



Course Number	DDHS 3250
Course Title	Biomedical Sciences I
Term	Fall 2023
Time	M, 1-2 pm; W, 10-12 am; Th, 1-2 pm; F, 1-2 pm
Location	Room 310; Labs 30 & 14
Credit Hours	5

Course Description

This course is designed to provide the dental hygiene student with a basic introduction to the structure of the human body, including its anatomy, biochemistry, histology, and physiology. Emphasis is placed on the structures of the head and neck region that surrounds the oral cavity.

Course Prerequisites

No prerequisites are required to take this course.

Course Learning Outcomes

For most topics, instructional objectives are presented as study questions at the end of each chapter in the textbook.

Learning Outcomes/Competencies:

- 2.1 - Apply critical thinking skills and evidence-based decision making to the practice of dental hygiene.
- 2.2 - Commit to self-assessment and lifelong learning in order to provide contemporary clinical care.
- 3.1 - Prepare for career opportunities within health care, industry, education, research, and other roles as they evolve for the dental hygienist.
- 3.3 - Contribute to the knowledge base of dental hygiene.
- 6.1 - Determine medical conditions that require special precautions or consideration prior to or during dental hygiene treatment.
- 6.2 - Perform an extraoral and intraoral examination of the patient including assessment of vital signs and radiographic examination, and distinguish normal from abnormal findings.
- 6.3 - Manage the patient at risk for a medical emergency, and be prepared to handle the emergency should it occur during an appointment.
- 6.4 - Recognize predisposing, etiologic risk factors, and life style choices that may require intervention to prevent disease.
- 6.5 - Analyze and interpret the assessment data to formulate a dental hygiene diagnosis related to and congruent with the diagnosis of the dentist and other health professionals.
- 6.6 - Determine the need for referral to the appropriate health professional.
- 8.2 - Control pain and anxiety during treatment through the use of accepted clinical techniques and appropriate behavioral management strategies.

Course Director Information

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Textbook and/or Resource Material

Principles of Anatomy and Physiology, 15th Edition, Tortora and Derrickson, 2016
ISBN #: 978-1-119-32064-7

(14th Edition - ISBN 9781118345009 is also acceptable)

In addition to the textbook, the instructor's Power Point presentations and Camtasia recordings of the lecture (if available) will be posted on Canvas (<https://canvas.tamu.edu/>). Students are encouraged to prepare for the lectures and displays by reading assigned material ahead of time. Students are also encouraged to form study groups to discuss and ask questions about lecture and display material. The displays are designed to reinforce material covered in lectures using models, demonstrations, and participatory exercises. Students are urged to use this time to interact with instructors and ask questions to strengthen their knowledge.

Grading Policies

Evaluation Criteria/Methods:

Seven major exams worth a total of 660 points and eight quizzes worth a total of 80 points are scheduled during this semester. Exams and quizzes will be administered using ExamSoft/Softest electronic testing software (<https://ei.examsoft.com/GKWeb/login/tam dental>). The lowest quiz score will be dropped, making 730 total points available. Unannounced quizzes may also be administered depending upon class participation and attendance. On these exams, students must be able to demonstrate their knowledge of material presented in: (1) the assigned textbook sections, (2) the lectures, and (3) the displays. These written exams may consist of a combination of multiple choice, true/false, matching, diagram labeling, completion, and short discussion type questions. In addition, one exam will have a practical component testing identification of structures on the human skull. The class performance may be curved up to 79% on major exams. Additionally, students may be awarded 5 points extra credit for their active participation in each of the following lab displays on perioral muscles, mastication/swallowing, and spinal cord/brain. Final grades will be based on the percentage of total points accumulated.

Grading Scale

Letter Grade	Numerical Grade Range
A	90-100
B	80-89
C	75-79
D	70-74
F	69 and below

A = Excellent

B = Good

C = Fair

D = Poor, may require remediation

F = Failure

Attendance and Make-up Policy

Although attendance at lectures is not required, it is highly encouraged since the lecture represents the instructor's attempt to structure and organize the content for students to learn. Likewise, students are strongly encouraged to attend and actively participate in display sessions, which offer the opportunity to use models, cadaver demonstrations, and worksheets to better understand the material discussed in lectures. In addition, displays are a great opportunity to interact one-on-one with instructors and to ask questions. Attendance/ participation at some

displays is rewarded with points that can raise the grade! If a student misses a major exam with an excused absence, a makeup exam will be made available. However, there is no basis for a curve on make-up exams. There is no make-up for any missed awarded lab displays. Refer to Rule 7 for details at the URL given below (<http://student-rules.tamu.edu/rule07>).

Remediation Policy

Students with poor performance on exams and/or quizzes are encouraged to meet with the course director to determine the source of their performance problem(s). Joining a study group of fellow students is encouraged. Tutors from the senior dental hygiene class may be made available by consultation with Professor Lara T. Coseo (thurman@tamu.edu). Should an individual fail to achieve a passing grade, the Student Promotions Committee may be encouraged to have that student repeat the course at its next scheduled offering, provided the student is performing well in all other course work.

Course Schedule

Course Topics, Calendar of Activities, Major Assignment Dates

FALL SEMESTER: M, 1-2 pm; W, 10-12 am; Th, 1-2 pm; F, 1-2 pm.

Date	Day	Time	#	Topic	Materials	Room	Instructor
08/14/23	M	1-2	1	How Matter is Organized	Ch. 2.1	310	Kramer
08/16/23	W	10-12	2	Chemical Bonds	Ch. 2.2	310	Kramer
			3	Chemical Reactions	Ch. 2.3	310	Kramer
08/17/23	Th	1-2	4	Inorganic Compounds and Solutions	Ch. 2.4	310	Kramer
08/18/23	F	1-2	5	Organic Compounds: Carbon and Its Functional Groups	Ch. 2.5	310	Kramer
08/21/23	M	1-2	6	Organic Compounds: Carbohydrates and Lipids	Ch. 2.5	310	Kramer
08/23/23	W	10-12	7	Organic Compounds: Proteins and Nucleic Acids, Quiz 1	Ch. 2.5	310	Kramer
				Review/Q&A		310	Kramer
08/24/23	Th	1-2	8	Plasma Membrane	T63-78	310	Lu
08/25/23	F	1-2	9	Cellular Organelles	T78-90	310	Lu
08/28/23	M	1-2		Exam 1 (#1-7), 70 pts		310	Kramer/Lu
08/30/23	W	10-12	10	Nucleus	T92-94	310	Lu
			11	Cell Cycle	T94-103	310	Lu
08/31/23	Th	1-2	12	Tissue Organization I	T113-145	310	Lu
09/01/23	F	1-2	13	Tissue Organization II	T113-145	310	Lu
09/04/23	M			Labor Day Holiday			
09/06/23	W	10-12	14	Tissue Organization III & Quiz 2	T113-145	310	Lu
			15	Integument	T153-169	310	Lu
09/07/23	Th	1-2	16	Wound Healing & Review/Q&A	T169-170	310	Lu
09/08/23	F	1-2	17	Bone Structure	T182-205	310	Qin

09/11/23	M	1-2		Exam 2 (#8-16), 90 pts		310	Lu
09/13/23	W	10-11	18	Skull I	T212-216	310	Qin
		11-12	19	Skull II	T216-226	310	Qin
09/14/23	Th	1-2	20	Skull Display 1	HO	Lab 30	Qin
09/15/23	F	1-2	21	Skull Display 2 & Quiz 3	HO	Lab 30	Qin
09/18/23	M	1-2	22	Perioral Muscles I: Mastication, Neck & Face	T375-389 HO	310	Umorin
09/20/23	W	10-11	23	Perioral Muscles II: Tongue, Palate & Pharynx	T383-384 HO	310	Umorin
		11-12		Display: Perioral Muscles I	HO	Lab 30	Umorin
09/21/23	Th	1-2		Display: Perioral Muscles II	HO	Lab 30	Umorin
09/22/23	F	1-2		Skull Display Exam 3A, 30 pts		310	Qin
09/25/23	M	1-2		Written Exam 3B (#17-21), 50 pts		310	Qin
09/27/23	W	10-12	24	TMJ	HO	310	Umorin
			25	Muscle Histology	T328-338	310	Ruest
09/28/23	Th	1-2	26	Muscle Contraction & Relaxation I	T338-344	310	Ruest
09/29/23	F	1-2	27	Muscle Contraction & Relaxation II	T338-344	310	Ruest
10/02/23	M	1-2	28	Muscle Control & Metabolism	T345-350	310	Ruest
10/04/23	W	10-11	29	Mastication/Swallowing	HO	310	Umorin
		11-12		Display: Mastication/Swallowing I	HO	310	Umorin
10/05/23	Th	1-2		Display: Mastication/Swallowing II & Quiz 4	HO	310	Umorin
10/06/23	F	1-2	30	Muscle Responses & Quiz 5	T351-356	310	Ruest
10/09/23	M	1-2	31	Head & Neck Lymphatics		310	Umorin
10/11/23	W	10-11	32	Fascial Spaces of the Head & Neck/Spread of Infection	T875-879 HO	310	Umorin
		11-12	33	Tooth Development – Crown Formation	HO	310	Lu
10/12/23	Th	1-2	34	Tooth Development – Root Formation	HO	310	Lu
10/13/23	F	1-2	35	Enamel I	HO	310	Lu
10/16/23	M	1-2		Exam 4 (#22-32), 110 pts		310	Ruest/ Umorin
10/18/23	W	10-12	36	Enamel II	HO	310	Lu
			37	Dentin	HO	310	Lu
10/19/23	Th	1-2	38	Pulp & Quiz 6	HO	310	Lu
10/20/23	F	1-2	39	Periodontium	HO	310	Qin
10/23/23	M	1-2	40	Tooth Eruption & Shedding	HO	310	Qin
10/25/23	W	10-12	41	Oral Mucous Membrane	HO	310	Qin
			42	Salivary Glands	HO	310	Qin
10/26/23	Th	1-2		Review/ Q&A	HO	310	Lu/Qin
10/27/23	F	1-2	43	Anatomical Terms/ Nervous System Overview I	T12-17 T447-458	310	Tao

10/30/23	M	1-2		Exam 5 (#33-42), 100 pts		310	Lu/Qin
11/01/23	W	10-12	44	Anatomical Terms/ Nervous System Overview II	T12-17 T447-458	310	Tao
			45	Membrane Potentials	T462-464	310	Tao
11/02/23	Th	1-2	46	Action Potentials I	T464-470	310	Tao
11/03/23	F	1-2	47	Action Potentials II (will be rescheduled)	T464-470	310	Tao
11/06/23	M	1-2	48	Nerve Conduction & Quiz 7	T470-472	310	Tao
11/08/23	W	10-12	49	Synapses	T473-479	310	Tao
			50	Neurotransmitters	T480-489	310	Tao
11/09/23	Th	1-2	51	Sensory Receptors I	T606-616	310	Tao
11/10/23	F	1-2	52	Sensory Receptors II	T606-616	310	Tao
11/13/23	M	1-2		Nociception I	T547-553	310	Tao
11/15/23	W	10-12	53	Nociception II	T547-553 HO	310	Tao
			54	Review / Q&A		310	Tao
11/16/23	Th	1-2	55	Spinal Cord	Ch. 13 HO	310	Crawford
11/17/23	F	1-2		Exam 6 (#43-54), 120 points		310	Tao
11/20- 24/23				Fall Semester Recess			
11/27/23	M	1-2	56	Brain, cranial Nerves	Ch. 14 HO	310	Crawford
11/29/23	W	10-11		Display: Spinal Cord, Brain	HO	Lab 14	Crawford/ Umorin/ Kesterke
		11-12	57	Autonomics I	Ch. 15 HO	310	Crawford
11/30/23	Th	1-2	58	Autonomics II	Ch. 15 HO	310	Crawford
12/01/23	F	1-2	59	Cranial Nerve VII	T507-508 HO	310	Crawford
12/04/23	M	1-2	60	Cranial Nerve V & Quiz 8	T507-508 HO	310	Crawford
12/06/23	W	10-12	61	Cranial Nerve V	T507-508 HO	310	Crawford
			62	Local Anesthesia I	HO	310	Crawford
12/07/23	Th	1-2	63	Local Anesthesia II	HO	310	Crawford
12/08/23	F	1-2		Review/ Q&A		310	Crawford
12/11/23	M	1-2		Exam 7 (#55-63), 90 points		310	Crawford

Technology Support

Students are responsible for maintaining their devices and ensuring that they are in proper working order throughout the semester. This includes maintaining access to the college wireless network, access to all accounts (both TAMU and TAMU Health), and keeping passwords up to date. Students are expected to keep their devices up-to-date in regards to patches and OS updates.

Division of IT

If the student experiences issues with an electronic device, wifi access, axiUm, Zoom, or user accounts, their first point of contact should be the Division of IT Central Help Desk or the local Division of IT at SOD. The Central Helpdesk provides 24-hour support.

Division of IT Central Help Desk

Website: <https://it.tamu.edu/help/>

Phone: 1-979-845-8300

Email: helpdesk@tamu.edu

SOD Local Division of IT Office

Room: 519

Phone: 214-828-8248

SOD Instructional Design Team

For electronic exam support or problems concerning other academic technology, such as the LMS (Blackboard or Canvas), ExamSoft, or Exemplify, students should contact the Instructional Design team.

Room: 516 through Academic Affairs

Carmina Castro - ccastro@tamu.edu (214-828-8316)

Jeff Lowry - lowryj1@tamu.edu (214-828-8243)

Academic Integrity Statement and Policy

“An Aggie does not lie, cheat or steal, or tolerate those who do.”

“Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the work of that student. Students must keep appropriate records at all times. The inability to authenticate one’s work, should the instructor request it, may be sufficient grounds to initiate an academic misconduct case” (Section 20.1.2.3, Student Rule 20).

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the honor Code, to accept responsibility, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System. You can learn more about the Aggie Honor System Office Rules and Procedures, academic integrity, and your rights and responsibilities at aggiehonor.tamu.edu.

Americans with Disabilities Act (ADA) Policy

Texas A&M University is committed to providing equitable access to learning opportunities for all students. If you experience barriers to your education due to a disability or think you may have a disability, please contact the Associate Dean for Academic Affairs in charge of Disability Services, Room 514, or call 214-828-8208 or visit disability.tamu.edu for additional information. Disabilities may include, but are not limited to attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability related needs with Disability Resources and their instructors as soon as possible.

Title IX and Statement on Limits to Confidentiality

Texas A&M University is committed to fostering a learning environment that is safe and productive for all. University policies and federal and state laws prohibit gender-based discrimination and sexual harassment, including sexual assault, sexual exploitation, domestic violence, dating violence, and stalking.

With the exception of some medical and mental health providers, all university employees (including full and part-time faculty, staff, paid graduate assistants, student workers, etc.) are Mandatory Reporters and must report to the Title IX Office if the employee experiences, observes, or becomes aware of an incident that meets the following conditions (see University Rule 08.01.01.M1):

- The incident is reasonably believed to be discrimination or harassment.
- The incident is alleged to have been committed by or against a person who, at the time of the incident, was (1) a student enrolled at the University or (2) an employee of the University.

Mandatory Reporters must file a report regardless of how the information comes to their attention – including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Although Mandatory Reporters must file a report, in most instances, a person who is subjected to the alleged conduct will be able to control how the report is handled, including whether or not to pursue a formal investigation. The University's goal is to make sure you are aware of the range of options available to you and to ensure access to the resources you need.

Students can learn more about filing a report, accessing supportive resources, and navigating the Title IX investigation and resolution process on the University's Title IX webpage.

Statement on Mental Health and Wellness

Texas A&M University recognizes that mental health and wellness are critical factors that influence a student's academic success and overall wellbeing. Students are encouraged to engage in healthy self-care by utilizing available resources and services on the campus.

Statement on the Family Educational Rights and Privacy Act (FERPA)

FERPA is a federal law designed to protect the privacy of educational records by limiting access to these records, to establish the right of students to inspect and review their educational records and to provide guidelines for the correction of inaccurate and misleading data through informal and formal hearings. Currently enrolled students wishing to withhold any or all directory information items may do so by going to howdy.tamu.edu and clicking on the "Directory Hold Information" link in the Student Records channel on the MyRecord tab. The complete FERPA Notice to Students and the student records policy is available on the Office of the Registrar webpage.

Items that can never be identified as public information are a student's social security number, citizenship, gender, grades, GPR or class schedule. All efforts will be made in this class to protect your privacy and to ensure confidential treatment of information associated with or generated by your participation in the class.

Directory items include name, UIN, local address, permanent address, email address, local telephone number, permanent telephone number, dates of attendance, program of study (college, major, campus), classification, previous institutions attended, degrees honors and awards received, participation in officially recognized activities and sports, medical residence location and medical residence specialization.

