon request. An appointment may be necessary to do so.

Tests: See calendar for testing schedule.

ACADEMIC DISHONESTY:

If a student commits any act of academic dishonesty according to BC Policy 6Hx2-5.02, such as but not limited to cheating or plagiarism, that student will receive an "F" grade for the course and may also be subject to disciplinary procedures in accordance with college policy. The Student Code of Conduct, BC Policy 6Hx2-5.02, gives a description of what acts may constitute academic dishonesty. These descriptions are also included in the BC Student Handbook and in the BC College Catalog. (Be aware as stated in the Dental Hygiene Student Handbook any act of Academic Dishonesty will result in the immediate dismissal of the student from the Dental Hygiene Program and does not merit previous written warning.)

DISRUPTIVE STUDENT POLICY:

All students will be bound by BC policy 6Hx2-5.19. Students who cannot conform to the standards of appropriate behavior as set forth in Broward College Policy 6Hx2-5.02, Student Responsibilities, shall not be permitted to interfere with other students' access to a college education. If in the opinion of the faculty the student is disruptive, faculty may ask a student to leave the classroom for the class period. The student will be permitted to return upon the permission of the faculty.

ATTENDANCE:

Attendance and punctuality are highly recommended for each course. When the student is absent or late the student must call the course instructor as early as possible to inform the instructor. If the instructor cannot be reached then call the Associate Dean at 954-201-6904. If it is necessary to leave a message at either location please include a telephone number where you can be reached. Absences are recorded in the PARTICIPATION portion of your final grade.

Non-Class Days: Should unanticipated circumstances that are beyond anyone's control or when concerns are raised about the safety and/or security of the students, faculty, and staff, the President or his/her designee has the authority to close a campus or the College. For purposes of grading and attendance policies, the day(s) during which the campus/college is closed shall be considered a non-class day(s). When this occurs, each faculty member shall determine how best to make up the lost class time.

Excused/Non-Penalized Absences: There shall be no penalty for a student who is absent from academic activities because of religious holy day observances in his/her own faith, the student's serious illness, a death in the immediate family, or attendance to statutory governmental responsibilities. The student is responsible to bring documentation of any of these to the faculty member within ten days of this absence. In the case of jury duty, please contact the Associate Dean to receive a letter of full time student status to present to the courts for deferral.

Student Responsibilities Relative to Excused/Non-Penalized Absences: A student shall notify instructors in advance of absence(s) to observe a religious holy day(s) in his/her own faith, and shall likewise notify instructors in advance of other absences when practicable under the circumstances. "Death in the immediate family" shall be interpreted to mean mother, father, spouse, child, brother, sister, grandparents, or grandchildren. "Statutory governmental responsibilities" refer to such matters as jury duty, subpoena for court appearance or unplanned military obligation. If a non-penalized absence occurs on the first day of class, the student shall notify the instructor of the reason for his/her absence at the next class meeting. Documentation for non-penalized absences must be presented by the student to the faculty member within ten days of this absence. The student shall be responsible for the material covered in his/her absence and shall be granted a reasonable amount of time to make up any work or test missed for excused/non-penalized absences.

Important Notice

Starting fall 2007, faculty will report student non-attendance. If you stop attending class *prior* to the withdrawal date, you will be administratively withdrawn from class and receive a **W** or, if it is your third attempt, an **F**.

If you stop attending class *after* the withdrawal date, you will receive a **WF** that will then be computed as an **F** in your **GPA**. To avoid this situation, you should remain an active learner in this class and always communicate extenuating circumstances to me. Ongoing communication with the instructor is critical to your course success.

If a student does not attend classes within two weeks after the Drop/Add period in each session, he/she will be withdrawn from classes or receive a failing grade for non-attendance. In either case, no refund will be given.

Requirements for class attendance are determined by the instructor and will be outlined in the course syllabus. It is the student's responsibility to attend classes to ensure that he/she is properly enrolled.

Unit 1 Pain and Anxiety

General Outcome:

- 1.0 The student shall:** Determine the relationship between pain and anxiety.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 1.1 List definitions of pain and anxiety
- 1.2 Define pain perception and reaction threshold
- 1.3 Describe pain pathways
- 1.4 List methods of pain control
- 1.5 Describe techniques of pre-operative and operative pain control.
- 1.6 Describe the relationship between drug efficacy and patient safety.

Unit 2 The Twelve Cranial Nerves, Neuroanatomy of Trigeminal Nerve

General Outcome:

- 2.0 The student shall:** List and describe the functions of the twelve cranial nerves.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 2.1 List the twelve cranial nerves.
- 2.2 Describe the sensory and motor function of each of the cranial nerves.
- 2.3 Describe the neuroanatomy of the trigeminal nerve.
- 2.4 List the three major divisions of the trigeminal nerve and the facial areas each part innervates.
- 2.5 Associate the areas anesthetized by the mandibular and maxillary branches of the trigeminal nerve.
- 2.6 Label the twelve cranial nerves by location on a diagram.
- 2.7 Go to google. Copy and paste this address:
http://www.wisc-online.com/objects/index_tj.asp?objID=AP11504
Review the nerves and do the quiz.

Unit 3 Local Anesthetic Solutions Injections Sites/Topical Anesthetic

General Outcome:

3.0The student shall: Describe the types of injections given in the oral cavity and related anatomic considerations for each type.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 3.1 Describe the mechanism of action of local anesthesia.
- 3.2 State the factors that may create a local anesthetic blockade.
- 3.3 Describe the systemic effects of a local anesthetic solution.
- 3.4 Differentiate between local infiltration, field block, and nerve block.
- 3.5 Describe the techniques used for supraperiosteal infiltration, intraligamentary, intraosseous, and alveolar nerve blocks that are utilized in maxillary anesthesia.
- 3.6 Differentiate between the anterior, middle, and posterior superior alveolar nerve block injections.
- 3.7 List two types of palatal nerve blocks.
- 3.8 Describe the location for an inferior alveolar nerve block and the tissue that is anesthetized.
- 3.9 Describe the buccal nerve block and tissues anesthetized.
- 3.10 Differentiate between the mental nerve block and the incisive block.
- 3.11 List the components of a local anesthetic solution.

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- 3.12 List the armamentarium necessary for giving local anesthetic injections.
- 3.13 List the characteristics of an ideal anesthetic solution.
- 3.14 Describe the effects of a vasoconstrictor in anesthetic solutions.
- 3.15 Describe the technique for giving a patient topical anesthetic.
- 3.16 Describe proper placement for topical prior to an infiltration injection and a nerve block injection.
- 3.17 Calculate the maximum safe dosage of designated anesthetic solutions. Calculate safe doses for both the healthy and cardiac patients.

Unit 4 Prevention Recognition and Management of Complications and Emergencies Related to Pain Control

General Outcome:

- 4.0 The student shall:** Describe the recognition and management of medical emergencies related to pain control.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 4.1 Name the potential complications associated with giving local anesthesia.
- 4.2 Describe possible causes, prevention and management of each local complication.
- 4.3 Differentiate between a local complication and a systemic complication.
- 4.4 Describe possible adverse drug reactions that may be associated with local anesthesia.
- 4.5 Define overdose and identify possible predisposing factors.
- 4.6 Differentiate between a mild and severe overdose reaction.
- 4.7 Describe the management of a patient who has an anaphylactic reaction during a dental procedure.
- 4.8 Describe correct CPR technique utilized in emergency situations which could occur when a patient uses pain medications.

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Unit 5 Pharmacologic Methods of Pain and Anxiety Control

General Outcome:

- 5.0** **The student shall:** Demonstrate knowledge of opioids and non-opioids for patient sedation

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 5.1 Discuss the differences between salicylates, acetaminophen, and NSAIDs.
- 5.2 Name and describe some NSAID-Opioid combination medications.
- 5.3 Describe the analgesic, sedation, and adverse effects of opioids.
- 5.4 Describe the pharmacodynamics of opioids .
- 5.5 Discuss the effects and patient necessity for prescribing, NSAIDS, Opioids, or Sedative Hypnotics for pain management.
- 5.6 List the benzodiazepines prescribed for management of dental anxiety.
- 5.7 List the reasons that a barbiturate is prescribed for patient use.
- 5.8 Describe the systemic effects of general anesthetics.
- 5.9 Describe the potential complications associated with general anesthesia.
- 5.10 List the agents that are often prescribed for IV anesthetics.
- 5.11 Review the stages and planes of general anesthesia.

Unit 6 Treatment of Stomatitis and Oropharyngeal Pain in the Oncology Patient

General Outcome:

- 6.0 The student shall:** List and describe information concerning stomatitis and cancer therapy

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 6.1 Define stomatitis and relate the condition to cancer therapy.
- 6.2 List the risk factors related to the development of stomatitis.
- 6.3 Differentiate between chemotherapy and radiation therapy.
- 6.4 Describe the four phases in stomatitis development.
- 6.5 Discuss the causes of acute oropharyngeal pain and stomatitis.
- 6.6 Describe the optimal treatments for stomatitis.
- 6.7 Describe the assessment instruments for oral complications related to cancer chemotherapy.
- 6.8 Discuss the relationship of oral infection and stomatitis. Discuss stomatitis as it relates to acute oral pain.