The Department of Chemical Engineering at the Michigan Technological University invites non-Michigan Tech chemical engineering rising seniors to participate in a 6-weeks summer laboratory program, comprising unit operations laboratory and chemical plant operations laboratory. The program combines a unique hands-on laboratory education and training with the exploration of natural surroundings of the Upper Peninsula and Lake Superior. In addition to planned social activities, you will have wonderful opportunities to discover scenic Keweenaw countryside and the historic mining region.

**Technical Program:** The program provides a unique undergraduate learning experience with its world-class Unit Operations Laboratory, Chemical Plant Operations Laboratory, and Process Simulation and Control Center (PSCC). Students gain first-hand experience and exposure to distributed control programming, lock out and tag out procedures, team building skills, hazard operations assessment, total quality management, and basic industrial plant maintenance, fabrication, and installation. The students develop skills in data collection and analysis, statistical process control, team dynamics, design of experiments, and technical communication (both written and oral). Process safety is an integral component of each laboratory exercise.
The facility features 18 bench scale experiments - pumps, heat exchange, membrane separation, kinetics, liquid-liquid extraction, vacuum drying, distillation, flow measurement, particle processing, and mineral extraction & recovery and other unit operations. Students gain hands-on experience with two fully automated pilot plants: a three-story distillation column (solvent recovery unit) and a two-story jacketed batch reactor. The PSCC is equipped with a DeltaV™ control system and OSI Soft-PiData™ historian and data retrieval system.

**Course Fee and Registration:** The six-week program fee of $8,500 covers tuition and fees, accommodation, and most meals. It also includes planned social activities and excursions. The home university must approve the students’ participation in the course. A deposit of $3,000 is required with your course registration. The deadline for the registration is March 15, 2019. The balance would be due on June 1, 2019.

**Eligibility:** The students must have acceptance from their home institution to attend. The program is designed for rising seniors who have taken equivalent courses in material and energy balances, thermodynamics, unit operations, and reaction engineering & kinetics.

**General Information:** The program (laboratory and classes) will operate in the Department of Chemical Engineering. Michigan Technological University is located in Houghton, MI, about 360 miles north of Chicago. For those wanting to travel via air, United flies between Chicago O’Hare (ORD) and Houghton County airport (CMX).

We recommend arriving in Houghton on Saturday (June 29, 2019) to help settle and go through the orientation on Sunday. The program would begin on Monday (July 1st) and conclude on Friday (August 9th). The check-out will be on Saturday (August 10, 2019). You will stay in the Michigan Tech dorms with wi-fi and parking facilities. During your stay, you will have access to the campus amenities, including library, computer, printing, and athletic facilities.

**Further Information:** Contact Pradeep Agrawal (pkagrawa@mtu.edu) or Alexis Snell (aesnell@mtu.edu) to express an interest, and you will be sent registration information and other program details.