

M.Sc. Program

Vector Biology and Control of Diseases

Program Description

The spread of vector-borne diseases, including dengue, malaria, leishmaniasis, Zika, chikungunya, lymphatic filariasis, and yellow fever, is of global concern. Considering the epidemiological change of vector-borne diseases and the existence of emerging and re-emerging diseases as well as the exposure to serious risks of these diseases, knowledge of vector-borne diseases, their prevention, and control are of particular importance in public health. In this direction, the Master's course in Vector Biology and Control (VBC) was established/introduced to help train skilled personnel in the field of vector biology and the control of these diseases to serve in educational, research, and executive positions to improve the general level of public health.

Mission and Vision

- Maintaining and improving community health (public health)
- Prevention, controlling, and elimination of vector-borne diseases
- Preservation of the environment and ecosystem in urban and rural areas

The perspective of this program is to train human resources and build capacity in line with the rapid changes and scientific advances of this field, which by applying new scientific methods and creativity can provide the best possible solutions to problems related to vector-borne diseases. In a time when human society is under the threat of emerging and re-emerging diseases, it is expected that graduates in this field can be effective in reducing the burden of these diseases.

The mission of this course is to equip people with scientific and technical expertise. They would use their expertise in the fields of biology, ecology, and identification of disease vectors and entomological surveys, to provide society with the needed prevention and control of vector-borne diseases.

Objectives

The aims of the program are:

- Identification and diagnosis of ectoparasites, and disease vectors
- Determining the biology, habits, and ecology of disease vectors
- Prevention, control, and elimination of vector-borne diseases
- Prevention of the spread of vector-borne diseases

Admission Requirements

General Requirement: To apply for this program, you will need to fulfill several requirements, which can be found in the [Graduate Admission Requirements](#).

Specific Requirements: Holding a bachelor's degree (BSc) in one of the fields of Medical Entomology (ME), Vector Biology and Control (VBC), Public Health, Medical Parasitology, Laboratory Medicine, Medical Microbiology, Medicine, Pharmacy, Doctor of Veterinary Medicine, Laboratory Sciences, Zoology, Biology, Plant Pathology, Applied Biology, Biological Sciences.

The eligible candidate should have completed an approved related degree program and should be proficient in English.

Admission Deadline

Tehran University of Medical Sciences has a rolling application system and reviews student applications all year round.

However, the deadline for the September intake is June 31.

Education Fees and Yearly Expenses

Please refer to the [Education Fees and Yearly Expenses](#) section for complete and comprehensive information about fees and expenses.

Duration: 2-3 years

Courses and number of credits:

The number of study credits in this field is 32 credits as follows:

- Core courses: 23 credits
- Elective courses: 3 credits
- Prerequisite courses (For applicants with BSc degrees other than VBC and ME: Maximum 14 credits)
- Thesis: 6 credits
- Total: 32 credits (maximum 46 credits for applicants with BSc degrees other than VBCD and ME)

Program Curriculum

Table 1. Compensatory Courses

No.	Title of course	Theoretical (No. of credits)	Practical (No. of credits)	Total
1	Insect Morphology & Physiology	2	1	3
2	Medical Entomology	3	1	4
3	Basic Malariology	1	1	2
4	Basic Leishmaniasis	1	1	2
5	Rodents of Medical Importance and their Control Methods	1	1	2
6	Arthropod Control Methods	2	1	3
7	Academic English	2	0	2
8	Urban Pests	1	0	1
9	Medical Information Systems	0.5	0.5	1
	Total	13.5	605	20

Table 2. Core courses

No.	Title of course	Theoretical (No. of credits)	Practical (No. of credits)	Total	Prerequisite or concurrent courses
10	Biostatistics and Analysis of Health Data	2	0	2	-
11	Research Methodology in Public Health	0	1	1	-
12	Arbovirology	2	0	2	2
13	Epidemiology of Vector-Borne Diseases	2	0	2	2
14	Advanced Leishmaniasis	2	1	3	4
15	Advanced Malariology	2	1	3	3
16	Insect Ecology	2	0	2	-
17	Molecular Entomology	1	1	2	-
18	Principles of Biological Control	1	0	1	-
19	Biochemistry of Pesticides	2	0	2	6
20	Seminar	0	1	1	-
21	Internship	0	2	2	-
22	Thesis	0	6	6	-

Table 3. Non-Core courses

No.	Title of course	Theoretical (No. of credits)	Practical (No. of credits)	Total	Prerequisite or concurrent courses
23	Vector-Borne Parasites	0.5	0.5	1	-
24	Principles of Insect Systematic	1	0	1	-
25	Project	0	1	1	-
26	Forensic Entomology	1	0	1	1,2
27	Management of Vector-Borne Diseases	1	0	1	2
28	Geographical Information Systems	1	0	1	-
29	Nanotechnology in Medical Entomology	1	0	1	-
30	Poisonous Arthropods	1	0	1	2
	Total			8	-

The student must choose 3 credits from the courses in this table under the subject of his/her thesis, in coordination with the supervisor.

Contact Information

For further inquiries, you can contact the Department of Vector Biology and Control, Tehran University of Medical Sciences as follows:

Contact Person: Prof. Ahmad Ali Hanafi-Bojd

Tel.: (+98 21) 42933167

Email: aahanafibojd@tums.ac.ir; aahanafibojd@yahoo.com

Address: Department of Vector Biology and Control, School of Public Health (SPH), Tehran University of Medical Sciences (TUMS), Pour Sina St., Tehran, Iran

To contact the Office of International Admissions, please use the following information:

Tel.: (+98 21) 8890 2090-93, Ext.: 168

Email: admission@tums.ac.ir

Address: No. 21, Dameshgh St., Vali-e Asr Ave., Tehran 1416753955, Iran