

**IMPORTANT:** This syllabus form should be submitted to OAA ([gsbs\\_academic\\_affairs@uth.tmc.edu](mailto:gsbs_academic_affairs@uth.tmc.edu)) a week before the start of each semester.

**NOTE to STUDENTS:** If you need any accommodations related to attending/enrolling in this course, please contact the Graduate School's 504 Coordinator, Natalie Sirisaengtaksin, PhD. We ask that you notify GSBS in advance (preferably at least 3 days before the start of the semester) so we can make appropriate arrangements.

<b>Term and Year:</b> Fall 2025  <b>Course Number and Course Title:</b> GS06 1103 Emerging Concepts in Immunology  <b>Credit Hours:</b> 3 credits  <b>Prerequisites:</b> GS06 1013 Fundamental Immunology  <b>Meeting Location:</b> in person, Gallick Classroom  <b>Building/Room#:</b> BSRB S3.8367	<b>Program Required Course:</b> Yes  <b>Approval Code:</b> Yes (If yes, the Course Director or the Course Designee will provide the approval code.)  <b>Audit Permitted:</b> Yes  <b>Classes Begin:</b> Sep 2  <b>Classes End:</b> Nov 27  <b>Final Exam Week:</b>
<b>Class Meeting Schedule</b>	
<b>Day</b>	<b>Time</b>
<b>Mon, Wed</b>	<b>3-5 PM</b>
<b>Course Directors:</b> Askar Akimzhanov, PhD Associate Professor Department of Biochemistry and Molecular Biology UTHealth Houston <a href="mailto:Askar.M.Akimzhanov@uth.tmc.edu">Askar.M.Akimzhanov@uth.tmc.edu</a>  Hind Rafei, MD Assistant Professor Department of Hematopoietic Biology and Malignancy MD Anderson Cancer Center <a href="mailto:hrafei@mdanderson.org">hrafei@mdanderson.org</a>  Natalie Sirisaengtaksin, PhD Director Office of Academic Affairs Graduate School of Biomedical Sciences MD Anderson Cancer Center, UTHealth Houston <a href="mailto:Natalie.Sirisaengtaksin@uth.tmc.edu">Natalie.Sirisaengtaksin@uth.tmc.edu</a>	<b>Instructors:</b> 1. Vahid Afshar-Khargan, MD Department of Pulmonary Medicine MD Anderson Cancer Center <a href="mailto:vakharghan@mdanderson.org">vakharghan@mdanderson.org</a>  2. Melissa Aldrich, PhD Institute of Molecular Medicine UTHealth Houston <a href="mailto:Melissa.B.Aldrich@uth.tmc.edu">Melissa.B.Aldrich@uth.tmc.edu</a>  3. Shervin Assassi, MD, MS Department of Internal Medicine UTHealth Houston <a href="mailto:Shervin.Assassi@uth.tmc.edu">Shervin.Assassi@uth.tmc.edu</a>  4. R. Eric Davis Department of Lymphoma and Myeloma MD Anderson Cancer Center <a href="mailto:REDavis1@mdanderson.org">REDavis1@mdanderson.org</a>

**NOTE:** Office hours are available by request. Please email the directors to arrange a time to meet.

5. Jin Seon Im  
Department of Stem Cell Transplantation  
and Cellular Therapy  
MD Anderson Cancer Center  
[jim@mdanderson.org](mailto:jim@mdanderson.org)
6. Qing Ma  
Department of Stem Cell Transplantation-  
Research  
MD Anderson Cancer Center  
[gma@mdanderson.org](mailto:gma@mdanderson.org)
7. Seyed Javad (Peyman) Moghaddam  
Department of Pulmonary Medicine  
MD Anderson Cancer Center  
[smoghadd@mdanderson.org](mailto:smoghadd@mdanderson.org)
8. Travis Moore, PhD  
Department of Integrative Biology and  
Pharmacology  
UTHealth Houston  
[Travis.I.Moore@uth.tmc.edu](mailto:Travis.I.Moore@uth.tmc.edu)
9. Kristin E. Pauken, PhD  
Department of Immunology  
MD Anderson Cancer Center  
[KEPauken@mdanderson.org](mailto:KEPauken@mdanderson.org)
10. Pamela Wenzel, PhD  
Department of Integrative Biology and  
Pharmacology  
UTHealth Houston  
[Pamela.L.Wenzel@uth.tmc.edu](mailto:Pamela.L.Wenzel@uth.tmc.edu)

**Course Description:**

This course is designed to expose students to the most recent research in the field of immunology. The literature-based curriculum relies heavily on the expert opinions of the faculty lecturers to identify the most impactful and significant research in their respective fields. Students prepare presentations of original research articles in conjunction with support from the faculty, thereby providing immersion in highly specialized areas of immunology.

**Textbook/Supplemental Reading Materials:**

Original research articles assigned by faculty instructors, provided on Canvas.

**Course Objective/s:**

This course will provide an understanding of emerging concepts in immunology. From current literature, students will explore new areas of research in antigen processing, cytokines, development of T and B lymphocytes, antigen recognition by T lymphocytes, cellular activation, and cell interactions. Each student will read and critically assess selected papers in molecular and cellular immunology. Students prepare several oral presentations and gain experience leading scientific discussions in a small group setting. Papers presented in this course can be used as the basis for developing a proposal in the GSBS Scientific Writing course.

Competencies to be acquired in this course include all core competencies of the Immunology Program, with emphasis on critical thinking and presentation skills.

***Specific Learning Objectives:***

1. Learn about cutting-edge discoveries and techniques used in the field of immunology.
2. Learn to critically evaluate tools, experimental results, and conclusions in scientific publications.
3. Learn to identify study rationale.
4. Acquire effective presentation skills needed to describe immunological model systems and interpret data generated from experiments testing immunological concepts.
5. Develop essential skills for leading and participating in scientific discussions about immunology in a small group setting.

**Student Responsibilities and Expectations:**

Students enrolled in this course will be expected to perform the following activities each week.

1. Read 2-4 research papers (e.g., original research articles and optional review articles).
2. Attend twice weekly class sessions. Online sessions require video on and/or active engagement via chat.
3. Participate in and contribute to discussions during class sessions.

Students enrolled in this course will be expected to perform the following twice during the semester.

1. Prepare a slide-based presentation based upon assigned research papers.
2. Contact faculty 2 weeks in advance of presentation date to consult with instructor.
3. Present and lead discussion for assigned original research articles.

Students are expected to complete all assigned reading material (research literature and reviews) prior to class. Plagiarism and failure to properly cite scientific literature and other sources will not be tolerated and are grounds for dismissal from the course and further GSBS disciplinary action. Cheating or engaging in unethical behavior will be grounds for dismissal from the course without credit and further GSBS disciplinary action.

**Grading System:** Letter Grade (A-F)

**Student Assessment and Grading Criteria:** *(May include the following:)*

Percentage	Description
<b>Presentation (50%)</b>	<ul style="list-style-type: none"> <li>a. Coverage of relevant background literature and identification of critical observations.</li> <li>b. Identification of critical problems and hypotheses addressed in the paper.</li> <li>c. Understanding of the experimental design and methods utilized.</li> <li>d. Presentation, interpretation and discussion of the data.</li> <li>e. Length and style of presentation.</li> </ul>
<b>Participation and/or Attendance ( 50%)</b>	<ul style="list-style-type: none"> <li>a. Novelty/originality of ideas expressed</li> <li>b. Relevance of comments to the issues being discussed</li> <li>c. Frequency of productive contributions to discussion</li> </ul>

#### CLASS SCHEDULE

Date	Duration (Hour(s) taught by lecturer)	Lecture Topic	Lecturer/s
Monday, August 25, 2025	2		
Wednesday, August 27, 2025		No class	
Monday, September 1, 2025		Holiday, no class	
Wednesday, September 3, 2025		1. Introduction	Askar Akimzhanov
Monday, September 8, 2025		No class	
Wednesday, September 10, 2025		No class	
Monday, September 15, 2025		No class	
Wednesday, September 17, 2025		No class	
Monday, September 22, 2025	1	<b>Cellular Immunotherapy for Cancer</b> Presenters: Joshua Wan and Nourhan Ahmed	Qing Ma
Wednesday, September 24, 2025	2	<b>Hematopoiesis</b> Presenters: Luoxi Wang and Luis Vega	Pamela Wenzel

Monday, September 29, 2025	3	<b>Myeloid Cells and Tumorigenesis</b> Presenters: Jiarui Li and Yang Zhou	Seyed Moghaddam
Wednesday, October 1, 2025	4	<b>Checkpoint Blockade and Lymphatics</b> Presenters: Tania Sainz Zuniga and Alec Solis	Melissa Aldrich
Monday, October 6, 2025	5	<b>Imaging Approaches in Immunology</b> Presenters: Trithi Jaya Sunder and Katie Impelman	Travis Moore
Wednesday, October 8, 2025	6	<b>Autoimmunity</b> Presenter: Yen-Tzu Chang	Shervin Assassi
Monday, October 13, 2025	7	<b>Tertiary Lymphoid Structures</b> Presenters: Charles Inaku and Zohra Nizami	R. Eric Davis
Wednesday, October 15, 2025	8	<b>Platelets and Immunity</b> Presenter: Mark Hwang	Vahid Afshar-Khargan
Monday, October 20, 2025	9	No class	
Wednesday, October 22, 2025	10	<b>Next-Generation Cellular Immunotherapy</b> Presenters: Xiaotian Wang and David Begelman	Jin Seon Im
Monday, October 27, 2025	11	No class	
Wednesday, October 29, 2025	12	<b>T Cell Dysfunction</b> Presenters: Salam Almriri and Grace Kim	Kristen Pauken
Monday, November 3, 2025	13	Kopchick Symposium	