

**career development program
for chemical engineers**

Our Company



Our Mission

To use our unique skills in science and engineering to invent, develop and deliver a continuous stream of innovative processes, new materials and specialized equipment and services. We will be the world's leading supplier of technology solutions to customers in the refining, petrochemical, gas processing and manufacturing industries, enabling them to meet the challenges of sustainable development and profitable growth.

Our Vision

"Working together to deliver innovative technologies for sustainable growth and complete customer satisfaction."

UOP is an international company that has been a key technology supplier to the petroleum refining and petrochemical industries since 1914. Many of the refining processes in common use today originated with UOP research and development. With a focus on customer service, UOP offers a greater number of proprietary products and processes – and more engineering experience and innovative solutions – than any other company of its kind.

This unique combination has enabled UOP to stay on top in an increasingly competitive marketplace. We maintain our leading-edge position by investing in research and development, which feeds new ideas that enable groundbreaking discoveries. Through the years, UOP employees have been awarded thousands of patents in the U.S. and internationally, nearly 3,000 of which are currently active.

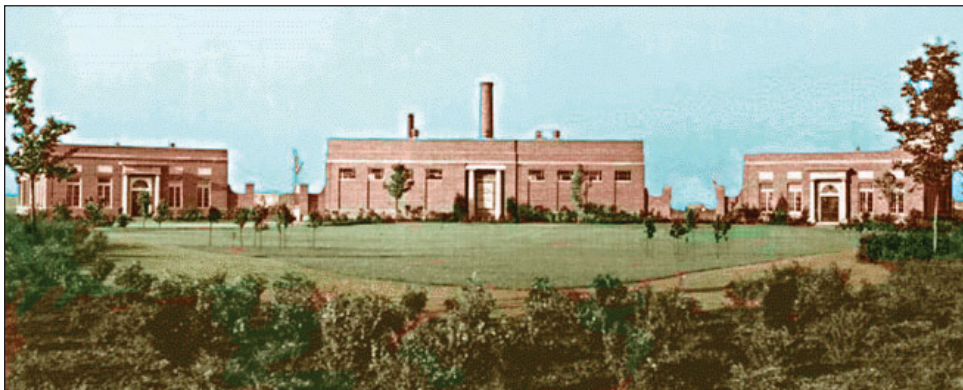
Many significant advancements, including unleaded gasoline, catalytic converters, biodegradable detergents, and economical polymers for clothing, can be attributed to processes developed using UOP technology.

To keep our approach fresh, we build strong alliances and relationships with customers, institutions of higher learning, and companies outside our core industries in order to apply our technology in new ways. For example, working with an

alliance partner in Norway, UOP developed combinatorial chemistry methodology and complex data collection and analysis systems for rapid experimentation.

In addition to creating new technologies, UOP develops, designs and commissions new equipment installations in the majority of petroleum refineries and petrochemical complexes throughout the world. UOP also advises its customers on ways to continuously improve the operating efficiency and performance of these facilities.

An integral part of many of the solutions UOP provides is the supply of catalysts, adsorbents and other advanced materials. These materials are produced at UOP manufacturing facilities in several locations, including the U.S., England, Italy, Japan and China, using advanced technology. Our experience ranges from the manufacture of spherical alumina catalysts for naphtha reforming to the production of xylene isomerization catalysts, which incorporate proprietary zeolite formulations. The formula for our success continues to be very basic – to fulfill our customers' needs ... and the needs of those we hire ... to create an environment for our employees that encourages individual growth and development and provides them with opportunities for advancement and promotion.



Chemical Engineering

CAREER DEVELOPMENT PROGRAM



UOP has continued to be innovative because of the caliber of men and women it employs. There are more than 3,000 employees worldwide, many of whom are engineers who came to UOP right after college. Building on the academic knowledge of new graduates, UOP provides hands-on training and tools for success.

A critical part of the Career Development Program for Chemical Engineers is the training, which prepares individuals for working in the field with UOP customers worldwide. This intensive 12- to 14-month program begins with a thorough orientation. Soon thereafter, new recruits will enter a Development, Operating Technical Service (OTS) or Process Controls Engineering track.

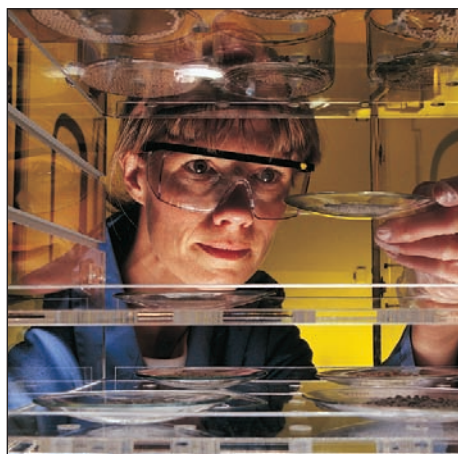
Development

In the Development area, new engineers operate a Pilot Plant (small version of a process unit) in one key technology area

to learn the operations, including the effect of feedstock and catalyst changes on performance, unit instrumentation, equipment and controls, safety requirements, data collection, and troubleshooting. They learn the key analytical procedures that support the process technology and gain experience with online data acquisition systems.

Later, as part of a cross-functional Process Development Team, they conduct data reduction, analysis and interpretation, and help with planning to deliver new UOP processes and products. During training, new engineers are paired with a mentor who provides guidance and feedback.

To gain a more well-rounded understanding of a given technology, the new engineer is exposed to the commercial aspects, as well as several related technologies.





Operating Technical Service

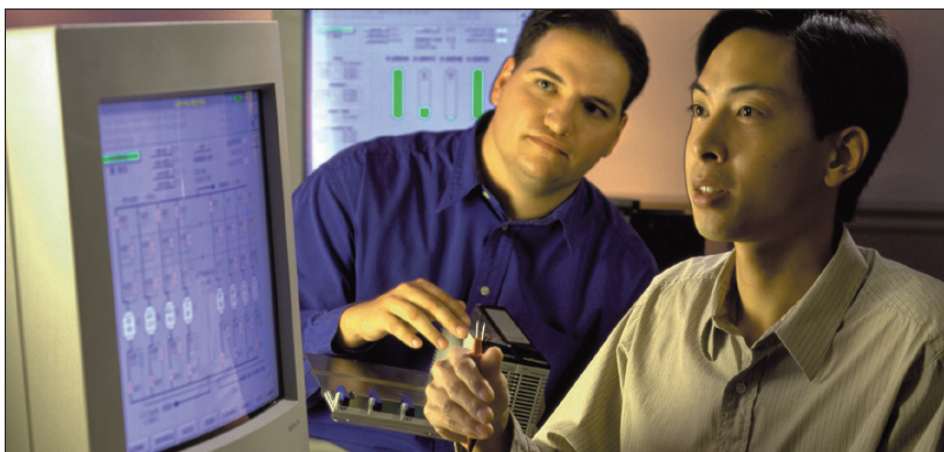
In Operating Technical Service (OTS), new engineers focus on one key UOP technology, gaining in-depth knowledge about applied chemistry, process and equipment design practices, and analytical methods. They learn about process variables, catalyst performance, and data collection and reduction. The new engineers observe Pilot Plant operations to see process flows. They are instructed on the commercial application of UOP technologies and learn how to troubleshoot these units. They also learn how to make comparisons between research and commercially generated data and participate in the commercialization of new and improved technology.

These engineers are involved with a number of projects in different phases of completion. Each assignment builds in duration and complexity. During training, new engineers are paired with a mentor who provides guidance and feedback.

To gain a better understanding of this part of the business, there are field trips to observe activities such as a catalyst regeneration, a unit turnaround, a unit start-up, or an equipment inspection.

Process Controls Engineering

Those who follow the Process Controls track learn in detail about all the instruments and systems which are used to control modern refineries and petrochemical plants. The Process Controls engineers apply this knowledge to specify the full range of instrumentation and controls for a variety of UOP process units. This involves extensive work with heat & weight balances, piping & instrument diagrams, equipment specifications, hydraulic summaries, and controls specification software.





Another part of this program involves working with UOP's proprietary Programmable Logic Control (PLC) systems. These PLCs provide specialized control for unique process requirements. Process Controls Career Development engineers are involved in unit testing, customizing, and customer checkouts.

Engineering Design Training

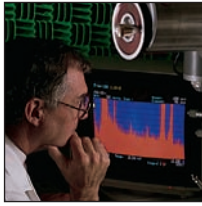
Before going to work in the field new engineers learn about UOP's Schedule "A" package, which contains the basic specifications required for the detailed design and construction of a new process unit. They study the process specifications and the reasons behind them, how the information is produced and how it can be used in the field.

Working in the Field

Following training, new engineers transfer to Field Operating Services. For six months they are members of a catalyst and adsorbent reload group. After that, they join a team that is responsible for the start-up and commissioning of newly licensed processes. During this time, they receive the training that prepares them for their role as a technical advisor. They become very familiar with the commercial side of operations, including specific process, equipment and general refinery operations, as well as customer interactions.

As an advisor, the engineer is assigned to an adsorbent/catalyst reload or process start-up crew where he or she is responsible for the proper operations of UOP licensed units. In this capacity, our engineers have two primary responsibilities. First, they must complete the technology transfer process, insuring that the plant is ready to operate and that the customer understands how to operate it. Second, they must demonstrate that the plant can perform as guaranteed by supervising the





start-up and test run. During this period, they assist customers by resolving any engineering or operating problems. Our engineers may remain at a customer site for a few days to many months before moving to the next assignment.

For each start-up, the new engineers work with a number of UOP-licensed processes and a variety of individuals. The experience they gain from each assignment, and the subsequent interaction with other UOP employees, provides a solid background for assessing and solving problems encountered in each situation in various locations around the world.

After the Road

After the FOS assignment, engineers are given new opportunities where their experience and talents may be further utilized. This can include positions in Engineering, Services, Equipment, Development, Manufacturing and Sales. UOP tries to place each engineer in the specific type of work he or she desires.

The Career Development Program provides new engineers with many responsibilities at an early stage of their career, helping them to acquire knowledge and experience in research and development, engineering, commercial unit start-ups, UOP products and services, and customer relations. This equips them with the tools and the experience they need to build a successful career at UOP.

UOP employs more than 3,000 men and women at 11 manufacturing plants and more than 20 sales offices worldwide.

UOP is headquartered in Des Plaines, Illinois, a northwest suburb of Chicago, close to all the cultural and entertainment activities that a major U.S. city can provide. UOP employees live in downtown Chicago as well as many suburbs, all of which are an easy commute.



UOP LLC

25 East Algonquin Road
Des Plaines, IL 60017-5017
U.S.A.

Tel: +1-847-391-2000

Fax: +1-847-391-2253

www.uop.com

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