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| Course Code IMMU-545 | Course Title Immunodeficiency Disorders and Control | ECTS Credits 7 |
| Department Life and Health Sciences | Semester Spring/Summer | Prerequisites IMMU-541 Cellular and Molecular Immunology |
| Type of Course Elective | Field Biomedical Sciences | Language of Instruction English |
| Level of Course 2 nd Cycle | Year of Study 1 st | Lecturer Nicolaou Stella Nicolaidou Vicky |
| Mode of Delivery Face to Face | Work Placement N/A | Co-requisites None |

Objectives of the Course:

The aim of this course is to correlate the clinical manifestation of immunodeficiency disorders with the development and function of the cells of the immune system. The specific aims of the course are:

- To communicate the multilevel origin of immunodeficiency disorders.
- To related the role of immune cell development with malfunction of the immune system.
- To promote the most recent scientific knowledge on the molecular basis of immunodeficiency disorders
- To demonstrate the correlations of laboratory tests with the clinical manifestations/symptoms of the disorders.

Learning Outcomes:

On completion of this course, the student will be able to:

- Describe the major categories of immunodeficiency disorders
- Identify the molecular basis of immunodeficiency disorders.
- Discuss secondary or acquired immunodeficiency disorders with emphasis on AIDS
- Describe and discuss immunodeficiency disorders with reference to laboratory diagnostic test required.
- Review and interpret immunology diagnostic tests result.
- Correlate the genetic and environmental factors with the development of

immunodeficiency disorders

Course Contents:

1. Recurrent Infections
2. Combined T and B cells immunodeficiencies
3. Predominantly Ab deficiencies
4. Disorders of Phagocytic cells
5. Immune dysregulation diseases
6. Defects of Innate Immunity: Receptors and signaling components
7. Autoinflammatory disorders
8. Complement deficiencies
9. Immunology and associated genetic syndromes
10. Immunodeficiency resulting from malnutrition, metabolic disorders, therapeutic and environmental immunosuppression and stress
11. Immunodeficiency of immaturity, immune mechanisms in infectious disease, and infection with the human immunodeficiency virus

Learning Activities and Teaching Methods:

Lectures; problem based learning, poster and/or oral presentations. The lecturer will be introducing each topic through lectures and problem based learning sections with individual tasks related to data analysis.

Assessment Methods:

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

Required Textbooks/Reading:

| Authors | Title | Publisher | Edition | ISBN |
|--|--|---------------------------------------|------------------------|---|
| Hans D. Ochs MD Dr.med, C. I. Edvard Smith PhD, Jennifer M. Puck MD | Primary Immunodeficiency Diseases: A Molecular and Genetic Approach | Oxford University Press, USA | 3 edition (2013) | ISBN-10: 0195389832 ISBN-13: 978- 0195389838 |

Recommended Textbooks/Reading:

| Authors | Title | Publisher | Edition | ISBN |
|---|--|-----------|-----------------|---|
| Asghar Aghamohammadi, Nima Rezaei | Clinical Cases in Primary Immunodeficiency Diseases: A Problem- Solving Approach | Springer; | 2013 ed | ISBN-10: 3642317847 ISBN-13: 978- 3642317842 |
| E. Richard Stiehm, Hans D. Ochs, Jerry A. Winklestein | Immunologic Disorders in Infants and | Saunders | 5 ed. (2004) | ISBN-10: 0721689647 ISBN-13: 978- |

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| | Children | | | 0721689647 |
| Nima Rezaei, Asghar Aghamohammadi, Luigi D.Notarangelo | Primary Immunodeficiency Diseases: Definition, Diagnosis, and Management | Springer | 2008 edition | ISBN-10: 354078537X ISBN-13: 978- 3540785378 |