**II.2.6 PRINCIPLES OF IMMUNOLOGY**

1. **Course description:**
2. **Credit points**: 4 ECTS
3. **Time commitment:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Items | Lecture | Tutorial/Exercise | Practice/Assignment | Lab-work | **Total** |
| No. of hours | 33 | 2 | 2 | 3 | **40** |

1. **Prerequisites**: Completed S3
2. **Recommended background knowledge**: Basic Cell and Molecular Biology; Fundamental Biochemistry; Mammalian Physiology
3. **Subject description:**

The subject will cover the anatomy of the immune system and mechanisms by which the immune system use immune cells and molecules to defence our body against different kinds of infections and cancers. What will be happened if the immune system cannot recognize and eliminate pathogens and cancer cells; the immune system over-reacts to them; and the immune system is out of control? The course will also introduce principles of common immunological assays/tests which are commonly used and their applications in life sciences.

1. **Objectives & Outcome:**

- Know structure and function of the immune system.

- Understand mechanisms by which the immune system uses to defence our body to different kinds of infections and cancers.

- Understand why immune response can cause diseases.

- Know principles and of common immunological assays and tests which are commonly used in life science research and disease diagnosis.

- Can perform some immunological tests based on antibody-antigen reaction.

1. **Assessment/ Evaluation**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Component | Attendance | Exercises | Assignments | Reports | Midterm | Final |
| Percentage % | 5 | 5 | 10 | 10 | 20 | 50 |

1. **Prescribed Textbook(s):**

[1] Basic Immunology; Abbas, A K & Lichtman, A H, 3rd updated ed., Saunders/Elsevier, 2011.

[2] *Kuby Immunology.* Fifth edition. Goldsby R.A., Kindt T.J., Osborne B.A., Kuby J. Freeman and Company, 2003

[3] Miễn dịch học; Bộ môn Miễn dịch, Học viện Quân y – NXB Quân đội Nhân dân 2011.

**II. Course content & schedule:**

[1] Topic 1: Introduction to Immunity and Immune Systems

[2] Topic 2: Cells and Organs of the Immune System

[3] Topic 3: Innate Immunity

[4] Topic 4: Antigen

[5] Topic 5: Antibody

[6] Topic 6: Humoral Immune Responses

[7] Topic 7: Cell-Mediated Immune Responses

[8] Topic 8: Immune Responses Against Tumors and Transplants

Tutorial/ Practice

[9] Topic 9: Hypersensitivity Diseases, Immunodeficiencies and Autoimmunity

[10] Topic 10: Immunotherapy

[11] Topic 11: Common immunological techniques

Tutorial/ Practice

Lab work

1. **Reference Literature:**

None