The Department of Chemical Engineering at the Technical University of Denmark (DTU) has again this year, the pleasure to invite non-European chemical engineering students to participate in a 4-week experimental course in chemical engineering/process technology. The course takes place in our large modern pilot plant facility in a programme, which combines detailed theoretical and practical engineering experiences with an international student atmosphere, close to wonderful Copenhagen and the historic and scenic Danish countryside.

**ENTRY REQUIREMENTS**
The course is based on theoretical knowledge in unit operations, general process and equipment technology, heat and mass balances, reaction engineering and kinetics, process control, P&I diagrams and basic chemical analytical methods and calculations. The level is equivalent to i.e. the book of McCabe et al. on "Unit Operations of Chemical Engineering.

Students must be fluent in English and have acceptance from their home university to attend.

**CONTENT**
The course is a special designed version for non-European students of the ordinary DTU course in large-scale unit operations. In teams of two persons, 6 demanding exercises are performed including preparations of reports. The students may choose from more than 30 typical chemical and biochemical unit operation exercises: Liquid flow in pipes, gas flow, pump systems, flow in packed columns, bubble column, agitation, aeration, filtration, drying in a tunnel, spray drying, fluidization and fluidized bed drying, transport of bulk solids, distillation, absorption, membrane separation, ion exchange, heat transmission, evaporation, crystallisation, hydro cyclones, centrifugation, liquid and solid extraction, organic synthesis, fixed bed enzyme reactor, CIP technology, solids handling, combustion/high temperature processes and process control experiments.

Each practical experiment will last ½ -1 day. Preparation of reports will take approx. 2 days for each exercise.

In addition, every team shall give an oral technical presentation of one of the pilot plant units for a group of fellow students, and every team will choose and prepare an oral presentation for the whole group on a non-technical subject with connection to Danish or Scandinavian culture.
The home university’s accompanying graders may supervise the reports, their grading and the presentations. In case the university is not providing a grader, DTU professors will do this work. In addition, excursions to relevant Danish industrial companies are planned during the course.

The course is rather intensive and demanding, and preparations and report work during some weekends must be expected. Time for extended tourist travel and activities should be planned before or after the course.

**LEARNING PHILOSOPHY**

The experimental work takes place on process equipment as close to industrial scale and reality as possible. It is the goal to place the students into situations similar to what can be expected in real industrial life. The students must update their theoretical equipment and process knowledge, plan their work, take the necessary process decisions including safety measures, control and react upon events, search their information, write industrial reports – all-in-all act and think as real process engineers.

**COURSE FEE AND REGISTRATION**

The student fee amounts 3200 Euro per person. This covers tuition, educational material, excursions and accommodation in single rooms at the DTU Campus.

The home university must approve the students participation in the course. Registrations take place using an application agreement form, which can be downloaded from our homepage (see below).

The due date for registration is March 16th 2018. The registration is not valid until the payment has been received. A maximum of approx. 75 students can be accepted.

It will be possible to arrange for a one-week extension of the stay in the dormitories after the end of the course. The accommodation fee will be 100 Euro per person.

For accompanying graders, please ask for special rates and accommodation.
GENERAL INFORMATION
The course will take place at the Department of Chemical and Biochemical Engineering, Technical University of Denmark (DTU) located in Lyngby about 15 km north of central Copenhagen. The accommodation for the students takes place at the DTU Campus in buildings each having 8-10 single bedrooms with shared bathrooms and kitchen.

Arrival at DTU is Friday June 29 to arrange for accommodation. During this first weekend, included is a full day bus tour as an introduction to some of the historical sites and the beautiful countryside of Denmark. The course work will start on Monday, July 2\textsuperscript{nd} and terminate on Friday July 27\textsuperscript{th}.

FURTHER INFORMATION
See the full Summer University announcement and get the registration form at www.kt.dtu.dk/english/education/summer_university

Additional information: Steen Larsen, e-mail: stelar@kt.dtu.dk, Anne H. Juul, e-mail: ahj@kt.dtu.dk or contact Department of Chemical and Biochemical Engineering, Technical University of Denmark, Building 229, DK-2800 Lyngby. www.kt.dtu.dk, kt@kt.dtu.dk, phone +45-45252800, fax +45-45882258.