



**Bharati Vidyapeeth's Jawaharlal Nehru
Institute of Technology (Poly.), Pune-43.
Department of Chemical Engineering**

ChemNews

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FOUNDER

Hon. Dr. PATANGRAOJI KADAM

Mission: "Social Transformation through Dynamic Education"

This Newsletter is published to give information about events that are taking place in Chemical Engineering Department. This is for internal circulation only.

Message from HOD's desk

Dear students,

It makes me truly proud to present the information of *Chemical Engineering*. We are often asked 'what is *Chemical Engineering*?'. Therefore, our community must work to improve public understanding of the discipline. This newsletter does just that, for it shows how food, water, environment, wellbeing, manufacturing and energy all rely on excellent *Chemical Engineering*. However, the information presented is just a small bite of *Chemical Engineering* and is an opportunity to look at the scope of knowledge and competency required for *Chemical Engineers* as practitioners. I would like to thank all parents and students who took on the difficult challenge of choosing the career in *Chemical Engineering*. The choice is by no means definitive as there are so many excellent examples of impactful *Chemical Engineering* to be found across the breadth of energy, food, environment, manufacturing, water and wellbeing. It should also be noted that many are cross-cutting and, in line with the nature of *Chemical Engineering*. They impact upon more than one aspect of our lives and indeed contribute to the whole spectrum of challenges that the world is facing. From the students yet to study *Chemical Engineering*; to professionals who work in engineering; and the public to help develop their understanding of the role of *Chemical Engineering* in society. This newsletter should be recognized not as an exhaustive piece of information, but rather as the starting point of a long journey of exploitation and realization of *Chemical Engineering* education.

Prof. R.S.Hiremath
Head of Department

Vision of the Department:

To attain for quality education and training students for meeting the challenging needs of chemical and allied industries and society through the application of Chemical Engineering.

Mission of the Department:

M1: By producing chemical engineers with a good foundation of technical and problem-solving skills required for lifelong learning.

M2 : By providing an environment that recognizes their leadership skills and team-building potentials.

M3 : By equipping the students with skills for their livelihood and develop awareness of social responsibilities.

Program Educational Objectives :

PEO1 : To provide knowledge of basic principles of science and chemical engineering.

PEO2 : Inculcate the skills of teamwork and leadership in Chemical Engineering Practice.

PEO3 : Ability to face challenges while complying with environmental, ethical attitudes towards the society.

Program Specific Outcomes :

PSO1 : Apply the knowledge of basic science and chemical engineering to accomplish the needs of chemical and allied industries.

PSO2 : Ability to pursue higher studies in chemical engineering or lateral disciplines.

What is Chemical Engineering

On a grand scale, a chemical engineer is someone who makes things happen efficiently on a massive, industrial manufacturing scale. They aim to get the best results at the least cost and with the lowest impact on the environment possible. And skills in chemistry, physics and mathematics, and even economics are what make a chemical engineer so valuable. As a chemical engineer, you could find yourself working on the following activities :

- Design and development of chemical processes and equipment
- Optimization and control of industrial operations
- Plant operation and management
- Environmental management, monitoring and pollution control
- Chemical engineers design, create and optimize the systems and equipment used in chemical, industrial, biological and environmental processes. They produce a range of materials, from fuels and fertilizers to processed foods, beer and wine, polymers and pharmaceuticals.
- They also design and operate large-scale chemical process equipment and factories and play an important role in making industries safer, more efficient and cleaner

Chemical engineering fields

A chemical engineer could use skills in science and mathematics to work in many different industries and doing many different things.

- Bio-processes – Working in pharmaceuticals and the food and drink industries.
- Chemical processes – Involving the fertilizer industry, including pesticides and herbicides, glass and specialty chemicals.
- Combustion – Large industrial furnaces such as those for steel manufacture or for power generation from coal or gas, or the recovery of valuable energy from waste.
- Environmental – Waste and water treatment, environmental regulations and recycling.
- Minerals – Major minerals industries such as aluminium, steel, copper, lead and gold.
- Petrochemicals – Converting oil and gas into plastics, synthetic rubber and other things.
- Process control – Instrumentation and control systems which make a manufacturing process run smoothly, safely and efficiently.
- Petroleum – Producing oil, gas and LPG from onshore and offshore fields.

- Project delivery – Converting the design of a process plant into an efficient, safe operating plant.

Where do chemical engineers work

- Chemical engineers work in places like laboratories, processing plants, engineering design offices, corporate head offices and research institutions and there are opportunities to work both here in India and around the world.
- Mostly chemical engineers work standard hours, but from time to time they may be required to meet demanding deadlines – especially when there is an important project to get off the ground. Chemical engineers may sometimes even need to be on call 24 hours a day. Some may work shifts during the commissioning of new plants.

Chemical engineers are quality control enforcers

- Companies that employ chemical engineers include those that produce food, plastics, ceramics, pharmaceuticals, metals, chemicals and glass. You'll find chemical engineers working in environmental protection organizations and cleaning up contaminated sites or in water treatment. They work in research laboratories, chemical plants and petroleum refineries. Not to forget iron and steel product manufacturers, producers of organic chemicals and of course the mining and minerals processing industries.
- Because consumers have high expectations of the things they pay money for, they expect the same experience every time. Chemical engineering ensures that customers receive an identical end product, every time. Also emphasize minimizing waste in a time of increasing environmental concerns.
- Chemical engineers can work as any of the following: combustion engineers, petroleum engineers, smelting engineers, water treatment engineers, production engineers, biochemical engineers, process control engineers and pharmaceutical engineers.

Chemical Engineering at BVJNIOT

Values

Freedom of Expression, Ethical behavior, Critical thinking and Collegiality.

Appreciation of One's academic or professional standing.

Honesty and Integrity in all activities.

Accountability of performance.

Tenacity and Teamwork

Goals and Objectives

The overall goals of the Department of Chemical and Environmental Engineering are to build, develop, and maintain meaningful and innovative quality educational programs.

The objective for the program is to provide our students with a sound broad-based curriculum emphasizing fundamental principles, hands-on laboratory experience, and good

communication skills. In doing so, we hope to provide our students with a foundation that will allow them to develop and adapt to the diverse interest areas within chemical engineering, and that will allow them to succeed throughout their professional career or successfully pursue advanced studies in a graduate program.

Students are expected to deepen their understanding of fundamental principles in chemical and environmental engineering, and increase their knowledge of the needs and directions in their chosen field of study. Our goal is to produce engineers who will be trained in the methods of scientific inquiry through advanced course work. We want to prepare our students to pursue for higher education and leadership positions in industry and government.

Facts

The department is a home to about 90 students from all parts of the country. The chemical engineering department strives for the best standards of teaching. Apart from ten core courses that cover engineering, mathematics and basic chemical engineering principles, elective courses spanning Alcohol technology, Petrochemical technology, sugar technology, Membrane technology, Renewable Energy Technologies, Numerical methods in chemical engineering, Polymer Technology, Fertilizer Technology, Pharmaceutical Technology, Food and Beverages Technology and Piping in Chemical engineering are offered.

High quality of education combined with good quality of students produces Diploma holders who go on for higher education and lead a very bright career. Our alums can be found in all levels of the industrial sector and occupy strategically important positions in various corporations.

Interesting snippets

- Prof. D. B. Dhone has 13 text book publications to his name.
- Prof. D. B. Dhone has 01 International and 01 national publications between 2010 to 2015
- Prof. D. B. Dhone is working as course committee member for MSBTE.
- Prof. D. B. Dhone is working as program co-ordinator for I scheme curriculum development and lab manual.
- Prof. D. B. Dhone has worked as director Bharati Madhyawarti Sahakari Grahak Bhandar Ltd., Pune.
- Prof. D. B. Dhone has worked as Hon.Secretary, The Institution of Engineers, Pune local center.
- Prof. R.S. Hiremath has 04 International and 06 national publications between 2010 to 2015
- Prof. R.S. Hiremath has contributed to international text book on waste water treatment.
- Prof. R.S. Hiremath is a member of editorial board of Science Research Association.
- Prof. R.S. Hiremath is a Reviewer for Science Publishing Group, NY, USA.

Academics

1. Five guest lectures by speakers from eminent industries was organized in this semester.
2. Five industrial visits for second year and final year students was organized in this semester.
3. Almost all second year and final year students participated in the national quiz competition organized by the Institute.
4. Four students participated in the national level technical quiz competition organized by Institute of Engineers, Mumbai Chapter and BVIT Mumbai.
5. Seven students participated in International Project competition "SHODH" organized by MSBTE and JSPM.
6. CWPRS, Pune has sponsored one project for final year students on techniques of water treatment.

Academics

Final Year Chemical Engineering Results 2017-18

Class	No of students Appeared	No of students passed	% of passing
Final Year	21	18	88 %

- i) Out of 21 successful students, 19 students opted for higher education in Pune.
- ii) Two candidates are placed in reputed company in Pune.

Top Three students of Final Year (Institute level)

Merit No	Name of Student	Percentage
1	Kudale Swapnil Sunil	84.72 %
2	Mujawar Farhaan Ikhalaq	83.33 %
3	Kamble Amit Rajendra	82.84 %

List of Final Year Projects allotted

No	Name of Project	Guide
1	Extraction of Pectin from Orange Peels	Mr.D.B.Dhone
2	Manufacture of alcohol from potato	Mr.D.B.Dhone
3	Manufacture of Plastic road	Mr.D.B.Dhone
4	Manufacture of ethanol from Molasses	Mr. R.S.Hiremath
5	Manufacture of Ethyl Acetate	Mr. R.S.Hiremath
6	Refining of Vegetable Oil	Mr. R.S.Hiremath
7	Production of Citric Acid from Molasses	Mr. R.M.Alangekar
8	Production of water Gas	Mr. R.M.Alangekar
9	Study of water quality	Mr. R.M.Alangekar
10	Manufacture of flammable jelly from Egg shell	Mr. R.M.Alangekar

Disclaimer : Due to space constraints the newsletter could cover limited events .

To view more events, kindly visit www.bvp.bharativedyapeeth.edu

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