Course Code	Course Title	ECTS Credits
IMMU-542	Autoimmunity and Inflammatory Diseases	8
Department	**Semester**	**Prerequisites**
Life and Health Sciences	Spring	Immu-541 Cellular and Molecular Immunology
Type of Course	**Field**	**Language of Instruction**
Required	Biomedical Sciences	English
Level of Course	**Year of Study**	**Lecturer**
2nd Level	1st	Dr. Anastasia Dieti
Mode of Delivery	**Work Placement**	**Co-requisites**
Face to Face	N/A	None

Objectives of the Course:

The aim of this course is to provide an expanded inside into the cellular and molecular mechanisms of autoimmune and inflammatory disease with an overview of the different immunological methods and approaches used in the diagnosis of diseases, such as Rheumatoid Arthritis, Multiple Sclerosis, Myasthenia Gravis, etc. The course is more research orientated so as to expose and introduce students on the current research in the areas of diagnosis and treatment of autoimmune disease.

Main aims of this course are to:

- Introduce students to the mechanism of specific adaptive immune responses to "self-antigen" that lead to autoimmunity, and provide with knowledge of the factors leading to induction of disease
- Provide students with an inside to the role of antibodies and T cells in mediating autoimmunity
- Students will acquire knowledge of the importance of specific receptor mediated responses.
- Enlighten students on the concept of tolerance and provide them with an overview of the application of this as a novel approach for treatment for autoimmune disorders

Learning Outcomes:

After completion of the course, students will be expected to use the knowledge of current immunological principles to:

- Describe the relevant mechanisms involved in the induction of allergy and autoimmune disease, such as Asthma, Allergic dermatitis, Rheumatoid arthritis, Multiple sclerosis, etc.
- Recall the various cytokines and co-factors involved in mediating allergy and autoimmunity.
- Discuss the generation and involvement of autoantibodies during autoimmune disease.
- Explain the mechanisms in the induction of immunological tolerance and know the essential factors required for its effectiveness.
- Critically analyze, present and discuss the relevant research literature.

Course Contents:

1. Allergy and Allergic disease
   - IgE-mediated allergic disease
   - Effector mechanisms in IgE-mediated allergic reactions
   - Non-IgE-mediated allergic disease
2. Insides into Allergic disease
   - Allergic Asthma
   - Acute Systemic Anaphylaxis
   - Atopic Dermatitis
   - Celiac Disease
3. Autoimmunity
   - The making and breaking of self-tolerance
   - Autoimmune disease and pathogenic mechanisms
   - The genetic and environmental basis of autoimmunity
   - Random events leading to the initiation of autoimmunity
4. Insides into Autoimmune disease
   - Multiple Sclerosis
   - Myasthenia Gravis
   - Rheumatoid Arthritis
   - Inflammatory bowel disease

Learning Activities and Teaching Methods:

Lectures; problem based learning, poster and/or oral presentations of medical/research papers. The lecturer will be introducing each topic through lecture presentations. After a set of lectures on a topic, a problem based learning section will follow to encourage learning through collaborative work and literature research. There will be an individual research paper presentation where students will have to discuss and evaluate critically the papers while the lecturer is acting as a moderator.

Assessment Methods:

Assignments, Presentations, Tests and Mid-term Exam; Final Exam

Required Textbooks/Reading:

Authors	Title	Publisher	Edition	ISBN
Kenneth Murphy	Janeway's Immunobiology (Immunobiology: The Immune System (Janeway)	Garland Science	8th ed. (2011)	ISBN-10: 0-8153-3642-X ISBN-13: 978-0815342434

Recommended Textbooks/Reading:

Authors	Title	Publisher	Edition	ISBN
Abul K. Abbas MBBS, Andrew H. H. Lichtman MD PhD, Shiv Pillai MD	Cellular and Molecular Immunology: with STUDENT CONSULT Online Access, 7e (Abbas, Cellular and Molecular Immunology) [Paperback]	Saunders	7th ed. (2011)	**ISBN-10:** 1437715281 ISBN-13: 978-1437715286
Raif Geha, Luigi Notarangelo	Case Studies in Immunology: A Clinical Companion (Geha, Case Studies in Immunology: A Clinical Companion) [Paperback]	Garland Science	6thed. (2011)	**ISBN-10:** 0815344414 ISBN-13: 978-0815344414