Walid M. Shihabi- Personal Vitae

Employment

January 2004 – Present

Associate Professor of Physical Science, Tulsa Community College-Southeast Campus, Tulsa, Oklahoma. Design and teach courses in Physics, Physical Science, and Astronomy (Full-time position).

August 2018 – Present

Online Physics adjunct, Midwestern State University, Wichita Falls, Texas.
Design and Teach online calculus-based Physics 1 and Physics 2 and Trigonometry-based Physics 1 and Physics 2 courses (Part-time position).

August 2009 – May 2014

University Supervisor and part-time Instructor, University of Oklahoma, Norman, Oklahoma.
1) Supervise students' teachers (new graduate interns of the science education department) at Norman Public High School and middle school. This includes class observations, conducting conferences with each intern to provide feedback on teaching methods, conducting seminars and discussion groups, and grading their capstone projects.
2) Teaching the following two courses: "Teaching science at secondary schools" and "Teaching science at elementary school".

August 1998 –December 2003

Physics /Chemistry Instructor, Labette Community College – Parsons, Kansas. Teach courses in Physics, Physical Science, and Chemistry (Full-time position).

January 1995 –May 1998

Teaching Assistant, Pittsburg State University, Pittsburg, Kansas. Course assistance and Lab instructor of College Physics 1 and 2, and Engineering Physics 1 and 2 (Part-time position).

Education

Ph.D. candidate in Physical Science Education, Department of Instructional Leadership and Academic Curriculum, Physical Science emphasis, University of Oklahoma. I did not defend my dissertation yet. GPA: 4.0/4.0. Completed coursework and general exams with a 4.0 GPA. Courses emphasize Inquiry-based instruction using Learning Cycle and POGIL, Piaget's cognitive theory, Online Learning (Theories, Pedagogy, and Tools), and cultural studies in science education.

Dissertation title: “Cultural antecedent knowledge impact on Astronomy education”.

M.S Chemistry, Pittsburg State University. Awarded May 2002. GPA: 3.6277/4.0. Courses in: Analytical chemistry and instrumental analysis, advanced organic, advanced physical chemistry, vacuum system science, and spectroscopy.
Thesis title: “FT-IR and Mass spectrometer studies of Formamide adsorption and decomposition over supported Rhodium”.

M.S Physics, Pittsburg State University. Awarded August 1997. GPA: 3.6277/4.0. Courses in: advanced classical mechanics, advanced Quantum mechanics, Electromagnetic theory, Solar Energy, vacuum science, and radiation effects.

Research title: “Auger electron spectroscopy (AES) sputter depth profiling analysis of carbon thin films”.

B.S., Physics, Jordan University, Amman, Jordan. Awarded 1993. Areas of concentration: Astrophysics, Quantum mechanics, nuclear science, Mathematical Physics.
Graduation project title: “Hydrostatic equilibrium in stars”**.**

Workshops and Training

- Attended the NSTA (National Science Teaching Association) National Conference in Houston March 31–April 2, 2022.
- Participated actively in writing the Oklahoma state-wide course learning outcomes of physical science and astronomy 2006-2022.
- Completed several “Quality Matters” workshops/courses for best practices in online education. The courses included “Quality Matters: Improving your online course” 2008, and “applying the Quality matters Rubric”, 2017-2018.
- Physical science department’s faculty association representative at Tulsa community college faculty association executive board.
- Active participant in a six-member search committee tasked to select a Dean of science among a pool of 70+ applicants (2020).
- 2012- present: Active participant in several Hiring committees that selected over 10 new assistant professors in physics, chemistry, and biology.
- Active participant in a six-member search committee that selected GKFF Endowed Chair for Undergraduate Research (2016).
- Conducted and led a one-day workshop on inquiry-based teaching of science using “the learning cycle” framework to elementary, middle, and high school science teachers at Peace Academy in Tulsa, as part of a professional day on January 2014.
- Attended a three-day POGIL (Process Oriented Inquiry-Based Learning) workshop in Dallas on July 2013, where I developed several inquiry-based lesson plans based on the POGIL framework.
- Completed a certificate in teaching and designing online courses at Tulsa community college 2008.
- Participated in a 33.5 contact hours Labview-LabPro Workshop (physics workshops for the 21st century) sponsored by the NSF, April 3-5, 2003 at Lee College, Baytown Texas, where I developed a successful final project of computer-based and automated experiments.
- Completed a graduate class in education from Baker university titled: “working smarter, using assessment to guide instruction” April 10-May 2, 2003, and developed a final project for the

physical science classes focusing on enduring understanding and developing essential questions that support learning.

- Attended two workshops in 1999, and 2000 sponsored by the national science foundation (NSF) to develop computer-interfaced lab experiments using LabPro (and CBL) interface units at Pittsburg State University.
- 1998-1999: Co-author of NSF $20,000 fund to purchase Vernier computer interfaced labs (CBL), Vernier sensors and probes, and develop computer interfaced labs for physics and chemistry utilizing the Vernier apparatus for Pittsburg state university and the surrounding community colleges in rural Kansas.

Other qualifications and skills:

- Designed seven different fully online courses in physics, physical science, astronomy, introduction to chemistry, and General Chemistry. I designed the following online courses: Algebra-based physics 1 with lab (2021), General Chemistry 2 with lab (2021), online General chemistry 1 with lab (2020), Introduction to Physics with lab (2019), Introduction to Chemistry with lab (2017), Trigonometry-based Physics 2 (2016), Trigonometry-based Physics 1 (2015), Calculus-based Physics 1 (2015), Introduction to Astronomy (2006) and General Physical Science with lab (2002).
- Developed lecture videos with various animations. Here is a link to my channel on youtube**:** https://www.youtube.com/channel/UCGGKGhJ6JyLl1PhvQ-ev2tg/videos
- Mastery of the "flipped classroom" approach to instruction.
- Mastery of various inquiry-based frameworks (e.g. Learning cycle , 5E, and POGIL), and the theory underlying each.
- Mastery of student-centered instruction, and the ability to develop, modify, teach, and supervise inquiry-based science classes.
- Ability to integrate technology into teaching and lab work, and ability to develop computer-based labs e.g. Vernier sensors and PASCO.

Research and publications

- Shihabi, W. (2022, February). *Examining the efficacy of the Moon phases experiment using pre-post tests conducted in two cycles,* an action research paper was presented at the Tulsa Community College Stayonference.
- Shihabi, W. (2014, January). *Cultural Practices' Impact on Muslim Elementary School Pupils' Conceptions of Nationally-set Astronomy Concepts*. Paper presented at 21st International Conference of Association for Science Teacher Education (ASTE). San Antonio, Texas.
- Shihabi, Walid. (September 2012) math review compilation for physical science and physics courses.*The Physics Teacher journal*, volume 50, number 6, page 371.
- Presented a poster titled "Cultural Practices impact on Astronomy concepts" on October 25-26, 2010 at the 2nd Annual OUCEC Southwest Regional Network Conference hosted by OU-Tulsa Community Engagement Center and the University of Pennsylvania Netter Center.
- Shihabi, W. (2008). [Review of the book *Science education for everyday life: evidence-based practice]. International Journal of Science Education, 14,* 10-11.

http://www.tandfonline.com/doi/abs/10.1080/09500690802065924

- Shihabi, W. (2008, October). *Exploring Muslim/Arab Educators' and Learners' Views about "nature of science" and its Conformity with Their Culture*. Paper presented at the 11th Annual Oklahoma Global Education Consortium (OGEC) Conference, Tulsa, Oklahoma.

http://powershow.com/view/124f24-YWVkZ/Exploring_Arab_Educators_and_learners_views_about_Nature_of_science_and_its_conformity_with_their_cu_powerpoint_ppt_presentation

- Presented a paper on College and academic assessment at the "academic of teaching excellence" workshop at Tulsa Community College, November 2004.
- Presented a paper on "Computer animations in Physics instruction" at the Southeast Area Conference of College Science and Math Teachers at Pittsburg State University on February 22, 2003. The presentation focused on utilizing computer animations to perform distance teaching, explain complicated physics concepts, and solve step-by-step problems in physics.
- W. M. Shihabi, A. J. Jaber, D. K. Paul, (March 1998)

FT-IR studies of adsorption and decomposition behavior of formamide over supported rhodium. Paper presented at the 215th American Chemical Society national meeting in Dallas, Texas. http://books.google.com/books/about/FT_IR_Studies_of_Adsorption_and_Decompos.html?id=pqRpGwAACAAJ

- Walid M. Shihabi, Arwah Jaber, and D.K.Paul, (August 1998).

Influence of oxide-support during adsorption and decomposition of formamide over supported rhodium. Paper presented at the 43rd annual penta-sectional meeting of the American chemical society in the Marland estate conference center in Ponca city, Oklahoma.

- A.B. Noeller, S. Ledbetter, A. Jaber, W. Shihabi, and D.K. Paul (August 1998)

Investigation of NO/CO reactions over modified Pd/Al_2O_3 surfaces. Paper presented at the 43rd annual penta-sectional meeting of the American chemical society in the Marland estate conference center in Ponca city, Oklahoma.

Rewards and professional memberships

- Nominated for the "Distinguished Faculty Award 2001-2002 academic year" at Labette community college.
- Pittsburg State University Graduate School Reward for the Excellence in Teaching, Spring 1996.
- Pittsburg State University Graduate School Recognition for Research, Spring 1998
- The Universal Foundation Reward for "outstanding commitment to education" as a sincere appreciation to the voluntary teaching at Kansas city school, July 1999.
- Physics Department Representative at the Graduate Office, Spring 95-Summer 97
- Member in NARST (National Association of Research in Science Teaching), and ASTE (Association for Science Teacher Education) .
- Served in several committees such as the blended course committee, Distance learning growth committee, and academic for teaching excellence committee.
- Co-Organized several workshops on cultural diversity at Tulsa community college.