



CDM 1111 - Dental Immunology

I. Course Information

Course: CDM 1111 - Dental Immunology
Semester and Year: Winter 2021
Course Start and End Dates: 01/04/2021 - 04/25/2021
Course Reference Number: 31853
Semester Credit Hours: 2.0
Building and Room: Online Venue - CANVAS

II. Instructor Information

Professor: Michelle Demory Beckler
Email: mbeckler@nova.edu
Office Hours:
 by appointment: www.calendly.com/demorybeckler

III. Class Schedule and Location

Day	Date	Time	Location	Building/Room
	01/04/2021 - 02/19/2021		Programs On-line	Online Venue-CANVAS
W	01/06/2021 - 02/17/2021	8:10 AM - 8:59 AM	Programs On-line	Online Venue-CANVAS
R	01/07/2021 - 02/18/2021	8:10 AM - 9:59 AM	Programs On-line	Online Venue-CANVAS
F	01/08/2021 - 02/19/2021	1:10 PM - 1:59 PM	Programs On-line	Online Venue-CANVAS

IV. Course Description

This course provides the student an overview of the foundational concepts, function, and components of the immune system with emphasis on immunology of the oral cavity and the immune system’s role in health and disease.

V. Course Objectives / Learning Outcomes

Course Learning Outcomes

At the completion of this portion of the course the student will be able to:

1. describe the innate immune mechanisms of the human body.
2. recognize the organs of the immune system and the functions of their parts and components.

3. state the role of each type of leukocyte in the inflammatory process.
4. explain the structure of antigens and how they interact with antibodies and leukocytes.
5. differentiate the antibodies by their structures, their class, and state their functions in the immune response.
6. explain how immunology is used in laboratory tests and the differences between each test.
7. indicate the genetic basis of immunologic phenomena with regards to specificity, diversity, and self-nonself discrimination.
8. identify the characteristics of the humoral and cellular immune responses and the mechanisms that initiate and regulate the responses.
9. define the role of the classical and alternative complement pathways in the immune response.
10. describe the role of the immune response at mucosal surfaces.

Section II: Clinical Aspects of Immunology

At the completion of this portion of the course, the clinical aspects of immunology section, students will be able to:

11. describe how immunodeficiency conditions occur and the specifics of each type.
12. classify the four types of hypersensitivities, state their mechanisms of action, and name the diseases caused by the hypersensitivity conditions.
13. recognize the differences in the body's response to different autoimmune conditions and give examples of common disease states.
14. explain the immunology of transplantations with regard to tissue histocompatibility antigens, grafting procedures, and control of graft rejection.
15. describe the roles of tumor antigens, humoral and cellular immunity, and immunotherapy during tissue responses to tumors.

COLLEGE OF DENTAL MEDICINE COMPETENCY STATEMENTS Faculty Note: Use the most updated version of the CDM Predoctoral Competency document to select the corresponding competencies for this course. Be sure to select the number of the competency statement and the verbatim competency statement as it appears on the competency document. For each competency indicate the type of assessment (formative or summative) that will be employed to measure the attainment of the competency

Core Competencies:

The new general dentist should be able to:

Core Competencies:

19. Graduates must be competent in the application of biomedical science knowledge in the delivery of patient care.

[CODA Predoctoral Standard 2-15].

Formative Assessment: Midterm Examination

Summative Assessment: Final Examination

26. Graduates must be competent in the use of critical thinking and problem-solving, including their use in the comprehensive care of patients, scientific inquiry and research methodology.

[CODA Predoctoral Standard 2-10]

Formative Assessment: Midterm Examination

Summative Assessment: Final Examination

- This refers to the same as the items in the CDM Competency Document; please see them listed below.

FOUNDATION KNOWLEDGE

STATEMENTS FOR THE GENERAL DENTIST

Foundational Knowledge for the General Dentist:

FK1: Apply knowledge of molecular, biochemical, cellular and systems-level development, structure and

function to the prevention, diagnosis and management of oral disease and the promotion and maintenance of oral health. FK4: Apply knowledge of the principles of genetic, congenital and developmental diseases and conditions and their clinical features to understand patient risk in the prevention, diagnosis and management of oral disease and the promotion and maintenance of oral health.

VI. Materials and Resources

Course Required Texts and Materials: Cellular and Molecular Immunology, 9th ed. 2018. Abul Abbas, Andrew H. Lichtman and Shiv Pillai. Elsevier, Philadelphia, Pennsylvania, ISBN: 978-0-323-47978-3

Faculty Note: Please indicate the textbooks that are **required** for the class and if available, a hyperlink to the textbook. Also, indicate if there are articles or links to **required readings** that are required for the class *and* the site where the articles are available for the student (such as: Canvas, library, database).

Course Supplemental Materials: How the Immune System Works, 5th ed. 2016. Lauren Sompayrac. Wiley-Blackwell, Oxford, UK. ISBN: 978-1-118-99777-2
- Supplemental, Recommended, Optional, NOT required.

The access to all instructional resources included in this course, such as, lectures, handouts, manuals, PowerPoint presentations, videos, photographs, pictures, articles and web links is limited to students who are enrolled in the course and is not for public distribution. The use of these instructional resources is exclusively for non-commercial and non-profit educational use. Students are recommended to download the instructional resources provided in the course, UNLESS, the course director instructs NOT to download specific files. We recommend that all students download, save, and keep the instructional materials from all the courses. These instructional resources will be very helpful references as you progress from year to year in the program.

VII. Course Schedule and Topic Outline

Course Schedule:

<u>Date</u>	<u>Time</u>	<u>Lecture Topic</u>
04 Jan	9:10-10:00 AM	Overview of immunology [1]
06 Jan	8:10-9:00	Innate immunity [2] ‘
07 Jan	8:10-10:00 AM	Cells and organs of the immune system [3] Structure of antibody molecules [4]
11 Jan	9:10-10:00 AM	Function of antibody molecules [5]
13 Jan	8:10-9:00 AM	Genetics of antibody structure [6]
14 Jan	8:10-10:00 AM	Genetics of antibody structure [7] Genetics of antibody structure [8]
20 Jan	8:10-9:00 AM	Complement [9]
21 Jan	8:10-10:00 AM	Major Histocompatibility Complex, Antigen Processing & Presentation [10] Antigens and immunogens and antigen-antibody interactions [11]
25 Jan	9:10-10:00 AM	B cell generation, activation and differentiation [12]
27 Jan	8:10-9:00 AM	Antibody production [13]
28 Jan	8:10-10:00 AM	T cell maturation, differentiation and activation [14] T cell receptor (TCR) [15]
01 Feb	9:10-10:00 AM	Cellular Communication [16]
02 Feb	3:10-4:30 PM	Immunology Exam 1 (Introduction – Antibody production)
03 Feb	8:10-9:00 AM	Humoral immunity [17]

04 Feb	8:10-10:00 AM	Cell-mediated immunity [18] Mucosal immunity [19]
08 Feb	9:10-10:00 AM	Immunity to infection [20]
10 Feb	8:10-9:00 AM	Vaccines [21]
11 Feb	8:10-10:00 AM	Immunotherapy [22] Hypersensitivities [24]
15 Feb	9:10-10:00 AM	Guest Lecturer [23]
17 Feb	8:10-9:00 AM	Immunodeficiency disorders and neoplasias [25]
18 Feb	8:10-10:00 AM	Tolerance [26] Autoimmune Disorders [27]
22 Feb	8:10-10:00 AM	Review
09 Mar	3:10-4:30 PM	Immunology Exam 2

“Important note – Please note that due to the current Coronavirus pandemic, course schedules and course activities may be modified now and in future. Faculty and students are responsible for keeping apprised of these changes and adjusting their schedules accordingly.”

VIII. Assignments

Description of Assignments, Point Value and Rubrics

This is a numerically graded course and requires a score $\geq 70\%$ to pass.

Evaluation of student performance is by two written examinations, and completion of all required assignments.

	<u>Points</u>
Examination I	100
Examination II	100
Total Points	200

A score of 140 is required to pass this course.

The student cannot pass the course without passing any/all independent summative competency assessments.

IX. Grading Criteria

Provide a List of all the graded work in the course (Assessments, Class Activities, Classwork and Assignments) with Point or Percentage Values, or required Completion item.

Grading Scale:

Examinations and any other assessments can cover lecture presentations, lecture handouts, class activities and assigned reading material. Each of the two examinations will contain 45 multiple choice-style questions.

Students are required to take each examination at the assigned time. Students who enter the room after the announced start of an examination may not be allowed to take the test. During the examination, proctors will **not** be allowed to answer student questions. If the exam or assessment is taken on paper, students will submit both the Scantron and exam question packet to the proctors. If the exam or assessment is taken electronically, students are only allowed to bring their device (with all accessories removed [covers, stylus, charger, etc]) to their seats. Exam and assessment passwords are not allowed to be disseminated in any way.

At the end of the examination, students must show the confirmation of exam submission. **If these**

policies are not followed, students will be reported to the College of Dental Medicine’s Office of Academic Affairs and the Student Progress Committee.

Distribution of points:

Makeup Examinations: Make-up examinations will be offered to students who have submitted appropriate documentation to the College of Dental Medicine and have been approved by the College. Dates and times for the makeup examination will be set by the Course Director. Make-up examinations will be fill-in-the blank, matching, short answer, essay, etc. type questions.

Course Final Grade Mode for the course (Pass/Fail, PR/NPR or Letter Grade). For a continuum course, please specify the grade mode for each semester.

Grade Mode: Letter Grade

Course Grading Scale

Letter Grade	GPA	Equivalence
A	4	93 to 100
A-	3.75	90 to < 93
B+	3.5	86 to < 90
B	3	83 to < 86
B-	2.75	80 to < 83
C+	2.5	76 to < 80
C	2	70 to < 76
F	0	<70

X. Course Policies

COURSE ATTENDANCE REQUIREMENTS, REMEDIATION POLICY, ALL CDM POLICIES

Attendance Policy : Please refer to appropriate pages of the NSU-CDM 2020-2021 Student Handbook.

Link to the handbook:

<https://liverootnova.sharepoint.com/dentmed/Active%20Docs/Policies%20and%20Procedures/Pre%20a2020%20CDM%20PreDoctoral%20Student%20Handbook.pdf?wa=wsignin1.0>

Remediation Policy: Please refer to appropriate pages of the NSU-CDM 2020-2021 Student Handbook.

“Successful completion of each CDM course requires compliance with the CDM Code of Behavioral Conduct.”

CDM College Attendance Policy Please note that, the Office of Admissions, Student Affairs and Services manages excused absences including sick days, mission trips, dental meetings, externships, interviews, family events, and other personal leave time, etc. and all student absences will continue to be tracked in axiUm. (Please refer to NSU Wide Religious Holidays Policy in the Student Handbook.) • Planned excused absences: please fill out the appropriate paperwork, with backup documentation (e.g. physician’s note), and submit on the online portal for the Office of Student Services prior to the scheduled absence, so that we can approve the leave time, and help you map out a plan to make up the work. It is the student’s responsibility to inform the course director for any courses you will be missing, your team leader for any clinic sessions that will be missed and/or the Coordinator of Extramural Programs (Dr. Mairelina Godoy), etc. of your planned absence(s). • Unplanned excused absences: please email Dr. Galka at agalka@nova.edu with a cc to cdmservices@nova.edu to report that you will be out, the reason for your absence and to also let us know if you plan to return to school the following day. You should also email the course director for any courses you will be missing, Dr. Mairelina Godoy mg1189@nova.edu for any

rotations you will be missing and/or your team leader for any clinic sessions scheduled for that day. You must continue to email us daily to keep us updated if you will be out additional days and you can submit your SREA form together with backup documentation when you know the date you will return to school. • The student will be responsible for making up all missed rotations, all material presented in lectures, all laboratory projects, all written and practical examinations (including OSCEs) and must fulfill all didactic and clinical responsibilities as outlined in the individual course syllabi. Also, please review the attendance policy in the individual course syllabi. • Please do not schedule externships or interviews when you are scheduled for an examination or rotation. • Remember, it is your responsibility to reach out to our office for any unexcused absences to see if these fall under excused absences and/or to see how the unexcused absence will be managed. Also, please contact Dr. Mairelina Godoy directly to arrange makeup of any and all missed rotations, which will take place during optional clinicweeks. • Every student will be able to take 1 Personal Day/per Semester (3 Personal Days/Academic Year) with NO BACKUP DOCUMENTATION REQUIRED, provided the day(s) are not taken when you are scheduled for a rotation, written examination, practical/competency examination, OSCE or taken directly before/after a school holiday, etc. These absences will be managed through our office and designated as excused absences, provided our office is notified by email in advance or on the day of the absence. (Please indicate in the email if you will be using a personal day and designate D-1, D-2, D-3 or D-4 student.) For any additional absences to the 1 Personal Day/per semester, or in the event that you will be missing a written examination, a preclinical or clinical practical/competency examination, including an OSCE, or rotation, backup documentation WILL be required. Again, it is the student's responsibility to notify all course directors, team leaders, and/or the Coordinator of Extramural Programs, etc. affected by your absence(s). Please check your individual schedule before requesting a personal day, to be sure that you will not be missing a rotation or an exam. A personal day will be recorded as a full day. (Half days cannot be requested.) A personal day must be requested on or before the day in question and cannot be used retroactively. **COVID-19 Protocol (subject to change)**1. NO STUDENT IS TO COME TO SCHOOL SICK- if you do not feel right- please do NOT come to school. Email Dr. Galka- Assistant Dean for Admissions, Student Affairs and Services (agalka@nova.edu) 2. If a student has had direct/close contact with someone who has been infected with COVID-19 or is experiencing COVID-like symptoms- immediately self- isolate/quarantine. Email Dr. Galka and Dr. Schweizer- Director Infection Prevention Programs (schweize@nova.edu). a. Direct Exposure/ Asymptomatic: test on day 7- if negative test result- can come back after 10 days : if NO test- quarantine 14 days b. Symptomatic (with or without Direct Exposure): test immediately and then again on day 7- if negative test result on day 7- can come back after 10 days : NO test- quarantine 14 days and must be symptom-free for 72 hours3. If a student tests positive for COVID-19: remain self-isolated. To return to school: student needs to have 2 consecutive negative test results in a row (at least 24 hours apart). 4. Students who are in quarantine, need to contact both Dr. Galka and Dr. Hernandez (marher@nova.edu) to determine if they can participate in online courses during this time

XI. University Policies

Academic Integrity: Cheating or inappropriate behavior during any written examination, quiz, any assignment, any project; plagiarism of any work(s), or other unethical behavior will not be tolerated; the student risks receiving a grade of zero (0) for said examination, quiz, assignment, project and may be referred to the Associate Dean for Academic Affairs and the Student Progress Committee. Please refer to appropriate pages of the NSU-CDM 2020-2021 Student Handbook. and the NSU Student Handbook located at

<https://liverootnova.sharepoint.com/dentmed/Active%20Docs/Policies%20and%20Procedures/Pre%20and%202020%20CDM%20PreDoctoral%20Student%20Handbook.pdf?wa=wsignin1.0> .

Plagiarism Policy: All assignments, exams, works, patient care - written, laboratory, oral, clinical must be done as the independent work of each individual student. Plagiarism, copying or sharing the work of another or altering documentation to reflect something is your own work that is not; reflect false attendance, are considered serious offences that will not be tolerated. THESE ACTIONS WILL BE CONSIDERED IN

VIOLATION OF THE UNIVERSITY AND THE CDM CODE OF BEHAVIORAL CONDUCT AND WILL BE REFERRED FOR APPROPRIATE ACTION. Students who need assistance in their learning goals should communicate with the appropriate NSU-CDM course director and/or faculty. Please refer to appropriate pages of the NSU and the CDM 2020-2021 Student Handbook. Following a link to the NSU Student Handbook

<https://liverootnova.sharepoint.com/dentmed/Active%20Docs/Policies%20and%20Procedures/Pre%20and%202020%20CDM%20PreDoctoral%20Student%20Handbook.pdf?wa=wsignin1.0>

University Policy

Class content throughout this course may be recorded in accordance with the NSU Class Recording Policy. If class content is recorded, these recordings will be made available to students registered for this course as a supplement to the classroom experience. Recordings will be made available to all students who were registered to attend the live offering of the class, regardless of a student's section or discipline, or whether the student is participating in the course online. If recordings are intended to be accessible to students or third parties who were not registered for the live offering of the class, students' personally identifiable information will be removed or redacted from the recording, unless (1) their written consent to such disclosure was previously provided, or (2) the disclosure is permissible in accordance with the Family Educational Rights and Privacy Act ("FERPA").

Students are prohibited from recording audio or video, or taking photographs in classrooms (including online classes) without prior permission from the instructor or pursuant to an approved disability accommodation, and from reproducing, sharing, or disseminating classroom recordings to individuals outside of this course.

Students found engaging in such conduct will be in breach of the Student Code of Conduct and subject to disciplinary action.

Title IX/Sexual Misconduct: Sexual violence and sexual harassment are contrary to our core values and have no place at Nova Southeastern University. In accordance with Title IX and other laws, NSU prohibits discrimination, including sex-based discrimination and discrimination towards pregnant/parenting students. If you or someone you know experience(s) sexual violence and/or sexual harassment, there are resources and options available. To learn more or to report an incident, please visit the NSU Title IX website at www.nova.edu/title-ix. Please be aware that as an instructor, I am not a confidential resource, and I will need to report any incidents of sexual misconduct to the NSU Title IX Coordinator. You can also contact Laura Bennett, NSU's Title IX Coordinator directly at laura.bennett@nova.edu or 954-262-7858.