

DCL

PH. D. in Program in Clinical Sciences

(Edition 2012)

First Semester

Code	Name	CL	L	U	CA	UDC
DS4000	Leadership for Sustainable Development	1.5	0	6	1.5	1.8
ME5183	Doctoral Research Proposal I	3	0	12	3	
ME5184	Research and Innovation Methods	1.5	0	6	1.5	0
ME6000	Bioethics and Regulations in Research	3	0	12	3	3.5
ME6001	Methodological Structure and Statistics in Biomedical and Clinical Research	3	0	12	3	3.5
		12	0	48	12	8.8

Second Semester

Code	Name	CL	L	U	CA	UDC
ME5185	Doctoral Research Proposal II	3	0	12	3	
ME5186	Doctoral Research Proposal III	3	0	12	3	0
ME5187	Research Seminar I	1	0	4	1	0
ME6002	Epidemiological Research	3	0	12	3	3.5
		10	0	40	10	3.5

Third Semester

Code	Name	CL	L	U	CA
ME6003	Doctoral Research I	3	0	12	3
ME6004	Doctoral Research	3	0	12	3
ME6005	Doctoral Research III	3	0	12	3
ME6006	Doctoral Research IV	3	0	12	3
		12	0	48	12

Fourth Semester

Code	Name	CL	L	U	CA	UDC
ME6007	Doctoral Research V	3	0	12	3	0
ME6008	Doctoral Research VI	3	0	12	3	0
ME6009	Doctoral Research VII	3	0	12	3	0
ME6010	Doctoral Research VIII	3	0	12	3	0
		12	0	48	12	0

Fifth Semester

Code	Name	CL	L	U	CA
ME5188	Research Seminar II	1	0	4	1
ME6011	Doctoral Research IX	3	0	12	3
ME6012	Doctoral Research X	3	0	12	3
ME6013	Doctoral Research XI	3	0	12	3
		10	0	40	10

Sixth Semester

Code	Name	CL	L	U	CA	UDC
ME5189	Research Seminar III	1	0	4	1	0
ME6014	Doctoral Research XII	3	0	12	3	0
ME6015	Doctoral Research XIII	3	0	12	3	0
ME6016	Doctoral Research XIV	3	0	12	3	0
		10	0	40	10	0

Seventh Semester

Code	Name	CL	L	U	CA
ME6017	Doctoral Research XV	3	0	12	3
ME6018	Doctoral Research XVI	3	0	12	3
ME6019	Doctoral Research XVII	3	0	12	3
ME6020	Doctoral Defense	0	0	1	.3
		9	0	37	9.3

Academic credits

- CL** The letter "CL" indicates the number of class-hours per week.
- L** The letter "L" indicates the number of laboratory-hours per week.
- U** The letter "U" represents the equivalent time in courses lasting 15 weeks (semester) and 12 weeks (trimester), of weekly work that the student dedicates to the course to meet its objectives. They include the "class hours", as well as the time dedicated to the student's independent work.
- CA** The letters "CA" represents the number of semester credit hour of the course.
- UDC** Load Units

This Ph.D program has as requirement a medical residency program.

Program and Learning Outcomes

The Ph.D. Program in Clinical Sciences develops experts in clinical research that:

- Are recognized nationally and / or internationally for its ability to generate medical knowledge in three possible dimensions: individual, institution or society.
- Generate scientific production based on ethical principles, relevant to understanding human- health and disease, care systems and / or public health.
- Are leaders in prestigious organizations in the implementation of strategies to reduce inequity in health care and increase the use of resources based on best evidence.

The graduate of this program will be able to:

- Apply in expert level strategies of search, selection and analysis of relevant knowledge in the area of expertise regarding aspects such as: mechanisms of disease (pathogenesis); detection, diagnosis or history of disease; therapeutic interventions, including trials with medicines or drugs; primary and secondary prevention and health promotion; human behavior; health services and epidemiology, among others.
- Use qualitative and quantitative research methods and statistical tools for the development of scientific research to provide knowledge for regional or national issues in their field of expertise.
- Obtain results of their research with critical - scientific thinking establishing clearly the potential application, as well each of its limitations and areas of opportunity.
- Transfer knowledge through scientific products such as: articles, patents or technological developments that allow reducing the gap between scientific knowledge relevant and valid and its application at the patient's bedside.
- Develop protocols or clinical trials that comply with current regulations in bioethics, quality and safety, ensuring the integrity and dignity of patients and their families as well as the intellectual property of the findings

Program Outcomes

Justification

The Clinical Sciences PhD program aims to strengthen clinical research development, focusing on the most prevalent pathologies within the Mexican population as well as the world's population. On the other hand, the program also focuses on health systems and public health concerns. The PhD is a direct answer to the increasing need for new scientific research focused on the understanding of health and diseases in humans, while still focusing on evidence-based medicine and following ethical principles. The aim of this program is to contribute to the improvement of health concerns that have a direct impact on our community. Also, the program looks to increase qualified human capital in Mexico in order to reduce the current lag in research programs, publications and patents in the health area.

Program Objectives

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- Generate scientific production based on ethical principles, relevant to understanding human - health and disease, care systems and / or public health.
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Learning Outcomes

The graduate of this program will be able to:

- Apply in expert level strategies of search, selection and analysis of relevant knowledge in the area of expertise regarding aspects such as: mechanisms of disease (pathogenesis); detection, diagnosis or history of disease; therapeutic interventions, including trials with medicines or drugs; primary and secondary prevention and health promotion; human behavior; health services and epidemiology, among others.
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Campus that offer this program

Campus	Number of periods offered	From	Closed for new students
Guadalajara	Complete	Semester Feb - Jun 2023	
Monterrey	Complete	Semester Aug - Dec 2012	

Last update: 05/August/2022

Graduate Requirements

To obtain a Ph. D. degree in Nanotechnology at Tecnológico de Monterrey, students are required to:

1. Have completely finished the undergraduate cycle prior to passing the first course in the curriculum of the specialty, master program, medical residency, or doctoral program.
2. Have fulfilled, in compliance with existing standards, the academic prerequisites of the corresponding program, through proficiency tests or the corresponding remedial courses.
3. Have obtained a bachelor degree—with the antecedent of high school or its equivalent—that is equivalent to those offered by Tecnológico de Monterrey.
4. Have covered all the courses in the given curriculum, either by passing the courses at Tecnológico de Monterrey or by obtaining revalidation or equivalence agreements—in compliance with the standards—corresponding to part of the courses taken at other institutions, and passed the remaining courses at Tecnológico de Monterrey. Courses taken at foreign universities with which there are agreements are considered, for the effects of this article, as courses taken at Tecnológico de Monterrey, as long as they do not exceed a set percentage of the curriculum established by each graduate program.
5. In those curricula that so specify, to have prepared a research project or thesis that, having been defended before an academic committee, has been approved by said committee.
6. Have taken at least the equivalent of the second half of the corresponding curriculum at Tecnológico de Monterrey, in the case of students with revalidation or equivalence agreements at this level. Flexibility may be exercised in this standard in graduate programs that, under agreement, may be established jointly with other universities.
7. Have published as the lead author (or have evidence of acceptance of the final version for publication) at least one scientific article on a topic related to their research project, with the following characteristics:
 - a) The scientific article must adhere to international authorship guidelines (International Committee of Medical Journal Editors. Recommendations for the conduct, reporting, editing, and publication of scholarly work in medical journals).
 - b) It must have been published recently, no more than three years ago, and in a Scopus journal (Q1/Q2) or have a journal impact factor of at least 1.

In the case of shared authorship, the article can only be used once for graduation purposes in any of the graduate programs of the School of Medicine and Health Sciences, only by the student who appears first on the list of authors.

Last update: 8/February/2020

Previous update: 2/March/2016 [click here](#).