

PLEASE NOTE:

Conceptual Chemistry is funded by the Ohio Board of Regents' *Improving Teacher Quality State Grants Program*. The purpose of Conceptual Chemistry is to assist school districts by providing quality professional development experiences for middle and high school teachers. This program provides **free tuition, a \$2,425 value**, for all participants along with approximately \$850 worth of equipment, supplies, activity books and other hands-on materials for use in the classroom.

The Improving Teacher Quality State Grants Program is part of the No Child Left Behind Act of 2001 and distributes federal funds to all 50 states to support activities designed to increase student achievement by elevating teacher quality.

Enhance your understanding of basic chemistry by participating in Conceptual Chemistry! It's...

- ▶ Enjoyable
- ▶ Usable Inquiry Lessons
- ▶ Down-to-Earth
- ▶ For the Non-Scientist

Receive ideas and materials to teach your students effectively.


KENT STATE[®]
UNIVERSITY
TUSCARAWAS

330 University Drive, NE
New Philadelphia, OH 44663-9403

**INTERESTED IN PARTICIPATING IN
CONCEPTUAL CHEMISTRY?**

Write, call or email for an application from:

Dr. Christopher J. Fenk, CChem 2016

Science and Advanced Technology
Center

Kent State University at Tuscarawas

330 University Dr. NE

New Philadelphia, OH 44663-9403

Phone: 330.308.7467

Email: cfenk@kent.edu

Include in your request:

Name

Address

City, State, Zip

10-digit Phone number

Email address

or download application at:

[http://personal.kent.edu/~cfenk/
Chemistry/Conceptual_Chemistry.html](http://personal.kent.edu/~cfenk/Chemistry/Conceptual_Chemistry.html)

**All classes meet at
Kent State University at Tuscarawas
330 University Dr. NE
New Philadelphia, Ohio 44663
330.339.3391**

Conceptual Chemistry is funded by the Ohio Board of Regents' Improving Teacher Quality Program. Funding for 2016 is approved and we are currently accepting applications.

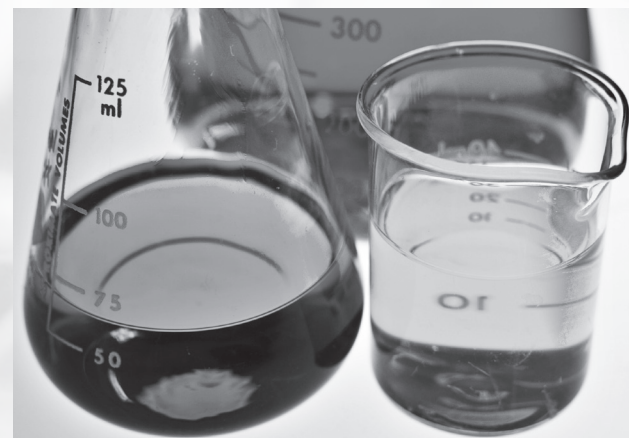
CONCEPTUAL CHEMISTRY

LEARN WHAT IT TAKES TO REALLY TEACH CHEMISTRY

FOR TEACHERS OF GRADES 4 - 9

▶ FREE TUITION · FREE MATERIALS ◀

APPLICATION FEES TO THE KENT STATE UNIVERSITY
GRADUATE COLLEGE ARE NOT INCLUDED



▶ APPLICATION DEADLINE: APRIL 1, 2016


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WHAT IS CONCEPTUAL CHEMISTRY?

Conceptual Chemistry is a teacher-friendly, proven-to-be-effective graduate course for teachers of chemical concepts in grades 4 – 9. This tuition-free, 5-credit-hour Kent State University graduate course combines basic concepts in chemistry with hands-on activities and practice using them.

FROM LAB TO THE CLASSROOM:

This course includes ideas and models appropriate for intermediate and middle school teachers with constructivist teaching strategies that will lead to student (and teacher) involvement and understanding. Activities are designed to help teachers learn basic concepts, and these activities can be adapted for use in the intermediate and middle grades.

INSTRUCTORS:

This experienced team has worked together on professional development projects in Northeastern Ohio for the past 11 years.

Mr. Gene Easter

Chemistry Teacher
Retired from Streetsboro High School
Streetsboro City Schools

Dr. Christopher J. Fenk, Professor

Department of Chemistry and Biochemistry
Kent State University at Tuscarawas

Dr. Claudia Khourey-Bowers, Emeritus Professor

Teaching Leadership and Curriculum Studies
Kent State University at Stark

Ms. Carol Thombs

Multi-grade Science Teacher
Outdoor School, Richland County
Retired from Brunswick City Schools
Medina County

CONCEPTUAL CHEMISTRY TOPICS

PROPERTIES OF MATTER

Some physical and chemical properties of matter and models to illustrate their differences are explored.

DENSITY AND CONCENTRATION

Mass, volume and dilution are introduced in order to develop the derived concept of density.

SOLUTIONS, MIXTURES AND COMPOUNDS

Activities help clarify the chemical differences between materials that are not single elements.

CHEMICAL REACTIONS

Activities reveal evidences of chemical changes and the conservation of matter.

PARTICLE THEORY AND THE PERIODIC TABLE

A mini-history of ideas about and classifications of elements are themes of participatory lessons.

ACIDS AND BASES

Teachers gain experience with acids and bases, their practical uses and descriptive ways to explain pH.

ENERGY

An introduction to various forms of energy and energy transformations is developed with selected activities.

CHEMISTRY OF FOOD

Consumer-oriented activities explore the mixtures of basic nutrients in processed food.

CHEMISTRY AND THE ENVIRONMENT

Chemical principles are studied as they relate to current environmental issues.

FORENSIC CHEMISTRY

The crime scene provides both a "need to know" and opportunities to apply knowledge and techniques developed in previous units.

IS THIS COURSE FOR YOU?

Not much background in science, but would you teach it if you could?

Would you teach chemical concepts and critical thinking better and more often if you had practical lessons for the middle grades?

Have you noticed that children's ideas about natural events are sometimes surprising and different from yours?

Does mention of *Ohio Science Standards* make you uncertain about preparing students to meet them?

Would you like a solid graduate course in which to explore selected topics in chemistry, children's thinking and science education?

If you answered YES to two or more of the questions above, consider taking *Conceptual Chemistry*, a Kent State University course for teachers funded by the Ohio Board of Regents and supported by area schools.

CONCEPTUAL CHEMISTRY CLASS CALENDAR 2016

► **All classes meet from 8 a.m. to 4 p.m. at Kent State Tuscarawas**

June 13, 14, 15 and 16

June 20, 21 and 22

September 10

October 7 and 8

November 5