

Semester	AUG 2022
Open to semester	7,13,21
Course code	BI4123/BI6173
Course title	Advanced Immunology
Credits	3 /3
Course Coordinator & participating faculty (if any)	Satyajit Rath*,Vineeta Bal
Nature of Course	Lectures
Pre-requisites	Introductory Immunology course [for BS-MS and iPhD students] MSc in any area of life sciences for PhD students
Objectives (goals, type of students for whom useful, outcome etc)	The course will aim to discuss advanced concepts in the biology of the immune system. Discussions will be in the contexts of evolution of immune system formation and regulation, and of disease implications involving qualitative and quantitative immune dysfunction. Current analyses and new technologies used for them will be a major component. Participants will (hopefully!) emerge with a sophisticated understanding both of immunological regulation and of current ways of investigating organismal physiology at multiple levels of biological organisation.
Course contents (details of topics /sections with no. of lectures for each)	Modules of approximately equal class time: 1. How does the immune system patrol body barriers and the microbiota found there? 2. How does the immune system know when and how to respond? 3. How does the immune system respond to phylogenetically diverse pathogens, and what are the determinants of the utility of such responses? 4. Are tumors pathogens as far as the immune system is concerned? 5. Qualitative and quantitative immune dysfunction, with or without ‘disease’
Evaluation /assessment	End-Sem Examination-50% Mid-Sem Examination-50% Others-%
Suggested readings (with full	Textbooks:

list of authors, publisher, year, edn etc.)	Fundamental Immunology, Ed. William E. Paul, 7th Edition, Lippincott Williams & Wilkins (2012) Janeway's Immunobiology, Kenneth M. Murphy, 9th Edition, W W Norton & Co (2016) Selected reviews and research papers as provided by instructors closer to class sessions
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