

# PHARMACEUTICAL ENGINEER

A Pharmaceutical Engineer deals with the manufacture and production of a variety of drugs in a regulated environment, with a particular emphasis on quality control. The primary goal of this field is to focus on medication, including its planning, dosages, and side-effects. It encompasses various elements of biomedical engineering, pharmaceutical engineering, and chemical engineering.

## PERSONAL COMPETENCIES

- You are good at logical thinking
- You like solving problems
- You enjoy researching and experimenting
- You enjoy working in a team



## SCHOLARSHIPS

- Merit-cum-Means based Scholarship - About 20,000 such engineering scholarships are awarded by the Ministry of Minority Affairs every year. The full course fees of awardees is directly paid to their institutions under this scheme. \*
- Indian Oil Educational Scholarship- The IOC Ltd offers 300 scholarships every year to eligible students. Students need to be enrolled in an undergraduate course. The scholarship particularly focuses on students with physical disabilities, women and students from North East and J&K. \*
- "Ishan Uday" Special Scholarship Scheme - For promoting higher education and for encouraging children belonging to economically weaker section of the NE region, the UGC has launched "Ishan Uday" Special Scholarship Scheme for North Eastern Region students.
- Visit [www.scholarships.gov.in](http://www.scholarships.gov.in) the National Scholarship Portal. Under this portal there are other central government schemes offered by different departments, UGC/AICTE Schemes and State Schemes. \*
- Visit [www.buddy4study.com](http://www.buddy4study.com) a gateway to scholarships starting from Class XI\*
- Scholarships are also made available in institutes based on merit

\*(Availability of these scholarships vary from time to time)

## LOANS

- VidyaLakshmi, [www.vidyalakshmi.co.in](http://www.vidyalakshmi.co.in), is a portal for students seeking education loan. This portal has been developed under the guidance of the Department of Financial Services, (Ministry of Finance), Department of Higher Education (Ministry of Human Resource Development) and Indian Banks Association (IBA). Students can view, apply and track the education loan applications on the website.
- Some states have student credit cards with low interest rates, for instance, West Bengal, Odisha, Bihar, etc.
- All banks give education loans.



The approx. course fee ranges between **INR 1,96,000 - 7,40,000\*** for the full course.

\*(The above mentioned figures are approximate numbers. This will vary from Institute to Institute)

## ENTRY PATHWAY

1. Complete 10+2 in the Science stream (Physics, Chemistry and Mathematics)
2. Complete Bachelor's degree (B.Tech./B.E.) in Pharmaceutical Engineering

**OR**

Complete Bachelor's degree, followed by a Master's degree (M.E./M.Tech) in the same discipline

For admissions, you must qualify entrance examination conducted at national level (JEE Main, JEE Advanced etc.) or state level (WBJEE, AP EAMCET etc.) or institute level (VET, IP etc.)

*Please check the duration of the course during enrolment*



## EXPECTED INCOME

*The figures are indicative & subject to change*

The approx. salary of a Pharmaceutical Engineer ranges between **INR 17,200 - 59,300\*** per month or more.

Source:

<http://www.salaryexplorer.com/salary-survey.php?loc=100&loctype=1&job=6129&jobtype=3>

## WHERE WILL YOU WORK

**Places of Work:** Pharmaceutical engineers are employed by pharmaceutical companies, universities, research laboratories, and government agencies. They are likely work in either a laboratory setting or a manufacturing facility.

**Work Environment:** You will mostly work in laboratory settings for approx. 8 hours a day and 5 or 6 days a week, depending on the organization you work for.

*Opportunities for differently abled exist in this field*

## EXPECTED GROWTH PATH



Quality Control Analyst → Drug Analyst →  
Drug Inspector → R&D Manager

Search keywords...



*fresher pharmaceuticals jobs, chemical process engineer, instrument project engineer*

## WHERE WILL YOU STUDY?

The course is offered by the Department of Pharmaceutical Engineering.  
This list of institutes is indicative only

### GOVERNMENT INSTITUTES

1. IIT Dhanbad
2. Institute of Technology BHU - IIT Varanasi.
3. Dr Babasaheb Ambedkar Marathwada University, Aurangabad. .
4. Alagappa College of Technology, Chennai
5. Anna University Tiruchirappalli
6. Institute of chemical technology, Mumbai
7. Maulana Abul Kalam Azad University of Technology, Kalyani, WB
8. Andhra University

### PRIVATE INSTITUTES

(Please check if institute is affiliated and accredited with UGC and AICTE before applying )

1. University College of Science, Technology and Agriculture, Kolkata
2. BVRIT Narsapur, Hyderabad
3. Kakinada Institute of Technological Sciences, Ramachandrapuram
4. PP Savani University, Surat
5. Hindusthan Institute of Technology, Coimbatore.
6. Mahendra Engineering College, Namakkal
7. KSR College of Engineering, Tiruchengode
8. Dhanalakshmi Srinivasan Engineering College, Perambalur

Information on the institute rankings can be found at -  
<https://www.nirfindia.org/2022/Ranking.html>

### ONLINE COURSE

- Udemy - <https://www.udemy.com/course/pharmaceutical-engineering-flow-of-fluids/>



## EXAMPLE FROM THE FIELD



**Richi Sethi** is a Bioprocess systems specialist at Merck Life Sciences. Young and Dynamic, she is currently leading the design of bioprocess equipment critical for downstream processing in Pharmaceutical industry. She started her career with India's major pharmaceutical company, Biocon, around 4 years back. Highly optimistic about the growth of pharmaceutical industry in India, she believes women would play a key role in realizing it. She holds a Master's degree in Biomedical engineering from Indian Institute of Technology (IIT) Bombay and was a gold medalist in Bachelor of Engineering from Panjab University, Chandigarh.\*

Source: <https://ispe.org/people/richi-sethi>

*\*The above information is for training purposes only and will not be used for any commercial gains*