

Course Syllabus

SCBM 234 Fundamental Immunology (1-0-2)

Academic Year 2/2020

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Textbook:
 Students are required to read “Abbas, Abul K, Andrew HH Lichtman, and Shiv Pillai. Basic immunology: functions and disorders of the immune system. Elsevier Health Sciences, 2012.”

2nd Semester (Jan 2021), Online

Google classroom link: <https://classroom.google.com/c/MjQ5Mjk0ODY0ODk2?cjc=7milfvo>
 Course materials will be posted on Google classroom according to the schedule below.

Pop quizzes are possible!

Chapters to read from: Abbas, Abul K, Andrew HH Lichtman, and Shiv Pillai. Basic immunology: functions and disorders of the immune system. Elsevier Health Sciences, 2012

Lectures 1 (1h)	Jan 18 13:00-14:00	Introduction to the Immune system	<ul style="list-style-type: none"> • Overview of the immune system • Cells and tissues of the immune system • Primary vs. secondary lymphoid tissues 	A. Vimvara	Chapter 1
Lecture 2 (1h)	Jan 18 14:00-15:00	The Innate Immune System (Part 1)	<ul style="list-style-type: none"> • Components of innate immunity (innate immune cells and their functions) • The complement system • Interferons 	A. Pongsak	Chapter 2
Lecture 3 (1h)	Jan 18 15:00-16:00	The Innate Immune System (Part 2)	<ul style="list-style-type: none"> • How pathogens are recognized (PAMPs, DAMPs, PRRs) • The innate immune response to different pathogens 	A. Pongsak	Chapter 2

Lectures 4 (1h)	Jan 25 13:00-14:00	Antigen Capture and Presentation to Lymphocytes (Innate Immunity)	<ul style="list-style-type: none"> • What do lymphocytes recognize? • Nature of the antigens • Antigen capture and presentation 	A. Fabien	Chapter 3
Lectures 5 (1h)	Jan 25 14:00-15:00	Antigen Recognition in the Adaptive Immune System	<ul style="list-style-type: none"> • Lymphocyte-antigen interaction • How do lymphocytes recognize self from non-self? • How is antigen receptor diversity generated? 	A. Vimvara	Chapter 4
Lectures 6 (1h)	Jan 25 15:00 – 16:00	T Cell-Mediated Immunity: Activation and effector functions (Adaptive immunity)	<ul style="list-style-type: none"> • T cell activation by antigen recognition and stimulatory molecules • Effector functions of T lymphocytes 	Fabien	Chapters 5 + 6
Feb 1 – 13:00-16:00 (3h)		Midterm exam – Online			A. Vimvara
Lectures 7 (1h)	Feb 8 13:00 – 14:00	Humoral Immune Response: Activation and effector functions (Adaptive immunity)	<ul style="list-style-type: none"> • B cell activation by antigen recognition and helper T lymphocytes • Effector functions of B cells • Class switching and affinity maturation 	A. Vimvara	Chapters 7 + 8
Lecture 8	Feb 8 14:00 – 15:00	Immune response to pathogens	<ul style="list-style-type: none"> • General overview of immune responses to pathogens • Combining innate and adaptive immunity so students understand the big picture 	A. Fabien	
Lecture 9	Feb 8 15:00-16:00	Introduction to basic vaccine immunology	<ul style="list-style-type: none"> • Brief history of vaccines • Different types of vaccines • Immunological memory • An example of how knowledge of immunology can be applied to medicine 	A. Vimvara	
Lecture 10 (3h)	Feb 15 13:00 – 15:50	Final Project	Interactive lecture/discussion	A. Vimvara	
TBA (3h)		Final Exam (cumulative) – Online			A. Vimvara

Evaluation criteria:

Criteria	Percentage of overall grade
Midterm	35%
Final Exam	45%
Final Project	20%

Grade conversion:

Percentage grade	Letter grade
84.5 – 100	A
78.5 – 84.4	B+
72.5 – 78.4	B
66.5 – 72.4	C+
60.5 – 66.4	C
54.5 – 60.4	D+
48.5 – 54.4	D
0 – 48.4	F