# GRADUATE PROGRAMS IN PHYSICS PHYSICS INSTITUTE UNIVERSIDAD AUTONOMA DE SAN LUIS POTOSI

# **Graduate Programs in Physics**

- I. Master in Science (Physics)
- **II.** Doctor in Sciences (Physics). This is equivalent to Ph.D.

The Graduate Programs in Physics from the Physics Institute are Accreditated by the National Register of Graduate Programs from the National Council for Science and Technology. The Accreditation levels of Master and Doctor in Science programs are International and Consolidate, respectively.

# **ADMISSION GUIDELINES FOR FOREIGN STUDENTS**

Director of Graduate Program: Dr. Miguel Ángel Ojeda.

#### **Information and Admissions**

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#### I. MASTER IN SCIENCE PROGRAM

The M. Sc. Program is designed to be completed within 2 years. Foreign students' admitted to this Program are eligible for a fellowship from the Consejo Nacional de Ciencia y Tecnologia (CONACyT) from Mexico. The duration of the fellowship is exactly the duration of the program, 2 years, without extension. It is the student responsibility to dedicate 100% of their time exclusively to the academic program to finish on due time to obtain the M. Sc. Degree.

# A. ADMISSION REQUIREMENTS

- 1. Applications must be submitted early on each year to be able to finish all paper work needed by August. Accepted students will begin core courses on September. It is advice that all prospect students do all paper work in advance. To be admitted all paper work must be done and/or approved on due time.
- 2. Prospect candidates must have:
  - a. A Bachelor degree in Physics or in an area closely related to Physics.
  - b. A minimal global average grading of 8.0 (scale 1-10) in the Bachelor program.
- 3. The admission process to the M. Sc. has two evaluations.
  - a. Oral Evaluation: consisting of an interview with the Admission Committee via Skype.
  - b. Writing Examination: seeks to evaluate general knowledge in physics.
- 4. Letter of Intention addressed to Dr. Miguel Ángel Ojeda López, Graduate Program Director. Prospect candidates must write a letter of intention clearly specifying that he/she is applying for a M. Sc. Program in Physics, reasons to be interested in this program, any previous training in Physics, research area of interest and indicate two possible dates for the interview. This letter must be accompanied by:
  - a. An updated CV
  - b. Documents to proof full completion of Bachelor degree.
  - c. A Transcript indicating the final global average obtained Bachelor courses. Please indicate the scale used by your Institution for grading exams (1-10 o 1 a 5, etc).
  - d. Name, address and email of two or three persons qualified to describe your academic performance. The Graduate Program Office will contact these persons directly to ask for a recommendation letter.
  - e. Birth date Certificate.
  - f. Copy of the first two pages of your valid passport showing your picture, name and citizenship.
  - g. Two recent pictures.
- 5. The Graduate Program Director will contact you to let you know the date of the oral evaluation.
- 6. Once a student has a conditional acceptance, the Graduate Program office will assign a date and mechanism for the writing exam. This is the last step of the evaluation process. After grading the writing exam, the Admission Committee determines the definitive acceptance or rejection of an application.
- 7. The Graduate Program Office will let you know the outcome of your Admission application.

#### B. MANDATORY IMMIGRATION PAPERWORK.

- 1. Foreign students accepted to the Graduate Programs must apply for a Non Immigrant FM-3 Student Visa. A FM3 visa must be obtained through a Mexican embassy or consulate in your home country before you depart.
- 2. Proof documents showing the Bachelor degree and Transcript must be Apostille by Ministry, Department or Secretary of Education of your home country.

#### C. REQUIREMENTS TO OBTAIN A MASTER IN SCIENCE DEGREE IN PHYSICS

- 1. 80 credits equivalent to 8 courses: 6 core courses, 2 elective courses and one laboratory rotation.
- 2. A minimal average grading of 8.0 during the entire program (scale 1-10).
- 3. One course cannot be failed more than once.
- 4. Must have a Bachelor Degree.
- 5. A thesis work must be done under the direction of Faculty member of the Physics Institute.
- 6. Approve the final exam.

# **Academic Program by Semester**

#### Semester I

Mathematical Methods Electromagnetism I Topics on Modern Physics

## Semester II

Quantum Mechanics I Statistical Physics I Elective course I Laboratory (summer)

### Semester III

Quantum Mechanics II Elective course II

#### Semester IV

Research Project Graduation

#### **Core Courses**

- 1. Mathematical Methods I
- 2. Electromagnetism I
- 3. Modern Physics Topics
- 4. Quantum Mechanics I
- 5. Statistical Physics I
- 6. Quantum Mechanics II

#### **Elective Courses**

- Solid State I,
- 2. Solid State II
- 3. Electromagnetism II,
- 4. Topics on Advance Quantum Mechanics
- 5. Statistical Physics II,
- **6.** Semiconductors Physics
- 7. Optical Properties of Solids
- 8. Group Theory in State Solid Physics
- 9. Dynamic Systems
- **10.** Introduction to Ergodic Theory
- 11. Electronic Structure of Molecules
- 12. Introduction to Elemental Particles I,
- 13. General Relativity
- **14.** Fluctuation Theory
- 15. Physics of Soft Condensed Matter
- 16. Physical chemistry of Polymers
- 17. Introduction to Materials Science
- 18. Introduction to Magnetism and Magnetic Materials.

### II. DOCTOR IN SCIENCE PROGRAM

The Doctor in Science Program is designed to be completed within 4 years. This program is equivalent to a Ph. D. Program offered by foreign institutions. Foreign students' admitted to this Program are eligible for a fellowship from Consejo Nacional de Ciencia y Tecnologia (CONACyT), Mexico. The duration of the fellowship is exactly the duration of the program, 4 years, without extension. It is students responsibility to dedicate 100% of their time exclusively to the academic program to finish on due time to obtain the Dr. in Sc. Degree.

Candidates must look carefully the research area and publications of each faculty member and contact those that may appeal more. Based on that, candidates must choose two or three faculty members that may serve as thesis director. Final decision about thesis director can be made once he/she is accepted.

## A. Admission Requirements

- Applications are accepted throughout the year, but paper work must be done by July and December. Admitted students can start the program on January or September of each year. It is advice that all prospect students do all paper work in advance. To be admitted into the Dr. in Sc. Program all paper work must be done and/or approved on due time.
- 2. Prospect candidates must have:
  - a. A Master in Science degree in Physics or in an area closely related to Physics.
  - b. A minimal global average grading of 8.0 (scale 1-10) in the M. Sc. program.
- 3. The admission process to the Dr. in Sc. Program includes two evaluations.
  - a. Oral Evaluation: consisting of an interview with the Admission Committee via Skype.
  - b. Writing Examination: Pre-doctoral Examination.
- 4. Letter of Intention addressed to Dr. Miguel Ángel Ojeda López, Graduate Program Director. Prospect candidates must write a letter of intention clearly stating that he/she is applying for a Doctor in Science Program in Physics, reasons to be interested in this program, previous training in Physics, research area of interest, name of possible thesis directors and indicate two possible dates for the interview. This letter must be accompanied by:
  - a. An updated CV
  - b. Proof Documents showing the M. Sc. degree.
  - c. A Transcript indicating the final global average obtained during the M. Sc. courses. Please indicate the scale used by your Institution for grading exams (1-10 o 1 a 5, etc).
  - d. Name, address and email address of two or three persons qualified to describe your academic performance and achievements during the M. Sc. The Graduate Program Office will contact these persons directly to ask for a recommendation letter.
  - e. Birth date Certificate.
  - f. Copy of the first two pages of your valid passport showing your picture, name and citizenship.

- g. Two recent pictures.
- 5. The Graduate Program Office will contact you to let you know the date of the oral evaluation.
- 6. Once a student has a conditional acceptance, the Graduate Program office will assign a date and mechanism for the writing pre-doctoral exam. This is the last step of the evaluation process. After grading the writing exam, the Admission Committee determines the definitive acceptance or rejection of an application.
- 7. The Graduate Program Office will let you know the outcome of your application.

#### B. MANDATORY IMMIGRATION PAPERWORK.

- 1. Foreign students accepted to the Graduate Programs must apply for a Non Immigrant FM-3 Student Visa. A FM3 visa must be obtained through a Mexican embassy or consulate in your home country before you depart.
- 2. Proof documents showing the M. Sc. degree and Transcript must be Apostille by Ministry, Department or Secretary of Education of your home country.

#### C. REQUIREMENTS TO OBTAIN A DOCTOR IN SCIENCE DEGREE IN PHYSICS

- 1. All courses recommended by the Academic Committee must be approved.
- 2. Have a minimal global average grading of 8.0 (scale 1-10).
- 3. A single course cannot be failed more than once.
- 4. English exam must be approved.
- 5. Have a Dissertation done under direction of a Physics Institute Faculty.
- 6. At least one paper should be already published in an international peer review journal.
- 7. Qualifying exam must be approved.
- 8. Oral Dissertation Defence must be approved.