

**DH 78 Course Outline as of Summer 2004****CATALOG INFORMATION**

Dept and Nbr: DH 78 Title: LOCAL ANESTHESIA  
 Full Title: Local Anesthesia/Nitrous Oxide Conscious Sedation  
 Last Reviewed: 2/7/2022

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	1.00	Lecture Scheduled	2.25	7	Lecture Scheduled	15.75
Minimum	1.00	Lab Scheduled	3.33	6	Lab Scheduled	23.31
		Contact DHR	0		Contact DHR	0
		Contact Total	5.58		Contact Total	39.06
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 31.50

Total Student Learning Hours: 70.56

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

**Catalog Description:**

A lecture and lab course designed to develop dental hygiene skills in techniques of pain control by the administration of local anesthetics. Student will become proficient in the delivery of local anesthesia and nitrous oxide.

**Prerequisites/Corequisites:**

Course Completion of DH 75

**Recommended Preparation:****Limits on Enrollment:****Schedule of Classes Information:**

Description: A course covering the techniques of pain control by the administration of local anesthetics. The course will prepare the student for management of the more complex clinical client during advanced dental hygiene care procedures. (Grade Only)

Prerequisites/Corequisites: Course Completion of DH 75

Recommended:

Limits on Enrollment:

Transfer Credit: CSU;

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:

<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
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<b>CSU Transfer:</b>	Transferable	Effective:	Summer 2000	Inactive:
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<b>UC Transfer:</b>		Effective:		Inactive:
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**CID:**

**Certificate/Major Applicable:**

Major Applicable Course

## **COURSE CONTENT**

### **Outcomes and Objectives:**

Upon completion of this course, the student will be able to (with a minimum of 90% accuracy):

1. Assess the medical history of the patient to determine the correct LA (local anesthesia) agent, and if contraindicated, be able to recommend the appropriate modification.
2. Recognize and assist in the management of any systemic complications that may result from the administration of LA.
3. Adhere to infection control protocols for prevention of disease transmission through demonstration of proper pre and post appointment operatory preparation procedures, instrument re-circulation methods and aseptic techniques.
4. Successfully assemble, disassemble and maintain the LA armamentarium.
5. Demonstrate safe practice with the LA armamentarium.
6. Demonstrate ability to recognize and select the proper needle size and gauge.
7. Describe the anesthetic agents and vasoconstrictors uses in dentistry, and discuss the rational for choosing certain agents.
8. Describe the topical anesthetic agents used in dentistry, and discuss rational for choosing certain agents.
9. Calculate the maximum safe dosage of local anesthetic and vasoconstrictor to be used.
10. Identify all anatomical landmarks on both a patient and skull of the following injections: supraperiostial/local infiltration, papillary infiltration, anterior superior alveolar nerve block, middle superior alveolar nerve block, posterior superior alveolar nerve block, infraorbital nerve block, greater palatine nerve block, nasopalatine nerve block, inferior alveolar nerve block, lingual nerve block, long buccal nerve block, mental nerve block, incisive nerve block.
11. Identify the nerve, teeth and soft tissue structures that are

anesthetized with all injections.

12. Successfully administer LA to a student partner and clinical patient, always practicing a safe technique.
13. Identify the local complications that could result from the administration of LA, and how to properly manage these complications.
14. Discuss the contraindications and indications for using nitrous oxide/oxy, analgesia.
15. Discuss advantages, disadvantages, and complications associated with use.
16. Review patient's medical history to decide their suitability to receive nitrous oxide oxygen analgesia.
17. Recognize and describe the sign and symptoms of nitrous oxide analgesia.
18. Recognize the complications that can manifest with undesirable levels of nitrous oxide and how to manage the complications.
19. List the safety feature associated with the nitrous oxide/oxygen equipment.
20. Successfully calculate the percentages of nitrous oxide and oxygen from the tidal volume.
21. Successfully administer nitrous oxide/oxygen analgesia to a student partner and clinical patient using titration to properly achieve a safe level of sedation.
22. Monitor a patient during the administration of nitrous oxide/oxygen analgesia and following sedation properly oxygenate for the recommended time.
23. Successfully maintains honesty in actions and relationships involving colleagues and members of the faculty, staff, fellow students, and patients.
24. Demonstrates concern, respect and cooperation towards classmates, patients, and staff.
25. Complies with stated safety regulations and dress code.
26. Maintains responsibility for assigned clinical duties.

### **Topics and Scope:**

Designated hours are for both lecture and lab.

- I. Continuing Clinical Procedures
  - a. Medical Histories
  - b. Emergency preparedness
  - c. Infection control
  - d. Patient assessments
- II. Armamentarium
  - a. Cartridge
  - b. Needle
  - c. Preparation of Armamentarium
  - d. Break-down and disposal of Armamentarium
- III. Anesthesia
  - a. Pharmacology
  - b. As an independent agent
  - c. As a pre-injection agent
  - d. Technique
  - e. Calculate maximum safe dose

- IV. Anatomic Review of Oro-facial Structures
  - a. Maxillary arch
  - b. Mandibular arch
  - c. Nerves affected
- V. Local Anesthetic Administration Techniquet of Manibular and maxillary Injections.
- VI. Complications and Their Management
- VII. Emergency Management/CPR Review
- VIII. Nitrous Oxide Conscious Sedation
  - a. Chemistry
  - b. Physiology
  - c. Pharmacology
  - d. Indications/contraindications
  - e. Advantages/disadvantages
  - f. Equipment
  - g. Scavenger systems
  - h. Hazards to personnel
  - i. Tidal volume
  - j. Technique for administration
  - k. Determining levels
  - l. Oxygenation at end of procedure
  - m. Complications and their management

**Assignment:**

- 1. Lecture
  - a. Participation in class discussion
  - b. 4-6 quizzes
  - c. 2 exams
- 2. Lab
  - a. Practice administration of LA on student partner
  - b. Practice assembly and disassembly of syringe
  - c. Practice assembly and disassembly of nitrous oxide equipment
  - d. Administer nitrous oxide to a fellow classmate
  - e. One exam

**Methods of Evaluation/Basis of Grade:**

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.

Writing  
0 - 0%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Lab reports, Quizzes, Exams, Skills

Problem solving  
10 - 35%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Class performances, Field work, Performance exams

Skill Demonstrations  
10 - 60%

**Exams:** All forms of formal testing, other than skill performance exams.

Multiple choice, True/false, Matching items, Completion

Exams  
5 - 40%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

Professionalism is broken down into two criteria:  
Communication and Team Interaction.

Other Category  
5 - 25%

### **Representative Textbooks and Materials:**

Darby, M. and Walsh, MM. (2003). Dental Hygiene Theory and Practice (2nd ed). WB Saunders: Philadelphia.

Wynn R. L et al. (2002) Drug Information Handbook for Dentistry, 2003-2003 (9th ed).