

Ph.D. Program

Vector Biology and Control of Diseases

Program Description

A Ph.D. degree in Vector Biology and Control (VBC) is the highest level of education and is an old field dealing with vector-borne diseases, mostly in close contact with humans and transmitting infectious diseases which are dangerous to human health and life. Some species of insects/arthropods themselves are the cause of diseases in humans and do not transmit pathogens. In this course, vector control and prevention of the spread of these dangerous diseases will be discussed.

Mission and vision

The Ph.D. course in VBC is a responsive training course in the field of various aspects of medical entomology and diseases transmitted by arthropods and ways to combat them. By training qualified people in this field, this course develops knowledge and increases awareness about the identification, prevention, and control of vector-borne diseases (VBDs), reducing the burden of these diseases, and achieving higher and more complete levels of community and public health. Graduates of this field will participate in planning to control vectors and vector-borne diseases by transferring their knowledge, expertise, research results, and experiences to students, people, and health officials of the country.

Objectives

The aims of the program are:

- Training of applicants with scientific and practical competence in identifying and controlling vector-borne diseases
- Participation in assessing the status of arthropod-borne diseases in the country and the world
- Prevention, control and elimination of diseases transmitted by arthropods
- Timely notification to health executive officials for relevant decisions
- Reducing the burden of diseases and thus reducing the cost of medical services

Admission Requirements

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

Specific Requirements: Holding a master's degree (MSc) in one of the fields of Medical Entomology, Vector Biology and Control, Medical Parasitology, Laboratory Sciences, Medical Microbiology, Medicine, Pharmacy, Doctor of Veterinary Medicine, Zoology, Biology.

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: 4 years

Courses and the number of credits:

The number of study credits in this field is 42 credits as follows:

- Core courses: 14 credits
- Elective courses: 8 credits
- Prerequisite courses (For applicants with MSc degrees other than VBC: Maximum 14 credits)
- Thesis: 20 credits
- Total: 42 credits (maximum 56 credits for applicants with MSc degrees other than VBC)

Program Curriculum

Table 1. Compensatory Courses

No.	Title of course	Theoretical (No. of credits)	Practical (No. of credits)	Total
1	Medical information systems	0.5	0.5	1
2	Advanced leishmaniasis	2	1	3
3	Advanced malariology	2	1	3
4	Molecular entomology	1	1	2
5	Biochemistry of pesticides	2	0	2
6	Epidemiology of vector-borne diseases	2	0	2
7	Arbovirology	2	0	2
	Total	11.5	3.5	15

Table 2. Core courses

No.	Title of course	Theoretical (No. of credits)	Practical (No. of credits)	Total	Prerequisite or concurrent courses
8	Advanced toxicology and biochemistry of pesticides	2	1	3	-
9	Insect pathology	2	0	2	-
10	Epidemiology of tropical and zoonotic diseases	2	0	2	-
11	Surveillance and management of arthropod-borne diseases	2	0	2	10
12	New methods and integrated vector control	2	0	2	8
13	Research project management	0.5	0.5	1	-
14	Seminar 1	0	1	1	-
15	Seminar 2	0	1	1	-
16	Thesis	0	20	20	-

Table 3. Non-Core courses

No.	Title of course	Theoretical (No. of credits)	Practical (No. of credits)	Total	Prerequisite or concurrent courses
17	Mathematical epidemiology of vector-borne diseases	2	0	2	10
18	Medical helminthology	1	1	2	-
19	Principles of microscopy and photomicrography	1	1	2	-
20	Insect biochemistry	1	1	2	-
21	New methods of instrumental analysis	1	1	2	-
22	Aquatic insects	1	1	2	-
23	Ecotoxicology	2	0	2	8
24	Health system management in Iran	1	0	1	-
25	Management and control of urban pests	2	0	2	-
26	Care and use of laboratory animals	0.5	0.5	1	-
27	Quantitative ecology of insects	2	0	2	-

The student must choose 8 credits from the courses in this table by the subject of his/her thesis, in coordination with the supervisor.

Contact Information:

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

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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