Chemstations™

Engineering advanced

INSPIRE
CREATE
CALCULATE
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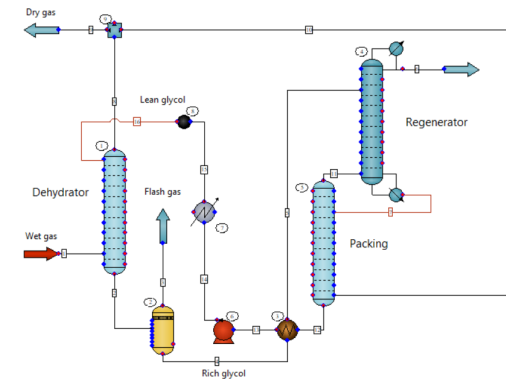
CHEMCAD for Academics

ncentrator

CO2
absorber

To Claus

H2S
stripper

Reboiler

Rich flash drum

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Chemstations, a worldwide leader in process simulation software, and our flagship product, CHEMCAD, are available to support your chemical engineering curriculum and research activities.

WHAT IS CHEMCAD?

CHEMCAD is an integrated suite of intuitive process simulation software, widely used throughout the chemical process industry from upstream, oil and gas processing, to commodity chemicals, specialty chemicals, pharmaceuticals, bioprocesses, and beyond.
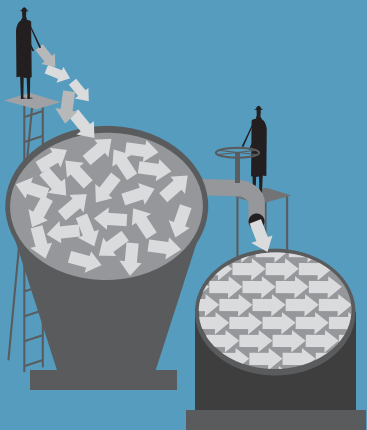
Whether your students go on to work in operations, engineering, consulting, safety, environmental, or another field, they will be prepared to address the challenges of their workplaces.

WHO QUALIFIES FOR CHEMCAD?

Academic institutions who agree to use CHEMCAD for Academics for undergraduate or graduate level education and research that is freely published.

CHEMCAD BENEFITS:

- Full-featured, first-principles chemical process simulation

- Library of chemical components, thermodynamic methods, and unit operations to simulate both steady-state and dynamic systems

- Rigorous calculations of heat exchangers, safety relief devices, and pipe networks, as well as equipment sizing and economic analysis

- Connect to MATLAB, Excel, DCS/SCADA, COM, OPC

WHY CHOOSE CHEMCAD?

For the student: *Focus on learning engineering, not software.*

- Provides easier access to simulation software. The number of students in the program is equal to the number of licenses available.
- The intuitive user interface and simplified workflow allow students to focus more time on gaining the confidence and experience needed to solve real-world problems.
- A faster learning curve allows students to experience more advanced simulation projects to gain the real-world experience needed in a competitive workforce.
- The skills learned with CHEMCAD can be applied across industries and to other process simulation tools.

For the professor: *Focus on teaching engineering, not software.*

- Easier access for students will reduce delays in completing assignments.
- Faster learning curve for students allows professors to focus class time on course material instead of teaching simulator use.
- Interaction with a global network of academic and industrial CHEMCAD users for better employability.
- Resources available include slide decks, examples with key learnings, and video tutorials.

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A full suite of CHEMCAD,
used globally by industry,
at a fraction of the cost.

WHAT OPTIONS ARE AVAILABLE?

CHEMCAD for Academics can be licensed either as STEADY STATE simulation software only or as a SUITE of all modules as needed to support a chemical engineering curriculum. We offer flexible licensing options of 1, 3, and 5 years to best fit academic budgets and timing.

- STEADY STATE - Chemical process simulation software that includes libraries of chemical components, thermodynamic methods, and unit operations to allow steady-state simulation of continuous chemical processes from lab scale to full scale. The program also offers physical property and phase equilibrium calculation, as well as rigorous analysis of piping networks and safety relief devices.

- DYNAMICS - Process simulation software that takes steady-state simulations to the next level of fidelity to allow dynamic analysis of flowsheets.

- THERM - Rigorous heat exchanger design and rating software.

- BATCH - Software that makes batch distillation simulation and design easy with intuitive, operation step-based input.

To request pricing information, send an e-mail to sales@chemstations.com
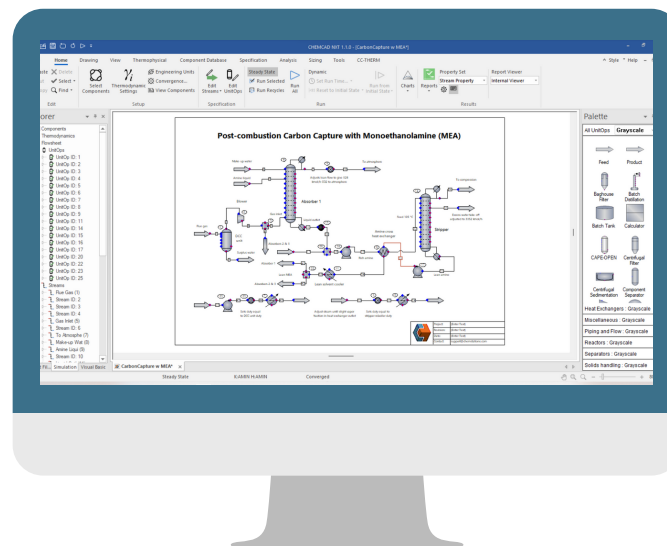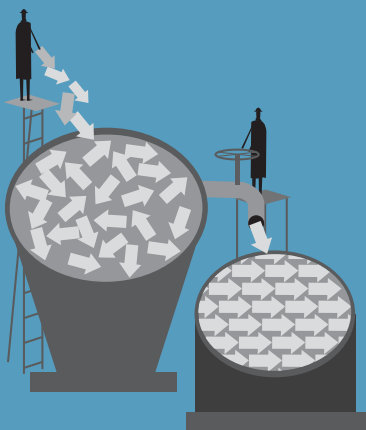
HOW DO YOU GET CHEMCAD SET UP?

Software can be installed on university-owned computers and servers, as well as student laptops. Licenses for all undergraduate students, graduate students and professors are available.

ARE THERE ANY RESTRICTIONS FOR ACADEMICS?

- Educational and research (when published) use only. Not for use with unpublished or commercially sponsored research.

- Student support is limited to accessing the knowledge base and YouTube videos.

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WHAT RESOURCES ARE AVAILABLE TO YOU?

For the student:

- Helpful links with tools and reference materials for chemical engineering students of all levels
- Technical tips and examples for common process simulation templates
- Technical videos available on the Chemstations YouTube channel

For the professor:

- A PowerPoint slide deck with best practices and tips for avoiding errors
- A process simulation example book, which includes more than 30 guided example simulations
- Access to Chemstations' technical support, available by phone or e-mail

For more information about academic resources and available support, visit chemstations.com/Support/Academic_Institutions/

A full suite of CHEMCAD is available to support your curriculum or research activities.

HOW IS CHEMCAD COMPATIBLE WITH CHEMICAL ENGINEERING CURRICULUM?

Applying concepts learned during chemical engineering studies to real-world applications is made easy with CHEMCAD for Academics. Our software is not just applicable for senior design, but can be used for various chemical engineering courses, including:

- **Heat & Material Balances** - Put into practice heat and material balances in steady-state and dynamic simulations.

- **Thermodynamics** - Create phase envelopes and equilibrium curves, easily visualize miscibility for binary and ternary mixtures, build a good foundation in physical property estimation and phase equilibria.

- **Heat & Mass Transfer and Transport Phenomena/Fluid Flow**

  - Fluid Flow - Simulate pumps, compressors, expanders, and control valves. Perform pressure and flow balancing of piping networks.
  - Heat Transfer - Generate heating and cooling curves, rigorously design and evaluate the performance of heat exchangers.
  - Mass Transfer - Plot and print detailed column profiles, rigorously calculate trayed and packed distillation columns.

CHEMCAD can be a useful tool during your entire chemical engineering curriculum.

- **Unit Operations** - Learn about the different types of equipment and how to simulate them in CHEMCAD. Apply first principles in real-life applications.

- **Separations** - Use rigorous models of separation columns to study VLE and VLLE separations. Use mass transfer models of columns to study non-ideal separation.

- **Reactions** - Model reactions using defined conversion, equilibrium reactions, or kinetics expressions. Study isothermal and adiabatic reactors with heating or cooling. Model PFR, CSTR, and batch reactors using either custom kinetics or Arrhenius expressions.

- **Process Controls** - Build dynamic models using PID controllers to control measured variables and respond to process disturbances.

- **Senior Design** - Synthesize learnings from the full chemical engineering curriculum using world-class simulation software.

We believe in the value that chemical engineers bring to our world, and we are dedicated to providing tools that help advance the field.

WORKING WITH CHEMSTATIONS

We've been serving the chemical process industry and chemical engineering academics for over 30 years. Our extensive customer list includes academic institutions across the globe.

Our adaptive process simulation technology is designed to be intuitive and help you achieve a faster learning curve. The skills you learn using CHEMCAD transfer to real-world scenarios and can be applied across all industries and process simulation tools.

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To learn more about how CHEMCAD advances engineering, to request a free trial, or to find a representative in your area, visit chemstations.com or call us at 1.800.CHEMCAD (1.800.243.6223) or +1 713.978.7700.