



# INSTITUTO POLITÉCNICO NACIONAL, MEXICO

## "La Técnica al Servicio de la Patria"

### MISSION

The Instituto Politécnico Nacional is a public Institution, leader of technological education in Mexico. The Institute educates professionals in high-school, undergraduate, graduate and post-graduate studies, conducts research and extends to society its results with quality, accountability, ethics, tolerance, and social commitment.



### FACTS

- It was founded in 1936 to train technicians and professionals in the areas of engineering, science, applied technologies and management.
- It is considered the leading technological higher education Institution in Mexico.
- It has more than 355,000 students enrolled in its academic units, language centers and continuing education centers.
- Most of our academic programs in all levels are certified by its excellence by external agencies.
- It has 15,000 educational staff and researchers.
- Close to 10,000 support staff.
- More than 1,000 Research Projects on 2011.
- Academic Cooperation with more than 150 institutions all over the world.
- More than 800,000 alumni.

### FIELDS OF STUDY

We offer 230 academic programs in all levels (technical, undergraduate, graduate, postgraduate), in the fields of:

- Engineering, Physics, Mathematics and Applied Technologies.
- Health and Biological Sciences.
- Business and Administration.

### NATIONAL PRESENCE

- 16 High Schools.
- 26 Schools for Undergraduate and Graduate Studies.
- 20 Research Centers distributed across the Nation.
- 2 Language Centers in Mexico City.
- 12 Centers for Continuing Education Nationwide.
- 1 TV Broadcast System

### APPLICATION PACKAGE FOR EXCH. STUDENTS

- Nomination letter from Sending Institution
- **IPN Visiting Student Application Form.**  
([http://www.cca.ipn.mx/operativo/movilidad\\_academica/formatos\\_movilidad/formatos\\_movilidad.html](http://www.cca.ipn.mx/operativo/movilidad_academica/formatos_movilidad/formatos_movilidad.html))
- Transcripts of studies in progress.
- Proposal of subjects. (Learning Agreement)
- ID with photograph.

### ACADEMIC OFFER

[http://www.des.ipn.mx/WPS/WCM/CONNECT/DES/DES/INICIO/OFERTA\\_EDUCATIVA/OFERTA\\_EDUCATIVA/ICFM/INDEX.HTM](http://www.des.ipn.mx/WPS/WCM/CONNECT/DES/DES/INICIO/OFERTA_EDUCATIVA/OFERTA_EDUCATIVA/ICFM/INDEX.HTM)

Language of Instruction: Spanish

**\*See ANEX III for Offer of courses taught in ENGLISH.**

### ACADEMIC CALENDAR

	Semester 2	Semester 1
Period	Jan to June	Aug to Dec
Deadline for Exchange Applications	Nov	May
Welcome Session	January (2 <sup>nd</sup> week)	July (Last week)
Vacations	1 wk. on Apr & 3 wks. on July	2wks. on Dec.& 2wks. on Jan
Final Exams	June (last week)	Dec (2 first wks.)

### CONTACT INFORMATION

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Incoming Students Office



**INSTITUTO POLITÉCNICO NACIONAL, MEXICO**  
**"La Técnica al Servicio de la Patria"**

**ACADEMIC OFFER (ANEX I)**  
**LICENCIATURAS / UNDERGRADUATE STUDIES**

**BASIC SCIENCES, ENGINEERING AND TECHNOLOGY**

Ing. en Alimentos / Food Engineering  
Ing. Aeronáutica / Aerospace Engineering  
Ing. Ambiental / Environmental Engineering  
Ing. en Arquitectura / Architecture  
Ing. Biomédica / Biomedical Engineering  
Ing. Biónica / Bionics Engineering  
Ing. en Biotecnología / Biotechnologist Engineering  
Ing. Bioquímica / Biochemical Engineering  
Ing. Civil / Civil Engineering  
Ing. en Comunicaciones y Electrónica / Electronics & Communications Engineering  
Ing. en Computación / Computer Engineering  
Ing. en Control y Automatización / Control and Automation Eng.  
Ing. Eléctrica / Electrical Engineering  
Ing. Farmacéutica / Pharmaceutical Engineering  
Ing. en Geofísica / Geophysics Engineering  
Ing. en Geología / Geologist Engineering  
Ing. Industrial / Industrial Engineering  
Ing. en Informática / Informatics Engineering  
Ing. Mecánica / Mechanical Engineering  
Ing. Mecatrónica / Mechatronics Engineering  
Ing. en Metalurgia y Materiales / Metallurgy and Materials Eng.  
Ing. Petrolera / Petroleum Engineering  
Ing. Química Industrial / Chemical Engineering  
Ing. Química Petrolera / Chemical Oil Engineering  
Ing. en Robótica / Robotics Engineering  
Ing. en Sistemas Ambientales / Environmental Systems Eng  
Ing. en Sistemas Automotrices / Automotive Engineering  
Ing. en Sistemas Computacionales / Computer Systems Eng.  
Ing. Telemática / Telematics Engineering  
Ing. Textil / Textile Engineering  
Ing. en Topografía y Fotogrametría / Topography  
Ing. en Transporte / Transport Engineering

Licenciado en Física y Matemáticas / Physics and Mathematics

**BUSINESS AND ADMINISTRATION**

Contador Público / Public Accountant  
Licenciado en Administración Industrial / Industrial Management  
Licenciado en Rel. Comerciales / Trade  
Licenciado en Negocios Internacionales / International Business  
Licenciado en Economía / Economics  
Licenciado en Turismo / Tourism Management

**HEALTH AND BIOLOGICAL SCIENCES**

Biólogo / Biology  
Médico Cirujano y Homeópata / Surgeon and Homeopath MD.  
Médico Cirujano y Partero/ Surgeon and Obstetrician MD.  
Químico Bacteriólogo Parasitólogo/ Chemist (Clinical Analyst)  
Químico Farmacéutico Industrial / Pharmaceutical Chemist  
Licenciado en Enfermería / Nursing  
Licenciado en Enfermería y Obstetricia / Nursing (Obstetrician)  
Licenciado en Nutrición / Nutrition  
Licenciado en Odontología / Dentistry  
Licenciado en Optometría / Optometry  
Licenciado en Servicio Social / Social Work  
Licenciado en Psicología / Psychology



**ACADEMIC OFFER (ANEX II)**  
**GRADUATE STUDIES**

**MAESTRIAS / M. Sc.**

**ENGINEERING:**

Arquitectura y Urbanismo / Architecture  
Ingeniería Civil / Civil Engineering  
Ingeniería de Cómputo / Computer Systems Engineering  
Ingeniería Eléctrica / Electrical Engineering  
Ingeniería Electrónica / Electronics Engineering  
Ingeniería Industrial / Industrial Engineering  
Ingeniería en Manufactura / Manufacturing Engineering  
Ingeniería Mecánica / Mechanical Engineering  
Ingeniería Metalúrgica / Metallurgy  
Ing. en Micro Electrónica / Micro-electronics Engineering  
Ingeniería Química / Chemical Engineering  
Ingeniería en Sistemas Energéticos / Energy Systems Eng.  
Termofluidos / Thermo Fluids  
Ingeniería de Telecomunicaciones / Telecommunications

**COMPUTER SCIENCES:**

Ciencias de la Computación / Computer Sciences  
Sistemas Digitales / Digital Systems  
Seguridad y Tecnología de la Información / Security & Information Technology  
Tecnología de Cómputo / Computer Systems Technology

**MBA:**

Administración / Business Administration  
Administración e Innovación del Turismo / Tourism Management

**BIOLOGICAL AND HEALTH SCIENCES:**

Alimentos / Food Science Bioprocesos / Bioprocesses  
Biotecnología Aplicada / Biotechnology  
Biomedicina Molecular / Molecular Biomedicine  
Biomedicina y Biotecnología Molecular / Biomedicine and Molecular Biotechnology  
Biotecnología Genómica / Genomic Biotechnology  
Ciencias Químico-Biológicas / Chemical and Biological Sciences  
Desarrollo de Productos Bióticos / Development of Biotic Products  
Farmacología / Pharmacology  
Inmunología e Inmunoparasitología / Immunology

**BASIC SCIENCES:**

Ciencias Fisicomatemáticas / Physics and Mathematics  
Matemáticas / Mathematics

**INTERDISCIPLINARY STUDIES:**

Manejo Agroecológico de Plagas y Enfermedades / Agricultural Science  
Medio Ambiente y Desarrollo Integrado / Environment and Sustainable Development  
Manejo de Recursos Marinos / Marine Resources Management  
Recursos Naturales y Medio Ambiente / Natural Resources and Environment  
Tecnología Avanzada / Advanced Technology  
Política y Gestión del Cambio Tecnológico / Policy and Technological Change Management  
Gestión Ambiental / Environmental Management  
Conservación y Aprovechamiento de Recursos Naturales / Natural Resources Management

**DOCTORADOS / Ph. D.**

Materiales / Physics of Materials  
Ingeniería Mecánica / Mechanical Engineering  
Metalurgia y Materiales / Metallurgy and Materials  
Comunicaciones y Electrónica / Electronics and Communications

Ciencias de la Computación / Computer Sciences  
Ingeniería de Sistemas / Systems Engineering

Ciencias Económicas / Economics

Ciencias en Alimentos / Food Science  
Biotecnología / Biotechnology  
Biomedicina y Biotecnología Molecular / Biomedicine and Molecular Biotechnology  
Desarrollo de Productos Bióticos / Development of Biotic Products  
Inmunología e Inmunoparasitología / Immunology  
Ciencias Químico-Biológicas / Chemical and Biological Sciences  
Investigación en Medicina / Medicine

Ciencias Marinas / Marine Sciences  
Tecnología Avanzada / Advanced Technology  
Conservación y Aprovechamiento de Recursos Naturales / Natural Resources Management



**INSTITUTO POLITÉCNICO NACIONAL  
M É X I C O**

**ACADEMIC OFFER IN ENGLISH**

**HIGHER SCHOOL OF COMPUTING  
(COMPUTER SYSTEMS ENGINEERING)**

UNDERGRADUATE Level III Courses (5 <sup>th</sup> Semester Upwards)			
1	Bioinformatics	22	Graphical User Interfaces
2	Evolutionary computing	23	Basic Processing Digital Signal
3	Cryptography	24	SCADA Systems
4	Web Security	25	Digital Control
5	Analysis and design of Parallel Algorithms	26	Fuzzy Systems Applied to Engineering
6	Parallel and Concurrent Programming	27	Computational Intelligence in Control Engineering
7	Computer Graphics	28	Digital Processing of Voice and Image
8	Computer Animation	29	Advanced Signal Processing
9	Pattern Recognition	30	Genetic Algorithms
10	Distributed Data Base	31	Supervised Artificial Neural Networks
11	Data Mining	32	Unsupervised Artificial Neural Networks
12	Data Base Selected Topics	33	Computing Selected Topics
13	Image Analysis	34	Intelligent Systems
14	Artificial Intelligence	35	High Technology Enterprise Management
15	Neural Networks	36	Mobile Communications
16	Application Development for Mobile Devices	37	Embedded Systems
17	Web Application Development	38	Advanced Architectures
18	Software Engineering for Mobile Devices	38	Advanced Computing Systems Programming
19	e-Commerce	40	Economic Engineering
20	Computational Geometry	41	IT Financial Engineering
21	Systems Simulation	42	IT Governance

**APPLIED SCIENCE AND ADVANCED TECHNOLOGY RESEARCH CENTER, CAMPUS QUERETARO  
(ADVANCED TECHNOLOGIES MASTER PROGRAM)**

GRADUATE Courses	
1	Applied Physics
2	Pattern Recognition
3	Advanced Technologies
4	Computer Vision
5	Thermodynamics
6	General & Advanced Biochemistry