



# Pakistan Institute of Engineering and Applied Sciences (PIEAS)

## Information Leaflet for Postgraduate Admissions

### **1. Introduction to PIEAS**

Pakistan Institute of Engineering and Applied Sciences (PIEAS) is a multifaceted educational institution with academic and training programs being conducted at the highest level in a broad spectrum of disciplines. The breadth of its course offerings is a reflection of the complexity and diversity of the programs of Pakistan Atomic Energy Commission (PAEC), for which PIEAS has been the major human resource development centre since 1967.

PIEAS has been conducting postgraduate degree and certificate programs for scientists, engineers, medical doctors and technicians over the last 50 years. The educational infrastructure that has been created for this purpose is now so extensive that, besides nuclear technology, the institution can pass on to the youth of the nation, the experience in a wide range of specialized fields such as information technology, nuclear medicine, medical physics, materials engineering, process engineering, systems engineering and laser technology.

Postgraduate academic programs at PIEAS also involve R&D works, which frequently are published in international and national journals, conference proceedings and technical reports.

***In QS Universities World Ranking, PIEAS was ranked No. 1 in Pakistan for the years 2019 and 2020.***

***In QS Asian Universities Ranking, PIEAS was ranked No. 1 in Pakistan for the years 2014 and 2015.***

***PIEAS got adjudged as the Best Engineering Institution in Pakistan by HEC in 2006, 2012 and 2013.***

PIEAS has four constituent colleges [sub-campuses], namely:

1. Karachi Institute of Power Engineering (KINPOE-C) at Karachi,
2. National Institute of Biotechnology and Genetic Engineering (NIBGE-C), Faisalabad,
3. Nuclear Institute of Agriculture and Bio Sciences (NIAB-C) at Faisalabad and
4. National Institute of Laser & Optronics (NILOP-C) at Nilore, Islamabad.

### **2. Introduction to PAEC**

Pakistan Atomic Energy Commission (PAEC) is a multi-disciplinary national organization engaged in: (i) development of nuclear power and fuel cycle facilities, (ii) research and development related to nuclear power and applications of radioisotopes in agriculture, medicine and industry, (iii) production of special materials and chemicals, (iv) design and fabrication of sophisticated components and complete units, (v) provision of highly specialized technical services, and (vi) education and training of scientists, engineers, medical doctors and technical staff in specific technical areas of interest.

To fulfil the manpower requirements of the wide variety of institutes, centres, projects and plants under PAEC, it requires outstanding engineers, scientists and medical doctors who are keen to enhance their technical knowledge even further by pursuing MS programs in their relevant fields at Pakistan Institute of Engineering and Applied Sciences, (PIEAS) Nilore, Islamabad and achieve a level of excellence in their subsequent professional careers.

### **3. Postgraduate Programs at PIEAS**

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|---------------------------------|--|
| 1. PhD / MS Systems Engineering | 2. PhD / MS Mechanical Engineering     |
| 3. PhD / MS Nuclear Engineering | 4. PhD / MS Materials Engineering      |
| 5. PhD / MSc Nuclear Medicine   | 6. PhD / MS Physics                    |
| 7. PhD / MS Medical Physics     | 8. PhD / MS Computer Science           |
| 9. PhD / MS Process Engineering | 10. MSc Radiation and Medical Oncology |

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- |  |   |
|--|---|
| 11. PhD / MS Radiation Physics                       | 12. PhD / MS Electrical Engineering             |
| 13. MS Mineral Resource Engineering                  | 14. PhD/MS Chemistry                            |
| 15. MS Cyber Security                                | 16. PhD / MPhil Biological Sciences (at NIAB-C) |
| 17. PhD / MPhil Bio-Technology (at NIBGE-C)          | 18. MS Nuclear Power Engineering (at KINPOE-C)  |
| 19. PhD Laser and Semiconductor Physics (at NILOP-C) |   |

Information about admission to the above mentioned postgraduate degree programs is given below. For information about other programs of PIEAS, interested students may visit the PIEAS website <http://admissions.pieas.edu.pk/index.html>

There are three types of students registered at PIEAS.

1. Fellows sponsored by PAEC or other strategic organizations
2. Regular Fee Paying Students
3. Students sponsored by IT & TELECOM ENDOWMENT FUND

#### 4. The Eligibility Criteria for Postgraduate Programs

##### i. PAEC Fellowship Scheme

- For fellowship in the aforesaid MS degree programs, first division is preferably required throughout the academic career. However, one-second division ( $\geq 50\%$  marks) is allowed in academic career at any stage except the final degree.
- Maximum age limit for MBBS doctors is 32 years and 27 years for all other disciplines as on 30<sup>th</sup> June 2023.
- ***The candidates having BS (4 years)/Master degree in Computer Science must have studied Physics and Mathematics at undergraduate level***
- ***The candidates having BS (4 years) degree in Geology and MSc degree in Geology must have studied Physics and Mathematics at undergraduate level.***
- Field-wise eligibility in various MS programs for induction is shown in the table given below:

Master's Degree Program	Eligibility (Fellowship Program)	Eligibility (Regular Fee Paying Program)
MS Nuclear Engineering	BS/BE Electrical Engg. (Power), BS/BE Mechanical Engg., BS/BE Chemical Engg., BS/BE Civil Engg., BS (4 years) Physics	Bachelor's degree in any PEC approved Engineering degrees
MS Systems Engineering	BS/BE Electrical Engg. (Electronics), BS/BE Mechatronics Engg.	BS/BE Electrical Engg. (Electronics), BS/BE Mechatronics Engg.
MS Electrical Engineering	BS/BE Electrical Engg. (Power)	BS/BE Electrical Engg. (Power)
MS Process Engineering	BS/BE Chemical Engg.	BS/BE Chemical Engg.
MS Materials Engineering	BS/BE Materials Engg.	BS/BE Materials Engg.
MS Mechanical Engineering	BS/BE Materials Engg.	BS/BE Materials Engg.
MS Mineral Resource Engineering	BS/BE Mining Engg., BS/BE Geological Engg.	BS/BE Mining Engg., BS/BE Geological Engg. MSc Geology / Geophysics
MS Medical Physics	BS (4 years) Physics	BS (4 years) Physics
MS Physics	BS (4 years) Physics	BS (4 years) Physics
MS Radiation Physics	BS (4 years) Physics	BS (4 years) Physics
MS Chemistry	BS (4 years) Chemistry	BS (4 years) Chemistry
MS Computer Science	TBD	BS CS, BS CIS, BS Elect Engg., BS Comp. Engg. BS Mathematics.
MS Cyber Security	BS/ BCIS Computer Science	BS/ BCIS Computer Science BS/BE Computer Engg.
MS Nuclear Medicine	MBBS + 1 years house job	MBBS + 1 years house job
MS Radiation & Medical Oncology	MBBS + 1 years house job	MBBS + 1 years house job
MS Nuclear Power Eng.	BS/BE Electrical Engg., BS/BE Mechanical Engg., BS/BE Chemical Engg., BS/BE Industrial Electronic Engg.	N.A
MPhil Biotechnology	N.A	Please visit: <a href="http://www.nibge.org/">http://www.nibge.org/</a>
MPhil BioSciences	N.A	Please visit: <a href="http://www.niab.org.pk/">http://www.niab.org.pk/</a>

## ii. Students sponsored by IT ENDOWMENT FUND

- In order to be eligible for scholarship under IT Endowment, first division is preferably required throughout the academic career provided they meet the pre-requisite course requirements of the degree program to which they are seeking admission. *However, one-second division ( $\geq 50\%$  marks) is allowed at any stage in the academic career from Matriculation to final degree.*
- Applicants having third division in academic career are not eligible. However, the Rector, PIEAS only in case of nominees from foreign government/agencies, may relax this condition.
- There is no age limit for regular students.
- Terms and conditions are mentioned in a separate section below.

## iii. Regular Fee Paying Students

- In order to be eligible for admission in any of the aforesaid MS degree programs as regular fee paying students, first division is preferably required throughout the academic career provided they meet the pre-requisite course requirements of the degree program to which they are seeking admission. *However, one-second division ( $\geq 50\%$  marks) is allowed at any stage in the academic career from Matriculation to final degree.*
- Students granted admission on the basis of GAT score will be treated a Regular Fee Paying student.
- Applicants having third division in academic career are not eligible. However, the Rector, PIEAS only in case of nominees from foreign government/agencies, may relax this condition.
- There is no age limit for regular students.
- Students can apply for admission on **Regular Fee basis** in all MS programs offered at PIEAS.
- In addition to above mentioned pre-requisite fields for Fellowships, the Applicants who intend to apply as Regular Fee students are advised to contact the relevant Head of Department through email available on PIEAS website for their eligibility, since a lot of variety exists in degree titles at BS level.

### *For example,*

The Department of Chemical Engineering (DChE) offers MS Process Engineering and can accommodate applicants from following backgrounds:

1. BS/BE Mechanical Engineering
2. BS/BE Polymer Engineering
3. BS/BE Industrial Engineering
4. BS/BE Petrochemical Engineering/ Petroleum Engineering/ Petroleum & Gas Engineering/ Petroleum & Natural Gas Engineering (as various degree titles exist in Pakistan)

## 5. Regular Students – Fee Structure for MS Programs (*subject to revision at any time*)

	Description of 1 <sup>st</sup> Semester Fee (Includes onetime charges of Rs 40000/- in lieu of Admission & Registration Fee)	Description of Regular Semester Fee
	MS* (Based on 12 credit hours)	MS* (Based on 12 credit hours)
Fee excluding hostel accommodation and PIEAS transport.	Rs 84000/-	Rs 44000/-
Total fee including Hostel accommodation.	Rs 114000/-	Rs 74000/-
Total fee including PIEAS transport.	Rs 101000/-	Rs 61000/-

\* Thesis and Clinical work Fee will incur an extra charge of Rs.36,000/- per semester (for Nuclear Medicine and Radiation & Medical Oncology or equivalent thesis/clinical work)

## 6. Refund Policy

<b>%age of Tuition Fee</b>	<b>Timeline for Refund</b>
Complete refund after deduction of Admission Charges	Up to 7 <sup>th</sup> day of convene of first semester
50% Refund	From 8 <sup>th</sup> – 15 <sup>th</sup> day of convene of first semester
No Refund	From 16 <sup>th</sup> day of convene of first semester

## 8. Selection Procedure for the MS Programs

1. The selection of the applicants as fellows of PAEC is strictly on merit for all Pakistani/AJK nationals.
2. Eligible candidates according to the above mentioned criteria will be called for a written test in major cities throughout Pakistan.
3. Those who qualify the test will be called for interview.
4. Admission will be offered on merit based on the results of the written test and interview.

## 9. Structure of Postgraduate Degree Programs

- The duration of all the MS programs is two years. This includes 4 regular semesters of 16 weeks teaching followed by two weeks for terminal examinations, one summer session of 10 weeks and an initial orientation period of about 10 weeks, called the "Zeroeth Semester" in which fundamental concepts are reviewed.
- **Zeroeth Semester**  
The fellows are required to qualify a ten-week semester called the "Zeroeth Semester". The students other than fellows are strongly advised to attend the zeroeth semester. It serves to fill some of the gaps in their knowledge of Computing, Mathematics and other areas. It also provides a transition period during which the students become familiar with the teaching methodology and academic environment at PIEAS. **FELLOWS ARE REQUIRED TO ATTEND THESE CLASSES REGULARLY. SUCCESSFUL COMPLETION OF ZEROETH SEMESTER IS MANDATORY FOR FELLOWS FOR THEIR REGISTRATION IN THE FIRST SEMESTER.**

## 10. Terms and Conditions of PAEC Fellowship

- The continuation of the fellowship is contingent upon satisfactory performance, which is adjudged at the end of each semester.
- Students winning the fellowship programs will be paid a fellowship of approximately **Rs. 35,000/=** per month with the following benefits:
  1. Full tuition Fee-waiver
  2. Free indoor medical facility for self
- Fellows have to pledge a surety bond to serve PAEC for 5 years after graduation.
- PAEC may offer graduates on fellowship, appointments in the Institutes, Centres and Projects of PAEC after the successful completion of their studies. It is to be noted that the graduates may be posted anywhere in Pakistan. In this regard the final decision rests with the Pakistan Atomic Energy Commission.
- On successful completion of MS / MSc studies, the fellows who are selected for appointment in PAEC will be given additional benefit of advance increments and relaxation in promotion as admissible under rules.

## 9. Terms and Conditions of IT Endowment Fund Scholarship

- Admission to only MS Computer Science / MS Cyber Security programs is available under this scholarship.

- The continuation of the scholarship is contingent upon satisfactory performance, which is adjudged at the end of each semester.
- The selected students will be paid a monthly stipend of Rs. 28,000/- only during MS studies subject to their performance.
- The candidate will have to pay university Fees/Charges as a Regular Fee Paying student.
- Candidate will have to pledge a bond to serve the country for 5 years after graduation otherwise they will have to pay the bond money as mentioned in the bond agreement.

## **10. Additional Admission Requirements and Procedures**

- The fellows are selected purely on merit.
- The candidates, who expect to complete all the degree requirements such as, final exams and thesis/project by the date of joining PIEAS may also apply.
- The date of joining PIEAS is mentioned in the advertisement published in leading daily newspapers.
- **It should be noted that without final results, the selection is only provisional and would be cancelled for those who do not get first division in final degree examinations.**
- The candidates of MSc (Nuclear Medicine and Radiation & Medical Oncology) whose one-year house job training is expected to be completed by the time of joining PIEAS may also apply.
- Applications for admission are invited through advertisement in newspapers/PIEAS website.
- All applicants are required to apply through online admission portal.
- All columns of the application form must be carefully completed. **If any column is left blank or not filled correctly, the application may not be entertained.**
- **Application processing fee once deposited will not be refunded in any case**, therefore before submitting the application, the candidates must make sure that they are eligible for the program for which they are going to apply and also that the program is included in the advertisement.

### **Application Processing Fee\***

- Application processing fee within due date Rs 3500/-
- Application processing fee within one weeks after due date Rs 4500/-

\*- *Application processing fee is non-refundable.*

- The Challan of Application Processing Fee must be deposited in any Askari Bank Branch of Pakistan only with no Bank Charges.
- The Application Processing Fee can also be deposited through online mode in Pakistan only.

*\*There will be Rs. 40/- service charges for online payment of application processing fee.*

### **Step by Step Application Procedure**

- Application submission will be online only. Hard copy applications are not acceptable.
- Go to <http://pieas.edu.pk/> and click "Admission" tab
- Create an account and Login to start the online application.
- Fill in and submit online application form. *[Read the instructions carefully]*
- Upload recent passport size colour photograph as per the defined standard.
- Upload academic documents.
- Print "**Bank Challan**" for Application Processing Fee.
- Make payment in nearest Askari Bank and upload scanned copy/image of deposited fee slip at PIEAS admission portal.
- Print the "**Call Letter**" (which will be made available after verification of fee through bank).
- Appear for Test at the venue and date mentioned in your call letter.
- Merit List will be placed on PIEAS website within 3 weeks after test.
- Keep visiting your profile on our website for any update before and after Entry Test.

## Field-wise Eligibility in various MS Programs at PIEAS for Fellowships

Post Graduate Programs		Pre-Requisite Degree															
		Engineering Disciplines											MBBS	Physical Sciences			
		Mechanical	Chemical	Metallurgy / Materials	Electrical (Power)	Electrical/ Electronics	Mechatronics	Industrial Electronics	Computer / Software Engg	Mining	Geology	Civil		Physics	Chemistry	Computer Science	Geology
PIEAS (Main Campus)	MS Nuclear Engineering	√	√		√							√		√			
	MS Systems Engineering					√	√	√									
	MS Electrical Engineering				√												
	MS Process Engineering		√														
	MS Materials Engineering			√													
	MS Mechanical Engineering	√															
	MS Mineral Resource Engineering									√	√						
	MS Medical Physics												√				
	MS Physics												√				
	MS Radiation Physics												√				
	MS Chemistry													√			
	MS Cyber Security								√							√	
	MS Nuclear Medicine												√				
MS Radiation & Medical Oncology												√					
KINPOE-C	MS Nuclear Power Eng.	√	√		√	√		√									

## Field-wise Eligibility for IT Endowment Fund Scholarships

Post Graduate Programs		Engineering Disciplines										Physical Sciences			
		Mechanical	Chemical	Metallurgy / Materials	Electrical (Power)	Electrical/ Electronic s	Mechatronics	Industrial Electronics	Computer / Software Engg	Mining	Geology	Physics	Chemistry	Computer Science	Geology
at PIEAS														√	

