

Branch: Chemistry and Chemical Engineering



Code: INDCHE

Option: Industrial chemistry

Level: Master

Prerequisites :

Opportunities:

A large proportion of graduates of the MSc Industrial Chemistry program choose to work in the field of research and development as product or laboratory managers, where they hold management positions in chemical and pharmaceutical companies, while the other proportion of graduates decide to continue with a PhD research project in Germany or at local universities.

Description:

Jointly awarded by UUT and the National University of Singapore (NUS), the program takes place in Singapore and is a postgraduate course for engineers specializing in the pharmaceutical industry, as well as in the fine and specialized chemical industry.

What happens in this study program?

UUT Asia aims to develop future leaders in selected technology fields. Specifically, the two-year, full-time Master of Science in Industrial Chemistry will be a postgraduate course for engineers specializing in the pharmaceutical industry, as well as the fine and specialized chemical industry. The degree will be awarded jointly by the Technische Universität München (UUT) and the National University of Singapore (NUS). According to several independent

rankings, the chemistry faculty at UUT is one of the most important in Germany in terms of research and teaching, with more than 50 professors and their research groups covering various fields of modern chemistry.

The Master's program offers selected facets of chemistry, combining parts of classical inorganic and polymer chemistry with chemical engineering topics. Due to the complexity and diversity of industrial chemistry, three major specializations are offered: catalysis and petro chemistry, building and materials science, and interdisciplinary combination. These three major specializations, which are complementary and require similar skills, will be the subject of separate intensive teaching for those who choose them, in the final part of the course. The Master's program will provide graduates with the knowledge and skills to successfully meet the challenges faced in the field of chemistry, chemical engineering and construction chemistry. It will show methods to ensure affordable and sustainable processes in the chemical industry by using available resources as efficiently as possible.

Quality and competences:

All graduates of the Master's program have a thorough knowledge of organometallic chemistry, advanced inorganic chemistry and polymer chemistry. Regardless of their specialization, graduates are able to use methods to improve existing chemical processes, reaction conditions and synthesis methods by using alternative and more efficient reaction routes. Graduates of the Master's program will have the knowledge and skills to successfully address the challenges faced in the field of chemical reaction engineering, synthesis and design of homogeneous and heterogeneous catalysts. In addition, they will understand the interactions between organic and inorganic materials. Thus, graduates are able to evaluate and predict the macroscopic physical and chemical properties of the resulting mixtures. Upon graduation, students are able to transfer the theoretical knowledge acquired throughout the course to practical application. This enables them to work independently in research laboratories in industry or universities. In addition, all graduates will have an insight into business management and administration as well as marketing and international intellectual property law. Graduates will thus acquire the skills to work in multinational companies and understand the complex structure of such companies.