APRIL N. FRENCH

Senior Academic Coordinator, General Chemistry Lab Supervisor

Department of Chemistry

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AREA OF SPECIALIZATION: Organic Chemistry, Chemical Education, and Psychology and Research in Education

ACADEMIC INTERESTS: Communicating Science to the Public, General Chemistry labs, Technology in the Classroom and Lab, Hybrid Course Design, Transformative Learning, lab design, lab safety, Informal science education, informal chemical education, public outreach, K-12 science education, POGIL, symbolic interaction, general and organic chemistry, qualitative analysis, wiki use, collaborative learning

**EDUCATION, degrees**

2002 - 2007 Doctor of Philosophy, Chemistry with an emphasis in Chemical Education and Organic, University of Kansas, Lawrence, KS.

* Dissertation title: *Informal Science Education at Science City,* supervised by Dr. Joseph Heppert
* Research skills in statistical analysis.

1998 - 2002 Bachelor of Science in Chemistry, minor in Communication, University of Tulsa, Tulsa, OK. Research: Isolation and characterization of natural products from *Dalea purpurea*, supervised by Dr. Gil Belofsky.

* Graduated *Cum Laude*
* Member of Scroll and Lantern Honor Societies, 1999-2001.
* Member of the President’s Honor Roll, 2001-2002.
* Recipient of the Ralph L. Kaufmann Award for Outstanding Academic Achievement in Chemistry, 2002.

**EXPERIENCE**

2011 - present Academic Coordinator, Senior. General Chemistry Lab Supervisor, University of Kentucky.

* Adjunct Assistant Professor 2016-current
* Part-time Instructor 2013-2016
* Adjunct Instructor 2011-2013

2023 - present Peer Consultant, Macmillan Learning

2019 - 2022 Faculty Learning Advocate, Macmillan Learning

2019 – 2020 Freelancer – Macmillan Learning

2007 - 2011 Assistant Professor of Chemistry, Northwestern State University.

SU 2007 Lecturer, University of Kansas. Organic Chemistry II Lab. Lecture (CHEM 627).

SU 2006 Lecturer, University of Kansas. General Chemistry II (CHEM 188).

SU 2005 Lecturer, University of Kansas. College Chemistry (CHEM 124/125).

2003 - 2007 Graduate Research Assistant, Dr. Joseph Heppert, Center for Environmentally Beneficial Catalysis (CEBC), University of Kansas.

* Planned and implemented research at Science City on visitor perception of learning and attitude toward science.
* Designed web-based tutorial to help graduate students design curricular units on their research.
* Assessed effectiveness of inquiry-based high school unit on biodiesel.

2002 - 2004 Graduate Teaching Assistant, University of Kansas. Organic Chemistry Lab.,

General Chemistry Lab and Lecture, College Chemistry Lecture.

2000 - 2002 Undergraduate Research Assistant, Dr. Gil Belofsky, University of Tulsa.

* Isolated and purified substances in *Dalea purpurea* that has opiate activity.

2001 Intern – Greater Tulsa Reporter Newspapers

* Performed tasks as a writer, photographer, editor, layout designer, and secretary.

2000 Web Designer – University of Tulsa Department of Chemistry and
 Biochemistry.

* Redesigned the Department website, including making updates and addition of photographs, research information, and a student section.

**SUPERVISION and COORDINATION**

2011 - present General Chemistry Lab Supervisor, Senior Academic Coordinator

* Supervising and coordinating graduate and undergraduate TA’s for approximately 80 sections of General Chemistry I and II laboratories, including TA training, lab development and maintenance.
* Recruit, interview, and train non-chemistry graduate students and undergraduate students to teach in the lab
* Supervise Instructional Laboratory Coordinator to ensure lab are properly stocked with supplies and chemicals to meet students’ needs
* Staffed the General Chemistry Learning Center 2011 to 2013

2018–current Coordinator, ChemCamp, sponsored by the UK College of Education

* Design camp activities
* Coordinate ordering and use of supplies
* Coordinate use of chemistry lab facilities
* Identify camp TAs

2011 - 2012 Senior Academic Coordinator – ChemExcel Program

* Coordinates approximately 30 undergraduate peer leaders in the ChemExcel program
* Program designed to have talented undergraduates assisting general chemistry students in small groups for addition practice in general chemistry.

2010 - 2011 Supervising three undergraduate research students in chemical education.

2010 Supervised student workers in the cleaning and organization of laboratory drawers in the GOB, general, organic, and inorganic/analytical laboratories.

2010 Coordinated the installation of a new water distillation system for the chemistry building

SU 2009 Cyber Forensics Camp Instructor for GC/MS, sponsored by Cyber Innovations, Inc. in Shreveport.

SU 2009 ADVANCE Program for Young Scholars Chemistry Instructor, part of the Duke University’s Talent Identification Program (TIP), Northwestern State University

2007 College Chemistry lecture super-TA, University of Kansas.

* Coordinated grading of homework among laboratory TA’s, scheduled early exams, and led discussion sections.

2005 - 2007 Coordinated the Chemical Education Colloquium by scheduling research related topics and facilitating discussion among participants.

2004 - 2005 Outreach for CEBC, University of Kansas.

* National Chemistry Week demonstrations at Science City on catalysis, chemical reactions, environmental chemistry, Fall 2004.
* Engineering Expo at KU, covering the theme Studios: Behind the Scenes, Spring 2005. Designed displays and coordinated demonstrations related to chemical engineering, catalysis, and the use of carbon dioxide in green chemistry. Viewed by approximately 200 students.
* TRIO Talent Search at KU, coordinated volunteers and laboratory activities for 7th graders.

2003, Fall General Chemistry lecture super-T.A., University of Kansas. Coordinated discussion sections and supervised course exams.

**COURSES TAUGHT**

University of Kentucky

Seminar in Chemistry Instruction (CHE 772). Guest Lecturer.

* Co-teaches three lectures/discussions on the importance of consistency and fairness using real-life scenarios from the teaching labs

Northwestern State University

Basic Concepts of Physical Science (SCI 1010). General science for all majors.

* Implemented use of POGIL materials and in-class labs to emphasize inquiry learning
* Implemented the use of PRS Interwrite clickers to get students involved in lecture

Internet-based Basic Concepts of Physical Science (SCI 1010-I).

* Led discussions on topics of physical science.

Chemistry & Physics Orientation (CHEM 1010, PHYS 1010). Provided opportunities for incoming freshman majors to interact with current majors

* Provided students with an introduction to services on campus, including library tour, and academic support services
* Instructed students on the university’s plagiarism policy and introduced students to the American Chemical Society’s Style Manual.

Introductory Chemistry (CHEM 1070). Pre-nursing/rad. tech. 1st semester of 2 semester GOB course: general chemistry.

* Developed PowerPoint material that incorporated student participation using in-class examples
* Implemented the use of the POGIL instructional material and group activities

Internet-based Introductory Chemistry (CHEM 1070-I).

* Redesigned course to prove easy access to weekly assignments
* Switched monthly exams off Blackboard and onto MasteringCHEMISTRY

Introduction to Biochemistry (CHEM 1080). Pre-nursing/rad. tech. 2nd semester of 2 semester GOB course. - organic/biochemistry.

* Developed Powerpoint material showing chemical reactions important to biological processes.
* Included imbedded questions for students to attempt during class to obtain immediate feedback of their understanding and feedback from the instructor

Introduction to Chemistry Laboratory (CHEM 1091). GOB/pre-nursing laboratory

* Taught basic laboratory skills to pre-nursing students, including making measurements, error analysis, and simple molecule synthesis

Practicum for Chemistry Teaching (CHEM 2200)

* Supervised teaching experiences for chemistry majors.

Organic Chemistry I (CHEM 3010)

* Taught using the POGIL approach, collaborative learning

Organic Chemistry I Lab (CHEM 3011).

* Implemented the use of Science Writing Heuristic (SWH) materials in lab to promote guided-inquiry learning
* Implemented NMR “dry-lab” to promote student problem solving ability

Organic Chemistry II (CHEM 3020)

* Taught using the POGIL approach, collaborative learning

Organic Chemistry II Lab (CHEM 3021).

* Implemented NMR “dry-lab” to promote student problem solving ability
* Incorporated multi-week projects in which students synthesis skills are evaluated

Undergraduate Seminar (CHEM 4900).

* Provided students with independent study opportunities in student-selected topics within the divisions of chemistry. Students wrote four papers and presented one talk over their studies

Research Problems in Chemistry (CHEM 4950).

* Coordinated presentations regarding undergraduate student research conducted at NSU. Students present three oral presentations, a poster at the ACS Spring National meeting, and calumniate with a presentation in the university JOVE seminar series

Senior Thesis (CHEM 4980)

* Supervised the completion of a senior thesis

University of Kansas

College Chemistry (CHEM 124/125). One Semester GOB

* Taught lecture course on introductory chemistry concepts with emphasis on overview and appreciation.

General Chemistry II (CHEM 188).

* Taught lecture course covering topics such as molecular geometry, equilibria, reaction rates, acid/base, and solutions with an emphasis on student participation and multimedia.

General Chemistry I Lab (CHEM 184) T.A.

* Taught beginning chemistry concepts, notebook and lab report writing skills, and lab technique.

Organic Chemistry I Lab (CHEM 625) T.A.

* Taught beginning organic chemistry techniques to sophomores.

Organic Chemistry II Laboratory (CHEM 627).

* Organized and taught laboratory lecture course intended to prepare students for laboratory session meeting at a separate time.
* Focused on understanding and interpreting data from 1H NMR, 13C NMR, IR, and MS as well as gaining experience using common organic reactions.
* Students worked in groups of 4 writing lab reports using Blackboard’s Wiki function.

University of Tulsa

Qualitative Organic Analysis (CHEM 4013) T.A.

* Supervised junior level chemistry students in isolating and characterizing organic compounds using column chromatography, TLC, NMR, and IR.

**CURRICULUM DEVELOPMENT**

2023 Implemented the use of Achieve Smart Worksheets for use in CHE 111 and 113 to replace Chem21Labs.

2021 Integrated course videos into in-person CHE 111 course

2020 Developed hybrid course for CHE 113 to alternate in-person activities with remote video watching of lab experiments.

* Created pre-lab video content explaining lab experiments
* Videoed, recorded, edited videos of select CHE 113 lab experiments
* Developed PlayPosit questions embedded with the lab experiments
* Trained TAs on new teaching materials and content

2020 Developed remote course for CHE 111 for use with Hayden-McNeil lab simulations.

* Created pre-lab video content explaining lab experiments
* Trained TAs on new teaching materials and content

2020 Developed remote course for 111 and 113 for use with Hands-On Lab Kits

* Created pre-lab video content explaining lab experiments
* Trained TAs on new teaching materials and content

2015 Developed course content in Canvas

2014 Adapted the University of Kansas laboratory on water quality to focus on water systems in Kentucky to teach students applications of chemistry and gain some real-world knowledge of how their laboratory experience can be applied.

2013 Developed laboratory material to teach students about plagiarism and academic integrity. Piloted in SU13 and full-scale in labs FA13. Material focused on relation between the University policies and those seen in Communities of Practice, proper use of citation, and outcomes that result from violating policies. Resulted in 50% decrease in the number and severity of academic offense cases seen in lab.

2012 Developed safety training material for training TA’s and RA’s as part of yearly departmental safety training. Material focused on responding to accidents and injuries in the teaching labs.

2012 Adapted chemistry lab worksheets for input onto Chem21labs.com website

* Planned the design of virtual worksheets online for molecular modeling lab focused on hybridization and molecular geometry and on preparing and using buffer solutions

2010 Implemented Process-Oriented Guided Inquiry (POGIL) into the Organic sequence (CHEM 3010 and 3020)

2009 Reorganized the Internet Course for Introductory Chemistry (CHEM 1070)

* Brought together chapter content into a weekly format to ease access for students

2008 Introduced Science Writing Heuristic into the Organic Chemistry Lab

* Began rewriting laboratory procedures to an inquiry-based format, following the Science Writing Heuristic format.
* Incorporate green chemistry into the introduction to laboratory safety dry lab

2008 Introduced Process-Oriented Guided Inquiry Learning (POGIL) material into the CHEM 1070.

2008 Developed and implemented use of guided-inquiry in SCI 1010 course.

* Developed guided-inquiry in-class labs for students to explore and use the scientific method in the physic portion of the course
* Implemented POGIL material for the chemistry portion of the course
* Established groups to promote interaction among students in the course and to provide support during guided-inquiry activities

2008 Implemented the use of Personal Response systems in the summer CHEM 1080 Introduction to Biochemistry course.

* InterWrite PRS
* Turning Point

2007 Implemented the use of Powerpoint and practice problems in College Chemistry and Intro to Biochemistry course to give students in-class time to practice chemistry problems and receive immediate feedback.

2006 Implemented the use of Wiki’s in Organic Chemistry to enable students’ collaboration when writing lab reports

2006 Implemented green chemistry labs in Organic Chemistry to expose undergraduate to the benefits of green chemistry.

2005 - 2006 Development of a teaching module template for use by CEBC graduate students to teach their research to a more general audience.

* Implemented with the Teaching Science course offered to graduate students in the science and education fields.
* Website presented at the Fall 2006 ACS meeting

**PUBLICATIONS**

**JOURNAL**

Testa, S., Selegue, J., French, A., Criswell, B. (2018). Permanganate Oxidation of DNA Nucleotides: An Introductory Redox Laboratory Framed as a Murder Mystery. *Journal of Chemical Education*. 95(10), 1840-1847. <https://doi.org/10.1021/acs.jchemed.8b00079>

Belofsky, G., French, A. N., Wallace, D.R., Dodson, S.L. (2004). New geranyl stilbenes from *Dalea purpurea* with in vitro opioid receptor affinity. *Journal of Natural Products,* 67(1), 26-30. <https://doi.org/10.1021/np030258d>

**ARTICLES AND CHAPTERS IN BOOKS**

French, A., Soult, A., Testa, S., Stratman, P., Savas, M.M., Botha, F., Brock, C., Griffith, C., Hood, D., Kiser, R., O’Connor, P., Plucknett, W., Sands, D., Vance, D., Wagner, W. *CHE 111 General Chemistry Laboratory Manua*l. Plymouth, MI: Macmillan Learning Curriculum Solutions. (2012 to current editions)

French, A., Soult, A., Savas, M.M., Botha, F., Brock, C., Griffith, C., Hood, D., Kiser, R., O’Connor, P., Plucknett, W., Sands, D., Vance, D., Wagner, W. *CHE 113 General Chemistry II Laboratory Manua*l. Plymouth, MI: Macmillan Learning Curriculum Solutions. (2012 to current editions)

French, A. N., Barker, M. D., Huber, J., and Morehouse, P., Barybin, M.V., Heppert, J.A. (2004). The Status of Undergraduate Chemical Education. In Chemical Education, edited by J.J. Lagowshi (Series Ed.), in *Encyclopedia of Life Support Systems* (EOLSS). Developed under the Auspices of the UNESCO, Oxford, UK, Eolss Publishers, (<http://www.eolss.net>).

Heppert, J. A., French, A. N. Scientists’ Perspective on Reform in Teaching Undergraduate Science: Serving Pre-service Science Teachers in the Context of a Heterogeneous Student Population. In D.W. Sunal, and E. L. Wright (Series Eds.), & D. W. Sunal, E.L. Wright, and J. Bland (Vol. Eds.), *Research in Science Education. Reform in undergraduate science teaching for the 21st century*. Greenwich, CT: Information Age Publishing Inc. (2004).

**ABSTRACTS**

**Invited talks**

French, A.N. and Obisesan, O. (2022, Oct.). Making labs an interactive experience for all. Talk presented at the 2022 Macmillan Lab Summit Speaker Series. Virtual.

French, A.N. (2020, Aug.). Platform overload: Streamlining pre-labs, post-labs, and reports using non-integrated web platforms. 2020 Biennial Conference on Chemical Education. Abstract accepted March 31, 2020. Because of the global COVID-19 pandemic, the 2020 Biennial Conference on Chemical Education was terminated on April 2, 2020, by the Executive Committee of the Division of Chemical Education, American Chemical Society; and, therefore, this presentation could not be given as intended.

French, A.N. and Patwardhan, M. A. (2018, Aug.). Simplifying rules on laboratory appropriate attire: Using scrubs as required PPE in lower-level teaching labs. Talk at 2018 Biennial Conference on Chemical Education, Notre Dame University. Symposia: Integrating Laboratory Safety Education Into The Chemistry Curriculum.

Patwardhan, M. A., French, A. N., Saryazdi, S. and Riddle, A. (2018, Aug.). Undergraduate Laboratory Assistants in large enrollment organic chemistry laboratories. Talk at 2018 Biennial Conference on Chemical Education, Notre Dame University. Symposia: Present & Future Directions in Organic Chemistry Laboratory Courses.

French, A.N. (2018, Oct.). Developing Custom Online Chemistry Lab Curriculum. Talk presented at the Hayden-McNeil/Macmillan Learning Lab Summit, Austin, TX.

French, A.N. (2014, Aug). Addressing Plagiarism in the General Chemistry Labs. Talk at 2014 Biennial Conference on Chemical Education, Grand Valley State University. Symposia: Issues in Teaching and Learning in the Chemistry Laboratory.

Bezoari, M.D., Cochran, M.E., Mason, J., and French, A.N. (2011, Aug). Teaching gas chromatography-mass spectrometry in undergraduate laboratory courses using process oriented guided inquiry learning (POGIL).Talk at the 242nd American Chemical Society National Meeting, Denver, CO. Symposia: Catalyzed Innovations in the Undergraduate Curriculum.

French, A. N. (2010, April). Reflections on the First Year of Implementing POGIL in Nursing Majors Course. Talk given at the 23rd NSU Research Day, Natchitoches, LA.

French, A. N. (2009, March). Reflection on the First Year of Implementing POGIL in a Nursing Majors Course. Talk at the 237th American Chemical Society National Meeting, Salt Lake City, UT. Symposia: Process-Oriented Guided Inquiry Learning (POGIL): More POGIL Across the Curriculum.

French, A. N., Heppert, J. A. (2008, April) A Historical Look at Informal Chemical Education in Science Museums. Talk at the 235th American Chemical Society National Meeting, New Orleans, LA. Symposia: Chemistry in Informal Learning Environments.

Munson, C., French, A. N., Barron, B., & Heppert, J. A. (2008, April). Using Online Collaborative Learning to Introduce Green Chemistry to Undergraduate Organic Laboratories. Talk presented at the 235th American Chemical Society National Meeting, New Orleans, LA. Symposia: Using Technology to Enhance Learning in Organic Chemistry and poster presented at SciMix

French, A.N., Heppert, J.A., and Bode, C. (2007, Aug.). Evaluation of the “What’s ‘Green’ About Biodiesel?” high school curricular unit. Invited talk at the 234th American Chemical Society National Meeting, Boston, Mass. Symposia: Community Outreach and Service through Green Chemistry.

French, A. N. (2006, March). *Development of Chemistry in Informal Learning Environments.* Talk given at the Kansas College Chemistry Teachers Conference, Arkansas City, KS.

French, A. N. (2005, April). *Chemistry and Informal Science Education.* Talk given at the Kansas College Chemistry Teachers Conference, Lawrence, KS.

**Poster Presentations**

Gibson II., D. K. and French, A.N. (2011, April). “Revising an organic two laboratory on separation of spinach with column chromatograph using Science Writing Heurisic.” Undergraduate poster presented at the 241st American Chemical Society National Meeting, Anaheim, CA. CHED-869.

Kemmerly, K., French, A. N. (2010, March). “Adventures in NMR: Repairing and learning about NMR to develop an undergraduate organic laboratory on structure determination.” Undergraduate poster presented at the 235th American Chemical Society National Meeting, San Francisco, CA. CHED-617.

Senegal, K., Sullivan, R. Senegal, S., Copeland, J., Gibson, D., Kemmerly, K., French, A.N., Rudd, G.E.A (2010, March). “Northwestern State University rocks from the bayou again and again.” Successful Chapter poster presented at SciMix at the 235th American Chemical Society National Meeting, San Francisco, CA. CHED 1348.

DeVanie, T., Martel, C., Sullivan, R., McLellan, M., Wilkerson, M., Adams, P., Kilgore, M., French, A.N., and Rudd, G.E.A. (2009, March). “Northwestern State rocks from the bayou, again.” Successful Chapter poster presented at Sci Mix during the 237th American Chemical Society National Meeting, Salt Lake City, UT. CHED-1093.

French, A.N., Heppert, J.A., and Bode, C. (2007, March). Evaluation of the “What’s ‘Green’ About Biodiesel?” high school curricular unit. Poster session and SciMix at the 233rd American Chemical Society National Meeting, Chicago, IL.

French, A.N., Heppert, J.A., Hohl, C., and Lane, D.D. (2006, Sept.) Teaching science: A template to help graduate students develop a green chemistry curriculum unit. Poster session and SciMix at the 232rd American Chemical Society National Meeting, San Francisco, CA. CHED-84.

French, A. N., Jernigan, D., and Heppert, J.A. (2006, March). Evaluation of a space exploration exhibit at Science City and its implications for the development of a chemistry exhibit. Poster session and SciMix presented at the 231st American Chemical Society National Meeting, Atlanta, GA. CHED-94.

French, A. N., Jernigan, D., and Heppert, J.A. (2006, March). Evaluation of a space exploration exhibit at Science City and its implications for the development of a chemistry exhibit. Poster presented at the Graduate Student Research Competition, University of Kansas, Lawrence, KS.

French, A. N., Belofsky, G., Wallace, D., Dodson, S. L. (2002, April). *Opioid receptor-binding activity of compounds from Dalea purpurea (Fabaceae).* Poster session presented at the 223rd American Chemical Society National Meeting, Orlando, FL. CHED-761.

French, A. N., Belofsky, G., Wallace, D.R. (2001, April). *Isolation and characterization of natural products from neuropharmacologically active extracts of Dalea purpurea*. Poster session presented at the 221st American Chemical Society National Meeting, San Diego, CA. CHED-224.

**Supervised Undergraduate Thesis**

Copeland, J.M. (2011). Probing the Interdisciplinary Nature of Mass Spectrometry. Northwestern State University.

**SUCCESSFUL GRANTS**

**TRAVEL GRANTS**

$800 travel grant from COACh to attend the COACh Workshop at the 239th American Chemical Society National Meeting in San Francisco.

$860 NSU Enrichment Fund (NEF) Professional Development Grant. “Presentation of ‘Reflections on the first year of implementing POGIL in nursing majors course” at the 237th ACS National Meeting in Salt Lake City”

$800 travel grant from COACh to attend the COACh Workshop at the 237th American Chemical Society National Meeting in Salt Lake City.

$800 travel grant from COACh to attend the COACh Workshop at the 235th American Chemical Society National Meeting in New Orleans

$400 University of Kansas Graduate Student Paper Presenter Fund grant to attend the 232rd American Chemical Society National Meeting.

**OTHER**

$17,269.51. Student Technology Fee Grant at NSU. PI: April French. To obtain 8 new balances, 14 new stirring hotplates, and a rotary evaporator and vacuum pump for teaching laboratories.

$199,912. Senior Personnel Assessment Director. “Collaborative Enhancement of Science Education with Inquiry-Based GCMS Experiments.” PI: Massimo Bezoari; Co-PI’s: Margaret Cochran, Darrell Fry, Barry Hester and Elaine Cox. NSF CCLI Grant Award #0736653

* Obtain a GCMS for use in organic, analytical, and general chemistry laboratories and develop Guided Inquiry materials for use.

**RELEVANT TRAINING**

**MANAGEMENT**

2020 The Essential Leader Program.

* + Focus on developing leadership skills

2016 "Recruiting, Hiring, and Onboarding Employees by University of Minnesota on Coursera. Certificate earned on June 5, 2016". https://www.coursera.org/account/accomplishments/certificate/Q2F9Q9DDHDUL

2016 "Managing as a Coach by University of California, Davis on Coursera. Certificate earned on May 21, 2016". https://www.coursera.org/account/accomplishments/certificate/AW58ANK7GXL6

2016 "Preparing to Manage Human Resources by University of Minnesota on Coursera. Certificate earned on May 3, 2016". https://www.coursera.org/account/accomplishments/records/WNJAPFUCNEEV

2015 Behavior-Based Interviewing 1-Day Training

* + Focus on interviewing technique, behavior-based interviewing, to better identify qualified candidates for positions
	+ Used knowledge to develop interview protocol for using with Undergraduate Learning Assistants and Out-of-Department graduate students hired to teach in the GenChem lab

2012 University Supervision Training

* + Introductory training series for new supervisors focused on hiring, training, interviewing and university and governmental policies

2010 Committee on the Advancement of women Chemists (COACh) Workshop: “COAChing Strong Women in the Art of Negotiation” at the American Chemical Society National Meeting in San Francisco.

2009 COACh Workshop: “The Chemistry of Leadership”: Workshop at the American Chemical Society National Meeting in Salt Lake City.

2008 COACh Workshop. “COAChing Strong Women in the Art of Strategic Performance”: Workshop at the American Chemical Society National Meeting in New Orleans

* + Development of skills and tactics for changing approaches to meetings and business environments to obtain desired results.

**ACADEMIC**

2019 Mental Health First Aid USA certified.

* + Focus on identifying individuals in a mental health crisis, how to respond, and how to persuade them to see help

2016 "Principles of Photo Composition and Digital Image Post-Production by Michigan State University on Coursera. Certificate earned on July 3, 2016". https://www.coursera.org/account/accomplishments/certificate/ACSACSADG8SM

2016 "Camera Control by Michigan State University on Coursera. Certificate earned on June 12, 2016". https://www.coursera.org/account/accomplishments/certificate/NMME9SK2KLQF

2016 "Cameras, Exposure, and Photography by Michigan State University on Coursera. Certificate earned on May 18, 2016". https://www.coursera.org/account/accomplishments/certificate/2KESBPKU5PNW

2016 myUK: GPS & AET

* + Looks how changes to the myUK: GPS degree audit system and Academic Exploration Tool (AET) are implemented and taught how to navigate the new advising and enrollment system

2016 CELT – Metacognition: They Key to Teaching Students Transformative Learning Strategies” conducted by Saundra McGuire

* + Workshop discussing how to approach students about changing how they study, addressing motivation levels and academic preparedness.

2016 Active Shooter Workshop

* + Workshop addressing what to expect and how to behave in case of an active shooter situation on campus.

2016 FERPA Training sponsored by University of Kentucky’s Registrar’s office and College of Arts and Sciences

2016 CELT Aligning Outcomes, Assessments, and Activities through Backward Design

* + Workshop focusing on designing courses and curricula around the outcomes desired from students at the end of the course. Discussed measureable learning, designing assessments to measure those outcomes, and activities that foster learning engagement

2015 Canvas Learning Management System

2014 CELT Workshop: Hybrid Course Design I

* + Workshop focusing on re-designing courses into a hybrid design, including discussion of course structure, design, use of technology, and pedagogy.

2014 “What’s New to Blackboard” workshop addressing changes to Blackboard for the Fall 2014 semester

2014 “Distressed and Distressing Students” workshop

* + Workshop presented by UK Counseling Center on how to address scenarios with students experiencing significant levels of distress and/or distressing behaviors to those around them. Included information provided by UK Students of Concern Team and UK psychologists

2014 Active Shooter Workshop

* + Workshop addressing what to expect and how to behave in case of an active shooter situation on campus.

2014 CELT Workshop: Cheating: Curbing, Catching, and Consequences

* + Workshop on addressing academic dishonesty to include cheating on exams and plagiarizing papers. Discussed strategies for curbing and catching and UK policies.

2013 CELT Workshop: How Do I Handle This? Challenging Situations In and Out of the Classroom

* Workshop on working with challenging students in the classroom, including texting, exhibiting prejudicial behavior, or other discourteous and disrespectful behavior

2011 Chem21labs.com webpage design

2011 MeasureNet data acquisition system

2010 Wolfram Mathematica 7

2010 - 2011 Moodle Academic Suite

* + Use as a course management tool at Northwestern State University.
	+ Switched as part of a pilot to full implementation at NSU

2004 - 2015 Blackboard Academic Suite.

* Use as a course management tool at the University of Kansas, Northwestern State University, and University of Kentucky.
* Incorporation of blogs and wikis in courses at the University of Kansas

2008 Process-Oriented Guided Inquiry Learning (POGIL) Labs half-day, Biennial Conference on Chemical Education, University of Indiana, Bloomington, IN.

2008 POGIL 3-day workshop, Science Writing Heuristic, University of Central Missouri, Warrensburg, MO.

* Introduction to the Science Writing Heuristic (SWH) and POGIL approach to conducting labs.
* Wrote TLC of analgesics lab using the SWH approach

2008 POGIL 1-day workshop, Lamar University, Beaumont, TX

* Introduction to use of POGIL curricula in chemistry lecture classrooms

2008 Title III – Quality Matters. Northwestern State University.

* Use of Quality Matter evaluation rubric to develop online courses

2007 Human Participant Protections Education for Research Teams, online course, sponsored by the National Institutes of Health (NIH). Northwestern State University.

2004 eInstruction Class Performance System (CPS) clickers. University of Kansas.

* Incorporation into PowerPoint presentations and class lectures
* Use in conjunction with Blackboard

2003 & 2007 HSCL for Human Subjects from the Human Subjects Committee – Lawrence Campus

**SERVICE**

**Department/University**

2023 – present Chemical Safety Committee

2014 - present Academic Offense Committee Member

2011 - present Undergraduate Programs Committee member, Dept. of Chemistry, UK.

2016 Teaching Large Classes - First Year Learning (FYL) Project, Faculty Learning Community at UK

* Produced video content on how to maintain consistency and fairness across multiple lab sections and many TAs through the use of automatically graded assignments, online homework systems and heavy use of Canvas or other LMS

2016 General Chemistry Textbook review committee to determine if textbooks should be changed and which to change to

2015 - 2020 Providing technical support to members of the Chemistry Department and the College of Arts and Science on the use of ExamSoft online software for writing and administering exams

* Answering questions from other A&S faculty and staff about implementation of the software
* Working with ExamSoft to integrate their software with Canvas, with pilot intension for SU 2015

2015 - 2016 Providing technical support to members on the Chemistry Department related to the switch from Blackboard to Canvas as our LMS.

2014 Participated in the pilot of ExamSoft Exam Software

* Piloted exam question writing and tagging system starting Fall 2014
* Participated in pilot of exam administration with students Summer 2015
* Assist with student and TA training on use of ExamSoft Software, 2015 to current

2014 Participated in online homework system evaluation for the General Chemistry program, which resulted in the incorporation of Sapling Online homework system in the lecture following pilot with the labs.

2014 Served as a high-user Learning Management System (LMS) reviewer to provide feedback on LMSs to the LMS Review Committee.

2013 - 2016 Providing technical support and needs analysis to members of the Jacobs Science Building (JSB) Committee as related to the General Chemistry Labs, prep space, and storage, and needs of the General Chemistry support program.

2013 Toured Academic Science Buildings with members of the JSB Committee to see the state of new science buildings as preparation for discussions on building a new JSB at UK. Week-long tour of 8 science buildings in 5 days.

2013 Parent & Family Reception representative of the General Chemistry Program for incoming UK student’s parents

2011 Served as member of Panel Discussion with TA Developers for the UK Graduate School’s Orientation for New Graduate TA’s

2010 Installed Diamond-tip ATR for ThermoFisher Nicolet 380 FT-IR

2009 - 2010 Coordinated the repair of the NMR at NSU.

2009 Coordinated the ordering of a new still from Fisher Scientific and its installation

2008 Committee on Revising Scientific Method Survey, Committee Chair. NSU.

2008 Search committee for Joint Lecturer position between National Center for Preservation Technology and Training (NCPTT) and NSU.

2007 Search committee for Lecture Coordinator position. University of Kansas.

**Discipline**

2022-2024 28th Biennial Conference on Chemical Education (BCCE 2024) Workshop and Safety Chair.

2016 - 2018 General, Organic, and Biochemistry Exam Writing Committee Co-Chair 2018. ACS Exams Institute.

2015 Reviewed a manuscript for *The Chemical Educator* based on the author’s recommendation.

2012 Reviewed Univ. Northern Colorado Exam questions for General, Organic, Biochem Chemistry Inventory (GOB-CTI) for content validity.

2010 - 2020 Reviewer for the *Journal of Chemical Education*

2010 - 2014 General, Organic, and Biochemistry Exam Writing Committee 2014. ACS Exams Institute.

2010 - 2017 Faculty Peer Reviewer for Student Chapter Year-End reports for ACS

* Review approximately 7 student chapter year-end reports per year and recommend awards based upon those reports

2007 - 2011 American Chemical Society Student Affiliates faculty sponsor at NSU

* + Chapter Awards:
		- Commendable Chapter Award Recipient 2009-2010
		- Outstanding Chapter Award Recipient 2008-2009
		- Outstanding Chapter Award Recipient 2007-2008
	+ Chapter Grants Received
		- ACS National Meeting Travel Grant for $300 for travel and registration to the 241st meeting in Anaheim
		- Organization Relief Fund (ORF) grant for $664.68 Mar. 2010 for travel to the ACS National Meeting SP 2010
		- Organization Relief Fund (ORF) grant for $1841 Jan. 2009 for travel to the ACS National Meeting SP 2009

**COMMUNITY INVOLVEMENT**

**PROFESSIONAL SOCIETIES**

2003 – current American Chemical Society (ACS)

* Division of Chemical Education member.
* Northwest Louisiana Local Section member 2007-2011.
* University of Kansas Local Section 2003-2007

2008 – 2012 National Science Teachers Association (NSTA) member.

2006 – 2012 American Association for the Advancement of Science (AAAS) member.

2006 – 2012 National Association for Research in Science Teaching (NARST) member.

2004 – 2007 Center for Science Education member (CSE), University of Kansas.

2004 – 2007 Student Leadership Council (SLC) member, Center for Environmentally Beneficial Catalysis (CEBC).

2002 – current University of Tulsa Alumni Association member.

2002 Phi Lambda Upsilon Member “at Large,” The National Chemistry Honor Society.

**ADVISORY BOARDS**

2022 Micro-Credentialing Advisory Board – Macmillan Learning

2020 –2021 Integrated General Chemistry Labs Advisory Board – Macmillan Learning

2018 – 2020 Catalyst Education Advisory Board

* Provide feedback on the initial development of the LabFlow online lab system
* Provide feedback on TA development and workflow

**OUTREACH**

2019, 2022 KYSO State Science Olympiad Tournament host

* Wrote the Chemistry Lab exam for high school students (2019, Division C)
* Hosted and assisted in coordinating ChemLab, Crime Busters, and Potions activities in chemistry lab facilities at UK

2016 TechSavvy sponsored by the American Association of University Women, hosted by Kentucky State University.

* Designed outreach program around “Defusing the Bomb: Understanding the Chemistry of LUSH Bath Bombs”.
* Demonstrated how to make bath bombs with emphasis on acid/base chemistry and the chemistry of smells

2015 TechSavvy sponsored by the American Association of University Women, hosted by Kentucky State University.

* Demonstrated paper chromatography for ~100 girls.

2014 Hosted the STEAM Academy students in the general chemistry labs.

2013 Presented a lecture on introductory chemistry for students in the STEAM Academy, a charter school sponsored by Fayette County Schools and UK.

2011–current Provides supervision and support for the Allied Health Education Center (AHEC) Summer Camp for high school student’s use of the general chemistry labs as part of their chemistry curriculum.

2011 Science Fair Judge for Natchitoches Middle School, Natchitoches, LA

2010 ACS NW Louisiana Local Section outreach at Sci-Port for National Chemistry Week

2010 Walk for Babies team coordinator for the NSULA-ACS team, Natchitoches, LA

2010 Keep Natchitoches Beautiful program to pick up trash from NSU to downtown Natchitoches

2010 Regional Science and Engineering Fair judge, LSU-Alexandria

2009 Science Fair Judge for Concord High School, Concord, LA

2009 Science Fair Judge for Louisiana School for Math Science and the Arts, Natchitoches, LA

2009 Keep Natchitoches Beautiful program to pick up trash from NSU to downtown Natchitoches

2008 Louisiana Literacy Challenge exam proctor for Earth Science

2007 – 2008 Boys and Girls Club outreach with NSU - ACS Student Affiliates

* Supervised and assisted with tie-dying of t-shirts

2007 Boy Scouts and Girl Scouts Troop laboratory tours.

* Led discussion in laboratory safety and use of the Scientific Method in a research lab.

2006 Diversity Scholars Mentoring Program (DSMP) tutor.

2006, 2007 TRIO Educational Talent Search

* Discussed who a chemist is with 20 7th grade minority students.
* Implemented Mentos and Diet Coke experiment and led discussion on student’s results.
* Facilitated student’s inquiry for the “6 White Powders” lab and interaction with diaper polymer.

2006 Douglas County Science Fair judge. Physical Science, 9-12 grades.

2005 – 2006 Carnival of Chemistry, Department of Chemistry, University of Kansas, and American Chemical Society, University of Kansas Chapter.

* Designed the Your Home – It’s All Built on Chemistry theme room for the Carnival which incorporated three inquiry activities Ivory® Soap Science, TVs and Magnets, and Lemon Suds. Event was well received by ~500 visitors.
* Designed the Joy of Toys theme room for the Carnival of Chemistry which was well received by the ~300 visitors to the event.

2004 National Chemistry Week, celebrated at Science City.

* Organized and coordinated demonstrations and volunteers

2004 – 2006 Minority Scholars Mentoring Program (MSMP) tutor.

* General Chemistry 1 & 2.

2004 – 2006 Chemistry tutor, General Chemistry. CHEM 124, 125, 184, 188.