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Dental Hygiene (DN TL) 2131 Pharmacology (2 Units) CSU  
[formerly Dental Hygiene 31]

Prerequisite: Successful completion of all first and second semester Dental Hygiene Program courses, Chemistry 1520 and Biology 2257 with a grade of “C” or better

Prerequisite knowledge/skills:

Before entering the course the student should be able to:

1. Draw and name structures containing common mono-functional organic molecules and differentiate functional groups when they appear in an organic structure, relate the physical and chemical properties of compounds containing these groups with the structure of each functional classification;
2. Distinguish roles of four major classes of bio-molecules in living cells,
3. Compare and contrast the processes of DNA replication and transcription, RNA translation, and common types of mutations; and
4. Demonstrate knowledge of major biochemical components in metabolism
5. Describe and distinguish various roles of major classes of biomolecules in living cells,
6. Describe key functional features of different types of human cells and how they communicate,
7. Identify key functions of major organ systems and the physiological mechanisms underlying their operation,
8. Demonstrate an understanding of how organ systems of the body are integrated and regulated,
9. Demonstrate an understanding of how homeostasis is maintained in the body,
10. Demonstrate knowledge of metabolic and physiological disorders of the major organ systems,
11. Analyze experimental data to demonstrate physiological principles, and
12. Demonstrate an understanding of the scientific method, experimental design, and the philosophy of science. Apply the scientific method and philosophy of science by designing components of and carrying out physiological experiments.

Total Hours: 32 hours lecture

Catalog Description: This course emphasizes the classification and study of drugs according to origin, physical and chemical properties, therapeutic effect and values, particularly of drugs used in dentistry.

Type of Class/Course: Degree Credit

Text: Weinberg, Mea A., et al. *Oral Pharmacology for the Dental Hygienist 2nd Ed.* Pearson, 2012.

Additional Instructional Materials: None

Course Objectives:

By the end of the course, a successful student will be able to:

1. Understand the principles needed for safe and effective dental treatment and oral health care.
2. Discuss drug properties and mechanisms of action, dosages, intended effects, interactions, and adverse reactions.
3. Identify the most commonly used drugs, how they work, and how they affect patients' oral health and dental treatment.
4. Understand how principles of pharmacology apply specifically to dental hygienists.
5. Understand the latest changes and advances relating to dental treatment, such as adverse drug reactions, antibiotic prophylaxis, osteonecrosis of the jaw, cardiovascular and cholesterol guidelines, oral anticoagulant drugs, and type 2 diabetes.
6. Explain drug interactions of clinical interest in dentistry, with explanations as to why certain drugs are used or contraindicated in dental treatment.
7. Understand pharmacokinetics and the processes involved with absorption, distribution, metabolism and excretion of drugs.
8. Know the parts of a prescription and the rules and regulations relating to prescribing drugs used in dentistry.
9. Understand evidence based drug therapy and use in the treatment and prevention of dental disease.

Course Scope and Content:

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|---------|--|
| Unit I  | General Principles                               |
|         | 1. Information, Sources, and Regulatory Agencies |
|         | 2. Drug Action and Handling                      |
|         | 3. Adverse Reactions                             |
|         | 4. Prescription Writing                          |
| Unit II | Drugs Used in Dentistry                          |
|         | 1. Autonomic Drugs                               |
|         | 2. Nonopioid (Nonnarcotic) Analgesics            |
|         | 3. Opioid (Narcotic) Analgesics                  |
|         | 4. Anti-infective Agents                         |
|         | 5. Antifungal and Antiviral Agents               |
|         | 6. Local Anesthetics                             |
|         | 7. Antianxiety Agents                            |
|         | 8. General Anesthetics                           |
|         | 9. Oral Conditions and Their Treatment           |

- Unit III            Drugs That May Alter Dental Treatment
1. Cardiovascular Drugs
  2. Anticonvulsants
  3. Psychotherapeutic Agents
  4. Autacoids and Antihistamines
  5. Adrenocorticosteroids
  6. Other Hormones
  7. Respiratory and Gastrointestinal Drugs

- Unit IV            Special Situations
1. Emergency Drugs
  2. Drug Interactions
  3. Drug Abuse

Learning Activities Required Outside of Class:

The students in this class will spend a minimum of 4 hours per week outside of the regular class time doing the following:

Independent reading and study

Methods of Instruction:

1. Lecture
2. Class discussions
3. Audio-visual presentations
4. Evidence based research
5. Case Studies

Methods of Evaluation:

1. Examinations, quizzes and case studies that include:
  - a. multiple choice items
  - b. matching items
  - c. true/false items
  - d. short answer essay
2. Oral presentation
3. Evidence based research project

Supplemental Data:

TOP Code:	124020: Dental Hygienist
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SAM Priority Code:	C: Clearly Occupational
Distance Education:	Not Applicable
Funding Agency:	Y: Not Applicable(funds not used)
Program Status:	I: Program Applicable
Noncredit Category:	Y: Not Applicable, Credit Course
Special Class Status:	N: Course is not a special class
Basic Skills Status:	N: Course is not a basic skills course
Prior to College Level:	Y: Not applicable
Cooperative Work Experience:	N: Is not part of a cooperative work experience education program
Eligible for Credit by Exam:	NO
Eligible for Pass/No Pass:	NO
Taft College General Education:	NONE