



Centro de Investigación
en Computación

Instituto Politécnico Nacional

Convocation 2022 B

DCC

PhD program in
Computing Science

ESTE PROGRAMA ES PÚBLICO, AJENO A CUALQUIER PARTIDO POLÍTICO. QUEDA PROHIBIDO EL USO PARA FINES DISTINTOS A LOS ESTABLECIDOS EN EL PROGRAMA.



EDUCACIÓN
SECRETARÍA DE EDUCACIÓN PÚBLICA



Instituto Politécnico Nacional
"La Técnica al Servicio de la Patria"



Presentation

Center for Computing Research (CIC-IPN), National Polytechnic Institute (IPN).

CALL

To those interested in pursuing studies in the **PhD program in Computing Science**, off line modality, to start in August 2022 under the following bases:

The CIC-IPN offers the **PhD in Computer Science (DCC)** program, a full-time program designed to train professionals who hold the degree of Masters in Science and/or Engineering and who aspire to obtain the PhD degree, to develop research in the field of Information and Communication Technologies (ICT).

To obtain the degree of Doctor of Computer Science, the student must demonstrate their ability to carry out original and quality research. For this, the DCC program offers its students a solid and international-quality training, which is recognized and endorsed by the National Quality Postgraduate Program (PNPC) of the National Council of Science and Technology (CONACyT).

Complete information about the DCC Curriculum can be found at the link: <http://www.cic.ipn.mx/dcc>

Admission Profile

The applicant to the PhD in Computer Science (DCC) program must have solid knowledge that allows him or her to approach the analysis and design of computational systems, models and algorithms, as well as a good level in the domain of mathematics, which together allow him or her to develop an original and quality research project in the field of computer science.

The applicant must have a Master of Science or Master of Engineering degree, as well as have such an academic and professional history that demonstrates their academic and intellectual capacity and consistency in their trajectory, which allows ensuring the completion of their doctoral studies successfully and within the statutory times.

Graduate Profile

The Doctor in Computer Science will have solid knowledge, experience and creativity to carry out scientific research, generating relevant and innovative contributions to provide solutions to scientific and technological problems, in any of the program's specialties.

The PhD in Computer Science will have developed during his or her training process the critical capacity, aptitudes and abilities to solve problems that support and promote the general advancement of knowledge, and that respond to the needs of the industry and the public and social sectors, both nationally and internationally. Through the application of the acquired knowledge and skills developed in their doctoral work, PhDs in computer science will be able to promote scientific and technological research, carrying out basic and applied research projects.

Entry Requirements

To enter the DCC postgraduate program, the applicant must meet the requirements established in the IPN Postgraduate Studies Regulations (REP-IPN), chapter I, articles 8, 10, 11 and 12. For more information, the REP-IPN can be consulted through the following URL: <http://www.cic.ipn.mx/REP/>

The requirements are as follows:

1. Possess an official BSc degree or certificate of completion of studies, or equivalent document for applicants who have studied abroad.
2. Possess, when appropriate, the master's degree certificate or the master's degree examination certificate.
3. Approve the admission process established in this call, demonstrating the ability to continue their studies at the doctoral level, through reaching the minimum score established by the Admission Committee for this process, the result of an interview with said Committee, as well as the defense to the presentation of the research proposal for doctoral studies.
4. Accredited with a minimum qualification of eight or equivalent, the level of knowledge of the English language in four skills, taking as a base criterion level B1 of the common [European framework of reference for languages](#), in accordance with the provisions of article 8, fraction VI and its last paragraph, and the agreement of the Board of professors of the Computer Research Center corresponding to this.
5. Not having caused a permanent withdrawal from any postgraduate program of the Institute, by a well-founded and motivated resolution of the Academic Board, unless it has been revoked by said collegiate body.
6. Express, through the letter of reasons and during an interview with the Admission Committee, the interest that he or she has

in entering doctoral studies and in developing research work in any of the lines promoted by the Research Computing Center.

Revalidation of Credits

Those applicants interested in obtaining a revalidation of credits from previously completed postgraduate learning units must submit the application to the teachers' Board in accordance with the provisions of articles 15 and 17 of the IPN Postgraduate Studies Regulations.

Requirements for Obtaining the Degree

Enrolled students must abide by the provisions of article 49 of the IPN Postgraduate Studies Regulations regarding the requirements for obtaining the degree, in accordance with the provisions of the Association of Professors, namely:

- I. Be enrolled in the Doctoral program in Sciences of the Computing.
- II. Accredited the predoctoral exam.
- III. Comply with the definitive individual program of activities.
- IV. Have any of the following products, which must be related to their research work:
 1. Scientific or technological article published in a specialized journal that is at level A, B or C of the Institute's Journal Catalog or acceptance letter for such publication.
 2. Patent registration with the Mexican Institute of Industrial Property.

The tutorial committee will evaluate the concordance of the products with the student's research work, and will pass the result of the evaluation for approval by the Board of Professors of the postgraduate program.

- V. Write a doctoral thesis with the characteristics indicated in the Regulations for Postgraduate Studies of the IPN.
- VI. Pass the graduation exam.

Research proposal for doctoral studies

The applicant to enter the PhD in Computer Science must begin with the preparation of a research proposal for their doctoral studies, which must be carried out under the supervision of a nominating professor, which will make up the applicant's file research. The nominating professor is a professor of the CIC-IPN with a doctorate degree who proposes the admission of the applicant to the DCC as his or her possible thesis supervisor.

In this proposal, the applicant will preliminarily describe a possible research topic. In this proposal, the applicant will preliminarily describe a possible research topic.

The research proposal for doctoral studies must include the following elements:

- a. Title of the proposal.
- b. Preliminary description of the problem to be solved.
- c. Review of related works reported in the state of the art, inside and outside the CIC.
- d. General objective.
- e. Goals (specific objectives).
- f. Possible expected results and the relevance of the

expected scientific contribution.

- g. Tentative program of activities.
- h. Resources necessary for the development of the proposal.
- i. References (include, in full length in PDF format, the main articles you consulted).

Admission Process

The admission process begins with the applicant's online registration. Subsequently, the academic, research and accreditation files must be sent, and finally attendance at interviews with the Admission Committee is required for the defense of the research proposal for doctoral studies and for a psychometric evaluation. The complete process is described in the following steps:

Step 1: Registration of application for admission and submitting the Identity File.

a. The applicant must register his or her application to start the admission process, through the web application available at the following link: <http://www.cic.ipn.mx/registroB22/>

Once the application is registered, the applicant will obtain an identifier number (FOLIO), which will be used subsequently to send files and to monitor the progress of the admission process.

b. Upon registering, the applicant should submit the Identity File in the form of a PDF file, which should contain the set of scanned versions of the following documents:

1. Application to the admission process.
2. CURP* or passport for foreigners.
3. Birth certificate.

The Identity File will be sent through the following link (copy the link to your browser):

| | |
|-----------------------|---|
| Registration platform | https://forms.gle/xzNEbvjW1Evfy86Y9 |
| File platform: | https://forms.gle/7MZBh9MiqH5DeDix6 |
| File to send: | PDF file with the name DCC01-FOLIO.pdf , which must contain the Identity File. |

Here **FOLIO** corresponds to the identifier obtained from the online registration process. In response to the mail, acknowledgment of receipt and feedback will be provided about the information received in said file.

Step 2: Sending the Academic Record.

The applicant must compile and send the Academic Record in the form of a PDF file, which must contain the compilation of the digitized versions of the following documents:

1. Certificate of undergraduate studies, where the general average of grades is specified, as well as the conclusion of the same.
2. Bachelor's degree certificate or a proof of ongoing process of its issuing.
3. Professional license or proof of ongoing process of its issuing (if applicable).
4. Certificate of qualifications of Master's studies, where the general average of grades is indicated.
5. Diploma and certificate of the Master's degree. In case of being in process, present the documents that prove it.
6. Curriculum Vitae of the applicant.
7. Letter of reasons for entering the program, addressed to the Admission Committee and signed by the applicant.
8. Letter stating that you have not withdrawn from any IPN postgraduate program, addressed to the Admission Committee and signed by the applicant.

The academic record will be sent through the following link

(copy the link to your browser):

| | |
|---------------|--|
| File platform | https://forms.gle/7MZBh9MiqH5DeDix6 |
| File to send: | PDF file with the name DCC02-FOLIO.pdf , which must contain the Academic Record |

Here **FOLIO** corresponds to the identifier obtained from the online registration process. In response to the mail, acknowledgment of receipt and feedback will be provided about the information received in said file.

Notes for the case of foreign applicants:

a) **Translation:** Proof of studies abroad such as the bachelor's degree, study certificate, as well as the birth certificate, must be presented with their translation into Spanish. If it is in a language other than English or Spanish, its translation into one of those two languages must be submitted at the time of sending the documents.

b) ***Professional license and CURP:** The sending of the professional license does not apply to foreign applicants. Sending the CURP is not mandatory for foreign applicants, who, if admitted, will receive said code at the time of obtaining their immigration status upon arrival to Mexico.

For more information on procedures for foreign applicants, you can see the following link:

<http://www.cic.ipn.mx/aspirantesExtranjeros/>

Step 3: Submission of Research File.

The applicant must compile and send the **Research File** in the form of a link that allows the downloading of the electronic version of the following documents, organized in folders according to the following:

1. PDF document containing their research proposal for PhD studies.
2. PowerPoint file containing the presentation of the research proposal for PhD studies, considering a maximum length of 15 slides.
3. Nomination letter signed by the nominating professor.

The **Research File** will be sent through the following link (copy the link to your browser):

| | |
|---------------|---|
| File platform | https://forms.gle/7MZBh9MiqH5DeDix6 |
| File to send: | PDF file with the name DCC03-<FOLIO>.pdf , which must contain the Research File. |

Where **<FOLIO>** corresponds to the identifier obtained from the online registration process. In response to the mail, acknowledgment of receipt and feedback will be provided about the information received in said file.

Step 4: Presentation and defense of the research proposal for PhD studies.

The Coordinator of the DCC program will provide feedback to the applicant regarding compliance with steps 1 to 3. Once these are met, the presentation and defense of the research proposal will be scheduled, for which the coordination of the program will inform the applicant on the date, time, assigned jury and videoconference session identifier.

It is important to note that the presentation will be made online through videoconference and must have a maximum duration of 20 minutes and will be developed with the participation of the nominating professor as part of the designated jury.

Step 5: Send the Accreditation File.

The applicant must compile and send the **Accreditation File** in the form of a PDF file, which should contain a set of the digitalized versions of the following documents:

1. Proof of compliance with one of the following criteria:
 - a) The result of the knowledge exam Graduate Record Examination General Test (GRE-General Test) or Exam for Admission to Graduate Studies (EXADEP) or EXANI III Exam. GRE and EXADEP exam certificates are valid with a maximum age of up to 5 years at the closing date of the enrollment period.
The EXADEP has been discontinued, but we still accept the participation of those applicants who previously had taken this exam.

See the section "Guide to GRE / EXADEP Accreditation".

Publication of Results

The Admission Committee will evaluate each of the applicants' files and determine those that will be admitted to the PhD in Computer Science program. The list of admitted applicants will be published in the section "Admission Process" of the official portal of the CIC IPN. The ruling will be final.

Accepted applicants must attend the induction sessions, which will take place via videoconference, in accordance with the schedule published in the section Admission Process of the official CIC IPN portal.

For foreign applicants. To expedite the immigration procedures of foreign applicants, the Admission Committee will promptly notify the applicant about the result of the admission process once the results have been published.

- b) Have equivalent research products judged as such by the Admission Committee: patents or WoS or Scopus publications in extenso (except publications in CIC journals).

In the case of choosing to present the research products, the applicant must add to their work plan the publication of at least one article in a JCR-indexed journal or present evidence to their tutorial committee that they have everything ready for publication in the period no longer than 5 semesters.

2. Document certifying mastery of four English language skills with reference to level B1. See the section "Guide to the Accreditation of the English language".
3. Apostille of the proof of BSc degree and certificate of studies (only for studies accredited abroad) is presented at the time of enrollment.
4. Apostille of the master's diploma certificate and study certificate (only for accredited studies abroad) is presented at the time of enrollment.
5. Apostille of the birth certificate (only for foreigners) is presented at the time of enrollment.

The sending of the Accreditation File will be made through the following link (copy the link to your browser):

| | |
|---------------|---|
| File platform | https://forms.gle/7MZBh9MiqH5DeDix6 |
| File to send: | PDF file with the name DCC04-<FOLIO>.pdf, which must contain the Accreditation File. |

Where <FOLIO> corresponds to the identifier obtained from the online registration process. In response to the mail, acknowledgment of receipt and feedback will be provided about the information received in said file.

The admission process will be conducted in virtual form while the COVID-19 lockdown lasts.

Selection Criteria

In the candidate's selection process, the following will be considered:

- The score obtained for the ability of quantitative reasoning in the EXADEP exam or in the GRE exam or its equivalent in publications as established by the Admission Committee.
- Compliance with the requirement of the English language proficiency level.
- The quality of the defense of the research proposal for doctoral studies.

- The result of the psychometric evaluation by the Admission Committee.
- The timely and proper delivery of academic, research and accreditation files.

Donations

Admitted applicants must formalize their registration to the program without any compulsory payment, but with the possibility of making a voluntary contribution as a donation for opening the file, to the account indicated at the time of registration by the academic unit.

The accounts for collecting donations must correspond to the departments of the National Polytechnic Institute empowered for this purpose.

Maximum Enrollment

The maximum enrollment of students projected for admission to the Doctorate in Computer Science is the following, which will be covered only with those applicants who meet the requirements established in the admission process.

| Intake | Maximum enrollment |
|-------------------|--------------------|
| August 15th, 2022 | 25 students |

Although the Computer Science Doctorate program is a full-time program, for each admission process up to 20% of accepted applicants may choose to register as part-time students (without possibility of the CONACyT scholarship).

Scholarships and Supports

The Doctorate in Computing Science is listed in the list of National Quality Postgraduate Program of CONACyT, within which it has the highest level of quality recognition as an **International Competence Program**.

Students enrolled in the CIC-IPN doctoral program in Computer Science (DCC) may request a monthly maintenance grant corresponding to 6 Units of Measurement and Update (UMA) provided that they meet the requirements established by the Regulation of CONACyT scholarships.

The CONACyT grants this scholarship for a maximum period of **8 semesters** to those students with **exclusive dedication** within the postgraduate program, in accordance with the current regulations of the CONACyT itself.

The CIC-IPN will nominate all accepted students who apply for a CONACyT scholarship according to an order of priority corresponding to the score of the knowledge test or its equivalent in publications as reported in the Accreditation File regardless of the cut-off in which they were admitted (first or second cut-off). In the event of a tie, the CIC Board of Professors will analyze the additional elements to consider to determine and resolve the order of priority in the scholarship applications. The number of scholarships assigned by CONACyT will depend on its budget availability.

For more information, consult the link:
<http://www.cic.ipn.mx/becasCONACYT/>

The IPN provides the coverage of medical services of the Mexican Institute of Social Security (IMSS) during the period of postgraduate studies, with the corresponding permanent social security number.

Important dates

In order to speed up the admission process, two cut-off dates are established. In the early cut-off, a maximum of 9 students will be accepted. Applicants who could not be admitted in the first cut-off, due to having reached the maximum number of places or pending documents in their files, will be evaluated in the final cut-off. The priority in applying for scholarships is independent of acceptance in one cut-off or another. **It is recommended to apply in the first cut-off.**

It is important to register in the system as soon as possible. **Students who have not registered in this, will not be considered in this process.**

| Early Cut-off | |
|--|---|
| Description | Period / Date (GMT-6) |
| Registration of the application for admission and submitting the Identity File | From March 1st to April 12th, 2022 |
| Submitting of the Academic File | Until April 12th, 2022 |
| Submitting of the Accreditation File | Until April 12th, 2022 |
| Submitting of the Research File | Until April 12th, 2022 |
| Defense of the research proposal for doctoral studies via videoconference | Until April 26th, 2022, scheduled by the Coordinator of the program |
| Publication of results | April 29th, 2022 |

| Final Cut-off | |
|--|--|
| Description | Period / Date (GMT -6) |
| Registration of the application for admission and submitting the identity file | Until June 17th, 2022 |
| Submitting of the Academic File | Until June 17th, 2022 |
| Submitting of the Accreditation File | Until June 17th, 2022 |
| Submitting of the Research File | Until June 17th, 2022 |
| Defense of the research proposal for doctoral studies via videoconference | Until June 28th, 2022, scheduled by the Coordinator of the program |
| Publication of results | July 1st, 2022 |

For admitted applicants:

| Description | Period / Date (GMT -6) |
|---|----------------------------|
| Induction session for admitted students | August 08th, 2022 |
| New students' registration | August 11th and 12th, 2022 |
| Beginning of the semester | August 15th, 2022 |

In the event of a major situation that makes it impossible for the accepted applicant to enroll in the B22 semester, they may request to transfer their enrollment to the next semester.

Information

For information related with academic aspects

Dr. Grigori Sidorov

Coordination of PhD program in Computing Science

E-mail: sidorov@cic.ipn.mx

For information related to administrative aspects:

Lic. Margarita Cedeño

Department of Educational Technologies

E-mail: admision@cic.ipn.mx

Facebook Messenger: [@admisionCIC](https://www.facebook.com/admisionCIC)

Equality and non-discrimination

The academic and administrative processes related to this call and to the completion of postgraduate studies at the National Polytechnic Institute are carried out without any distinction, whether for reasons of gender, ethnic origin, color, language, religion, political opinions or others. All this to ensure fairness, equality and non-discrimination.

This is an English translation for this call provided for convenience of the applicants. Any situation regarding this call will be resolved in terms of the official Spanish version.

Unforeseen situations

Any situation arising during the admission process not contemplated in this call will be resolved in full compliance with the Regulations for Postgraduate Studies by the competent authority as appropriate.

