

# INFORMATION BROCHURE

M.Sc. in Applied Geology

2025



भारतीय पेट्रोलियम और ऊर्जा संस्थान  
INDIAN INSTITUTE OF PETROLEUM & ENERGY  
आंध्र प्रदेश, विशाखापत्तनम - ५३०००३  
ANDHRA PRADESH, VISAKHAPATNAM-530003

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# 1.0 THE INSTITUTE

## 1.1 About Institute

Indian Institute of Petroleum and Energy (IIPE), Visakhapatnam, a domain-specific Institute at par with IITs and IIMs, is established by the Government of India under the aegis of the Ministry of Petroleum and Natural Gas (MoPNG) in the year 2016. The Indian Institute of Petroleum and Energy Act, 2017 (No.3 of 2018) enacted by the Parliament and declared the Institute as an 'Institution of National Importance'. The Institute also enjoys a strong relationship with the industry regarding teaching, research, and student training & placement. A primary goal of research at IIPE has been to meet the country's fossil fuel and renewable energy demands. However, given its position as an energy institute, IIPE also has a great responsibility to contribute toward achieving the United Nations Sustainable Development Goals, i.e., ensuring access to affordable, reliable, and sustainable modern-day energy for all. The Institute has also embarked on an ambitious path to be the country's energy hub.

The Institute also aims to produce skilled manpower to meet the quantitative and qualitative gap in Petroleum & Energy sectors and to boost the research activities needed for growth of these sectors by nurturing and promoting the quality and excellence in education and research in various areas of petroleum and energy through the programs leading to the award of the Bachelors, Masters and Doctoral degrees. Fulfilling this responsibility, IIPE is committed to research towards realizing the "Panchamrita" concoction for the climate conundrum, the climate solution offered by the Hon'ble PM, Mr. Narendra Modi, at the COP26 convention in Glasgow. Overall, at IIPE, we strive to help foster Blue Zones, enabling a prosperous world to rise like a phoenix from the ashes of today's challenges. Let us join hands to remain relevant and excellent, focusing on removing India's impediments to achieving the goal of an Atmanirbhar Bharat in the energy sector and progress towards 'future ready India @2047'.



# 1.0 THE INSTITUTE

## 1.2 About Department

Established in 2016, the mission of the Department of Petroleum Engineering and Earth Sciences offers academic programmes leading to BTech (Petroleum Engineering), M.Sc. (Applied Geology) and Doctoral Degrees. The department annually admits about 60 students in its BTech. Programme and about 15 students for its Doctoral programme. The department is starting M.Sc. in Applied Geology program from 2023-24 session. The department's faculty consists of experts in the field who conduct cutting-edge research and provide students with a hands-on learning experience through fieldwork, laboratory experiments, and industry internships. The Department of Petroleum Engineering & Earth Sciences plays a crucial role in developing innovative solutions to meet the energy demands of the world, while also promoting sustainable practices for the protection of the environment.

Apart from teaching commitments, faculty members undertake several sponsored research programmes, consultative assignments, executive development programs and short-term courses.

All the core, additional and elective courses included in the programs have been specifically designed to meet industry standards and research requirements. The close links that the department enjoys with the industry and research organizations, has worked towards elevating the level and quality of studies and facilities. The department also works towards building the social and moral character of the students.





## 1.0 THE INSTITUTE

### 1.3 Dr S. R. Ranganathan Library



- **Library facility at IIPE Vizag was named after Padmasree S. R. Ranganathan was a librarian and mathematician, noted as the Father of Library science in India.**
- **The library houses more than 30,000 books which cover more than 8000 titles.**
- **Library subscribes to International and National Journals and also subscribes to International and national Newspapers and Magazines along with Digital Library Facility.**
- **Journal articles and eBooks were provided for access to the students by I.P based and domain-based access for the benefit of the students who are staying in the remote areas across the country, due to COVID-19 pandemic situation.**
- **A total of 5.28 crores of e- resources are accessible through NDLI (Nation Digital Library of India), IIT Kharagpur.**
- **Library Services includes Internet Browsing; Book Bank; Reference Services; Current Awareness Service; Inter Library Loan; Photocopying; Content Management Service.**

## 2.0 M.Sc. PROGRAM

### 2.1 About the Program: M.Sc. in Applied Geology

The M.Sc. in applied geology program is a graduate-level academic program that focuses on the practical application of geological principles and techniques in solving real-world problems. This program equips students with the necessary knowledge and skills to work in industries such as mining, petroleum exploration, environmental consulting, and geotechnical engineering. Students also have the opportunity to gain hands-on experience through fieldwork, laboratory experiments, and research projects. Graduates of the M.Sc. in applied geology program are well-prepared for careers in the industry, academia, and government agencies, and are equipped to make significant contributions to the field of geology.

#### Program goals

The goal of the 2-year M.Sc. in Applied Geology program is to produce highly skilled geologists with specialized knowledge on Mineral Exploration, Sub-surface modelling, Fossil fuel and Ground water exploration, Drilling, estimation of resources and site investigation.

### 2.2 Course Structure

SEMESTER - I						
Sl No		Course Name	L	T	P	Remark
1	DC 01	Igneous and Metamorphic Petrology	3	1	0	4
2	DC 02	Sedimentary Geology and Stratigraphy	3	0	0	3
3	DC 03	Geomorphology & Remote Sensing	3	1	0	4
4	DC 04	Advanced Structural Geology	3	0	0	3
5	DC 05	Geochemistry and Geochemical Prospecting	3	0	0	3
6	Lab 01	Geonumerics	1	0	3	3
7	Lab 02	Petrological Laboratory	0	0	3	2
8		Geological Fieldwork I	0	0	0	2
Total Credits			16	2	6	24



## 2.0 M.Sc. PROGRAM

### 2.2 Course Structure (contd..)

SEMESTER - II						
Sl No		Course Name	L	T	P	Remark
1	DC 06	Economic and Mining Geology	3	1	0	4
2	DC 07	Introduction to Petroleum Engineering	3	0	0	3
3	DC 08	Basin Formation, Development and Analysis	3	0	0	3
4	DC 09	Fundamentals of Geophysics	3	0	0	3
5	DC 10	Engineering Geology and Hydrogeology	3	1	0	4
6	Lab 03	Geochemistry Lab	0	0	3	2
7	Lab 04	Structural Geology Lab	0	0	3	2
8		Industrial Training	0	0	0	2
Total			15	2	6	23

SEMESTER - III						
Sl No		Course Name	L	T	P	Remark
1	DC 11	Exploration Geophysics	3	1	0	4
2	DC 12	Geohazards and Environmental Geology	3	0	0	3
3	DC 13	Drilling Engineering	3	0	0	3
4	DC 14	Geology of Fuels	3	0	0	3
5	DE 01	Elective - I	3	1	0	4
6	Lab 05	Engineering Geology and Hydrogeology Lab	0	0	3	2
7	Lab 06	Prospecting Lab	0	0	3	2
8		Project	0	0	3	2
9		Geophysical Fieldwork II	0	0	0	2
Total			15	1	9	24

## 2.0 M.Sc. PROGRAM

### 2.2 Course Structure (contd..)

SEMESTER - IV						
Sl No		Course Name	L	T	P	Remark
1	DC 15	Geomechanics	3	1	0	4
2	DE 02	Elective - II	3	0	0	3
3	DE 03	Elective - III	3	0	0	3
4	DE 04	Elective - IV	3	0	0	3
5		Comprehensive Viva	0	0	0	2
6		Project	0	0	12	6
Total			12	1	12	21
CUMULATIVE TOTAL			58	6	33	92

### ELECTIVES

01. Geologic Carbon Sequestration
02. Geothermal Energy
03. Geology of Unconventional Hydrocarbon
04. Well Logging
05. Petrophysics for Mineral Exploration
06. Geoinformatics for Resource Estimation
07. Geodesy and GPS
08. Ocean Energy and Resources
09. Geotechnical Practice for Waste Disposal
10. Seismic Signal Processing, Imaging and Interpretation
11. Applied Micropaleontology
12. Managerial Economics
13. Geological Reservoir Characterization
14. Applied Mineralogy

### 2.3 Eligibility Criteria

Candidates should have first class Bachelor's degree with a minimum of 60% aggregate Marks or CGPA equal to or greater than 6.00/10.00 (55% in case of SC/ST/PwD or CGPA greater than or equal to 5.50/10.00) in Geology and JAM Score. The minimum mark is without round-off.



## 2.0 M.Sc. PROGRAM

### 2.4 Programmes

#### Applied Geology (Number of seats = 15)

Admissions are based on the scores in JAM 2025. Admission forms can be filled up online after payment of Application fee only. Students should have qualified JAM 2023 and must separately apply for IIPE counselling through the online Application Portal ([https://erp.iipe.ac.in/IPEApp/index?admiss\\_ch=03](https://erp.iipe.ac.in/IPEApp/index?admiss_ch=03)) or Scan the QR code



### 2.5 Reservation

Seats are reserved for Indian Nationals under the categories SC/ ST/ OBC (Non-creamy layer)/ EWS and PwD (Persons with Disability) according to the Government of India directives at par with IITs.

### 2.6 Application Fee

Gen/EWS/OBC Candidates	Rs.500/-
SC/ST Candidates	Rs.250/-
All female and PwD Candidates	Rs.250/-

## 2.0 M.Sc. PROGRAM

### 2.7 Fee Structure

Sl. No.	Particulars	Regular		Sponsored
		Gen/OBC/EWS	SC/ST/PD	
A.	One Time payment at the time of Admission (Non-Refundable) (Rs.)			
1.	Admission Fee	500	500	1000
2.	Identity Card	100	100	100
3.	Placement Fee	1,500	1,500	0
4.	Convocation Fee	2000	2000	2000
5.	Alumni Subscription	1,000	1,000	1,000
6.	Migration fee	500	500	500
	Total	5,600	5,600	4,600
B.	Caution Deposits Payable at the time of Admission# (Rs.)			
	Institute caution money	5,000	5,000	5,000
C.	Semester Fee (Each Semester) Non-Refundable (Rs.)			
1.	Examination	500	500	500
2.	Registration/Enrolment	200	200	200
3.	Gymkhana Fee	1,000	1,000	1,000
4.	Campus Services and Utility	500	500	500
5.	Library Fee	200	200	200
	Total	2,400	2,400	2,400
D.	Annual Fees			
1.	Medical Insurance fee	2,000	2,000	2,000
2.	Student Brotherhood Fund	500	500	500
3.	Benevolent Fund	1,000	1000	1000
4.	Modernization Fee	700	700	700
	Total	4,200	4,200	4,200
E.	Tuition Fees (Each Semester)			
1.	Tuition fees	5000	Nil	12500
F.	Amount Payable at the time of admission (Total of A, B, C, D, and E)			
	TOTAL	22,200	17,200	28,700

**Note:**

# Students have an option to donate the caution deposit to the Institute

1. Student residing in Hostel need to pay Rs.30000/- per semester and caution deposit of Rs 4,000 /- during the admission
2. Student need to pay additional amount of ₹ 5,500.00 (approx.) per month to the mess vendor. This is an indicative amount and will be charge as per actual.
3. Fee structure and fee amounts are subject to change from time to time.



# 2.0 M.Sc. PROGRAM

## 2.8 Important Dates

S.No	Event		Date
1	Commencement of application form submission		15 <sup>th</sup> April 2025
2	Last Date of the application submission		06 <sup>th</sup> June 2025
3	Round 1	Declaration of 1st Admission List	11 <sup>th</sup> June 2025
4		Last Date for Online Payment of required Fees for 1st Admission List	16 <sup>th</sup> June 2025
5	Round 2	Declaration of 2nd Admission List	17 <sup>th</sup> June 2025
6		Last date for Online Payment of required Fees for 2nd Admission List	23 <sup>rd</sup> June 2025
7	Round 3	Declaration of 3rd Admission List	02 <sup>nd</sup> July 2025
8		Last date for Online Payment of required Fees for 3rd Admission List	07 <sup>th</sup> July 2025
9	Last date for withdrawal from 1 <sup>st</sup> , 2 <sup>nd</sup> and 3 <sup>rd</sup> admission list		10 <sup>th</sup> July 2025
10	Round 4	Declaration of 4th Admission List	11 <sup>th</sup> July 2025
11		Last date for Online Payment of required Fees for 4th Admission List (no option for withdrawal for candidates admitted in the fourth admission list hence no refund will be made)	17 <sup>th</sup> July 2025
12	Physical Registration at IIPE		25 <sup>th</sup> July 2025
13	Commencement of the 1 <sup>st</sup> semester classes		28 <sup>th</sup> July 2025

*Note: The dates are tentative and subject to change. Please visit IIPE website for latest updates in the calendar*

## 2.9 Admission Procedure

### STEP-I: Fill in the ONLINE application form

Register with Your Email Id and Login. FILL in the appropriate data. Please note that you must upload your testimonials wherever required to validate your information along with your digital photograph and signature.

**Application link:** [https://erp.iipe.ac.in/IIPApp/index?admiss\\_ch=03](https://erp.iipe.ac.in/IIPApp/index?admiss_ch=03)

or

Scan the QR code



## 2.0 M.Sc. PROGRAM

### **STEP-II: Make PAYMENT and SUBMIT Application**

The application fee payment must be made through online payment gateway only.

### **STEP-III: Take PRINT**

After the final submission of your online application, you can generate your online application print with your specific details/data. This application print may be retained with you for future requirements.

Please note that you **NEED NOT SEND** the application by post. Your application will be considered based on your final submission through online. You can check submission, shortlisting, selection and other application related status from Application Status menu. You should remember your login id and password for the same.

## **Note**

Candidates are requested to follow the IIPE website ([www.iipe.ac.in](http://www.iipe.ac.in)) regularly for results and admission related updates. No personal communication will be entertained for admission. If any person fails to follow details, it is totally at his/her risk and responsibility, and institute does not bear any liability.

For any enquiries email to [pgadmissions@iipe.ac.in](mailto:pgadmissions@iipe.ac.in) / [doa@iipe.ac.in](mailto:doa@iipe.ac.in)



### 2.10 Refund Policy

- In the event of a student/candidate withdrawing before the Last date for Withdrawal, the admission fee will be refunded after deduction of the processing fee of Rs. 2500/-.
- However, if a candidate withdraws their admission after the withdrawal deadline for the respective round, no refund will be granted.

S. No	Event	Refund
1.	For candidates provisionally selected in 1 <sup>st</sup> , 2 <sup>nd</sup> and 3 <sup>rd</sup> Admission list (Round 1, Round 2 and Round 3)	
	i. Withdrawal on or before 10th July 2025	Full refund after deduction of the processing fee of Rs. 2500/-.
	ii. Withdrawal after 10th July 2025	Only Caution money will be refunded
2.	For Candidates provisionally selected in 4th Admission List (Round 4)	Only Caution money will be refunded if withdraw

### 2.11 Legal Jurisdiction

Visakhapatnam is the only Legal Jurisdiction for any dispute arising on the eve of admissions into IIPE. In case, if it is the High Court, Andhra Pradesh Hon'ble High Court at Amaravathi is the legal jurisdiction.

## 3.0 STUDENT LIFE



### IIPE student Councils

A student body is proposed to be elected from among the students of IIPE which forms the Students' Council. This body would help in managing the events and functions that take place in the college. There are various positions in the body such as President, Vice President, Secretary and executive that the students would thrive to achieve.

This council is a body for periodic discussions with the Director of IIPE and faculty to get their valuable guidance in the following fields:

- Academic discipline
- Extra-curricular activities
- Co-curricular activities
- To organize students' activities
- Promoting active participation among members



## 3.0 STUDENT LIFE

### Student Activities

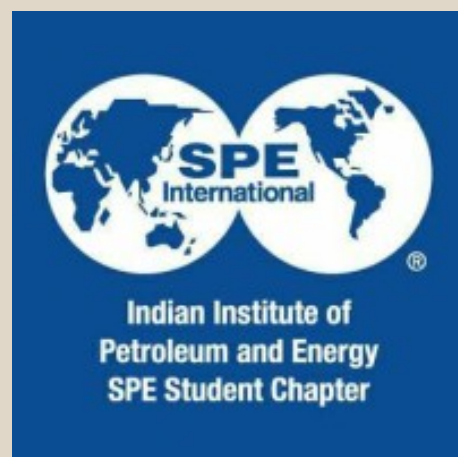
#### American Association of Petroleum Geologists (AAPG) student chapter:

American Association of Petroleum Geologists (AAPG) is a global organization that comprises a group of professionals and students. The Student Chapters Program of AAPG plays a critical role by providing an avenue where undergraduate and graduate students can engage in meaningful networking opportunities, and connect with professionals, both inside and outside of academia. IPE AAPG Student Chapter commenced during 2019-2020 academic session with chapter ID 10198223. The AAPG Student Chapter, IPE has organized various field trips, Abstract Writing Competition and various other events. IPE AAPG student chapter is the grant recipient of the American Association of Petroleum Geologists Foundation L. Austin Weeks Undergraduate Grant Program for the year 2021 and 2022.



#### Society of Petroleum Engineers (SPE) Student chapter:

Student chapters are located around the world and provide an operating framework for society activities at a university level. IPE SPE Student Chapter with the vision of providing continuous personal and professional growth will bring the opportunity for students to organize and participate in technical and non-technical events, engage in technical discussions, network with industry professionals, and learn more about the oil & gas industry. Established on October 2020, it has organized various events including a virtual panel discussion, quiz competition "Quizophile", career talk, etc.





## 3.0 STUDENT LIFE

### Fine Arts Club

Students of IIPE are known for their creativity and artistic skills. Students organize art competitions and display galleries to exhibit their talent, thereby appreciating each other's work along with skill exchange conversations



### Photography Club



The commence of the photography club is one of the initiatives taken by the students to treasure their memories at the institute, showcase their photography skills, and assist budding student photographers in the institute.

### Social Welfare Activities

The students of IIPE have started the culture of organizing blood donation camps every year as a part of their contribution towards social responsibilities. Apart from this, students also take an active part in beach cleaning activities with the motto of spreading awareness regarding a clean and green environment.



### Sports and Cultural activities

A four day sports fest is held annually to encourage talents in various sports. Different games like cricket, volleyball, throw ball, etc. are conducted and competitions are held. Competitions for indoor games like badminton, carrom, chess, etc. are also held prior to the fest. IIPE Students conduct Annual Cultural Fest of the college in the month of March every year. It was kickstarted as Astralis in 2017 which was then successfully organized by the first two batches and the legacy continues thereon.





## 3.0 STUDENT LIFE

### IIPE M.Sc. Geology Students Achievements

IIPE M.Sc. Geology students have secured 44 and 53 rank in GATE 2025.

IIPE M.Sc. Geology students secured 1<sup>st</sup> prize for presenting on "Seismic Risk Assessment and Dam Infrastructure Planning in India" Case study competition conducted by IIPE AAPG STUDENT CHAPTER.

IIPE M.Sc. Secured Best Presentation Award on the theme: "Intensifying Hydrocarbon Exploration in India with Greater Energy Efficiency and Accuracy" at the 13th Convention of FIPI Student Chapters, held at JNTU Kakinada on April 4th, 2025.

IIPE M.Sc. students have attended the India Energy Week 2025 organized by Ministry Of Petroleum and Natural Gas held at Yashobhoomi Convention Centre, New Delhi.



## 3.0 STUDENT LIFE

### Students Wellness- Your Dost

**YOUR DOST** is an online Counselling Platform for students of IPE Visakhapatnam. Emotional wellness and counselling are of absolute need in India especially among the young mind who are buffeted by enormous social-cultural-economic pressures. Your DOST is an online emotional platform that leverages technology to provide convenient, anonymous and confidential support to those in need which is in operation at IPE Visakhapatnam from 1st August 2022.

### Other aspects

- Access to 24 x7 x 365 unlimited one to one chat-based counselling through pre-vetted experts (psychologists, career coaches) for instant help.
- Unlimited Audio/Video Sessions available for users who would like to avail escalated support.
- Face to face counselling at campus (if required)
- Access to the discussion forums and 2000+ articles dealing with relevant issues.
- Sessions (Seminar /webinar/workshop) to create awareness on important issues will be conducted for ALL students in the campus. Some sample workshops are enlisted as follows:
  - Academics (Developing Study Skill, Critical Thinking, Time Management, How to be more Organized, Dealing with Exam Stress)
  - Career (Goal Setting, Career confusion, Dealing with abstract nature of profession)
  - Relationships (Develop communications skills, how to handle a breakup. Raising sensitivity towards opposite gender and LGBT issues)
  - De-addiction (Understanding substance use, abuse, addiction, and dependence, possible dangers of substance abuse and addiction, effects on physical, mental and emotional health, preventive strategies, control measures)
  - Personality (Confidence Building, Overcoming social Connection & Empathy etc)
  - Academics (Developing Study Skill, Critical Thinking, Time Management, How to be more Organized, Dealing with Exam Stress)
  - Career (Goal Setting, Career confusion, Dealing with abstract nature of profession)
  - Relationships (Develop communications skills, how to handle a breakup. Raising sensitivity towards opposite gender and LGBT issues)
  - De-addiction (Understanding substance use, abuse, addiction, and dependence, possible dangers of substance abuse and addiction, effects on physical, mental and emotional health, preventive strategies, control measures)
  - Personality (Confidence Building, Overcoming social Connection & Empathy etc)
- Other communications interventions to promote engagement of students on the platform will also be taken care of Some channels include the followings:
  - Social Media of IPE
  - Newsletters
  - Posters
  - Assessment tests
  - Awareness videos
  - An orientation session for students on campus would be complimentary as part of the pilot. This could be done in accordance to the new batch orientation or in a separate group.
  - 24x7 telephonic helpline support (On Demand)



## 3.0 STUDENT LIFE

### Hostel

The hostel is under round the clock surveillance for the safety of students. The hostels are managed by the Council of Wardens. Talent hunt, literary and sociocultural events add to the vibrancy of the hostel environment. The participation of students in hostel affairs is an essential component of the general administration and decision making. The hostels provided by IIPE are provided on subsidized rates where 40 to 50% of Hostel fee is borne by IIPE.



The major facilities available in the hostel are:

- Hostel rooms with adequate moving space and proper ventilation.
- Mess facility managed by the students,
- Furnished rooms with bed, study table, chair, partitioned almirah, fan, fluorescent tubes.
- RO water purifier and geyser facilities.
- Round the clock power back up facility.
- Round the clock Wi-Fi internet connectivity.
- Gym facilities
- Indoor games like table tennis etc.
- Outdoor games such as Badminton, Basketball, Volleyball, Football and Cricket.



### Mess:

The mess serves both veg and non-veg food to the students. It is supervised by a team of students and caretakers headed by a faculty member. The mess menu is a combination of tasty and nutritious food and is changed every month so as to bring in variety. Besides the mess facility, There is a cafeteria which remains open round the clock.



## 3.0 STUDENT LIFE

### Medical facility

**IIPE is presently providing the following medical facilities to students:**

- **Personal Accidental Insurance Policy for Rs. 1,00,000/- for each student;**
- **Medical Insurance up to Rs. 1,00,000/- for each student.**

**Both schemes are on an annual renewal basis. IIPE have also empanelled reputed hospitals for the OPD facility at CGHS rates.**

### Alumni Association

**Indian Institute of Petroleum & Energy Alumni Association (IIPEAA) was established at IIPE Visakhapatnam to provide a platform to the alumni and students for better interaction and networking. The various stakeholders of IIPE will be able to discuss & exchange ideas related to academics, research, innovation, society requirements and employment among themselves. In addition, membership of the association will provide several benefits to the alumni of the institute. With the support of the alumni, association aims to implement multiple initiatives towards the development of the institute, students and betterment of the society.**



## Application link:

[https://erp.iipe.ac.in/IIPEApp/index?admiss\\_ch=03](https://erp.iipe.ac.in/IIPEApp/index?admiss_ch=03)

or Scan the QR code below



## Contact us :

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