BRIEF VITA

DAVID L. LARGENT

Associate Lecturer of Computer Science
Department of Computer Science
College of Sciences and Humanities
Ball State University

EDUCATION

Degree	Date	University	Major
MS	May 2010	Ball State University	Computer Science
BS	May 1979	Manchester College	Social Work
AA	May 1979	Manchester College	Computer Applications

EMPLOYMENT at BALL STATE UNIVERSITY

Promoted to Associate Lecturer on August 17, 2018.
Title administratively changed to Assistant Lecturer on January 1, 2018.

Date: 5/18/2009 (Summer only)	1/11/2010 (part time)	8/20/2010 (full time)
Rank: Instructor	Instructor	Instructor

PROFESSIONAL EMPLOYMENT prior to BALL STATE UNIVERSITY

Title	Date	Company
Graduate Assistant & Instructor	2008-2010	Ball State University
Information Services Manager	1988-2007	Townsend Tree Service Co., Inc.
Adjunct Faculty Member (part-time)	1981-1997	Ivy Tech Community College
Systems Analysis Supervisor	1984-1988	Townsend Tree Service Co., Inc.
Computer Programmer	1979-1984	Townsend Tree Service Co., Inc.

ACADEMIC/RESEARCH INTERESTS

- Pedagogy (flipped learning, learner-centered teaching, specifications grading)
- Computer science education
- Stages of group development
- Diversity and inclusivity in computer science

CLASSES TAUGHT at BALL STATE

- CS 104 **Introduction to Computers** (3 credit hours) service
- CS 110 **Introduction to Computer Science and Web Programming** (3 credit hours) service
- CS 120 **Computer Science 1** (4 credit hours) required freshman-level

- CS 200 **Computers and Society** (3 credit hours) UCC Tier 2 Natural/Social Science elective
- CS 204 **Personal Computing** (1 credit hour) service
- CS 205 **Multimedia Programming** (1 credit hour) service
- CS 206 **Digital Imaging for the Web** (1 credit hour) service
- CS 222 **Advanced Programming** (3 credit hours) required sophomore-level
- CS 239 **Social and Professional Issues** (1 credit hour) required sophomore-level
- CS 339 **Computer Science, Education, and History: The British Isles Connection** (3 credit hours) international field study
- CS 341/499 **Computer Science Community and School Outreach / Computer Science for Muncie (and surrounding) Schools (CS4MS+)** (1, 2, or 3 credit hours) immersive learning
- CS 499 **Independent Study** Individual learners (3 credit hours) independent study
- HONR 296 **Computer Science and Algorithms to Live By** (3 credit hours) Honors College required core (Inquiries in the Physical Sciences)
- HONR 390 **Science, Education, and Diversity (SED)** (3 credit hours) immersive learning
- HONR 390 **2019-2054: 35 to 70 years after Orwell's Nineteen Eighty-Four. Is it inevitable?** (2 credit hours) Honors College colloquium
- HONR 499 **Senior Honors Project** Individual learners (3 credit hours) Honors College senior project

PUBLISHED WORK and PRESENTATIONS

- 38 publications in book chapters, journals, and conference proceedings
- 14 magazine articles and white papers
- 40 presentations

Recent publications include:

- Karen M. Morris, Michele Roberts, David Largent, Jeff Kinne, Hossein Hakimzadeh, Dawn Bick, Summer Ehresmann, Sr. Jacqueline Oranye, and Sarah Wallace. IndianaComputes! Views of a K-12 Professional Development Program. Abstract in *The Journal of Computing Sciences in Colleges, papers of the CCSC: Midwest 2021 conference* (CCSC:MW 2021). (Fort Wayne, IN, October 1-2) Consortium for Computing Sciences in Colleges, Monroe. LA, USA. Equal effort. Peer reviewed. (2021)
- Karen M. Morris, Michele Roberts, David Largent, and Jeff Kinne. IndianaComputes! a K-12 Professional Development Program. Abstract in *The Journal of Computing Sciences in Colleges, papers of the CCSC: Midwest 2021 conference* (CCSC:MW 2021). (Fort Wayne, IN, October 1-2) Consortium for Computing Sciences in Colleges, Monroe. LA, USA. Equal effort. Peer reviewed. (2021)
- David L. Largent, Christian Roberson, and Carlo Sgro. Transform Your Computer Science Course with Specifications Grading. In *Proceedings of the 52nd ACM Technical Symposium on Computer Science Education (SIGCSE '21)*. ACM, New York, NY, USA, 1396. DOI: doi.org/10.1145/3408877.3432505 Equal effort from all authors. Peer reviewed. Acceptance rate: 83%. (2021)
- David L. Largent, and Christian Roberson. Transform Your Computer Science Course with Specifications Grading. In *Proceedings of the 52nd ACM Technical Symposium on Computer Science*

Education (SIGCSE '20). ACM, New York, NY, USA, 1355. DOI: doi.org/10.1145/3328778.3367002 Equal effort from all authors. Peer reviewed. Acceptance rate: 47%. (2020)

- David L. Largent. Kicking the paint bucket down the road: Checking in with our learners. Faculty Focus: Higher Ed Teaching Strategies from Magna Publications (website). Madison, WI. Magna Publications. www.facultyfocus.com/articles/teaching-and-learning/checking-in-with-our-learners/ Accepted based on editorial review of article. (2019).
- David L. Largent. To write dirty, you have to know what clean is. In C. Sweet, H. Blythe, & R. Carpenter (Eds.), *It Works for Me with Critical Thinking: A step-by-step guide.* New Forums Press. Stillwater, OK. 70-72. ISBN: 978-1-58107-336-2. Acceptance rate: 84%. (2019)
- David L. Largent. Finding relevancy in the news. In C. Sweet, H. Blythe, & R. Carpenter (Eds.), *It Works for Me with Critical Thinking: A step-by-step guide.* New Forums Press. Stillwater, OK. 84-86. ISBN: 978-1-58107-336-2. Acceptance rate: 84%. (2019)
- David L. Largent. Forcing students to make an informed choice. In C. Sweet, H. Blythe, & R. Carpenter (Eds.), *It Works for Me with Critical Thinking: A step-by-step guide.* New Forums Press. Stillwater, OK. 99-101. ISBN: 978-1-58107-336-2. Acceptance rate: 84%. (2019)
- James W. McGuffee, David L. Largent, and Christian Roberson. Transform Your Computer Science Course with Specifications Grading. In *Proceedings of the 50th ACM Technical Symposium on Computer Science Education (SIGCSE '19)*. ACM, New York, NY, USA, 1234-1234. DOI: doi.org/10.1145/3287324.3287528 Equal effort from all authors. Peer reviewed. Acceptance rate: 53%. (2019)
- David L. Largent. Using an Art Show in CS1 to Spark Interest in Computer Science. In Pr*oceedings of the 50th ACM Technical Symposium on Computer Science Education (SIGCSE '19)*. ACM, New York, NY, USA, 1281-1281. DOI: doi.org/10.1145/3287324.3293861 Peer reviewed. Acceptance rate: 63%. (2019)
- Petra Zimmermann, Lynne Stallings, Rebecca Pierce, and David Largent. Classroom Interaction Redefined: Multidisciplinary Perspectives on Moving Beyond Traditional Classroom Spaces to Promote Student Engagement. In *Journal of Learning Spaces, 7(1)*. ISSN 21586195. University of North Carolina at Greensboro, Greensboro NC. libjournal.uncg.edu/jls/article/view/1601. Equal effort from all authors. (2018)
- Jeff Kinne and David L. Largent. The status of CS education in Indiana: work in progress. Abstract in *The Journal of Computing Sciences in Colleges, papers of the CCSC: Midwest 2018 conference* (CCSC:MW 2018). (Muncie, IN, September 28-29) Consortium for Computing Sciences in Colleges, Monroe. LA, USA, 123. DOI: dl.acm.org/citation.cfm?id=3280508. 70% Kinne / 30% Largent. Peer reviewed. (2018)
- Paul Gestwicki and David L. Largent. Improving course plans via standardized committee review. In C. Sweet, H. Blythe, & R. Carpenter (Eds.), *It Works for Me with High Impact Practices: A step-by-step guide.* New Forums Press. Stillwater, OK. 13-14. ISBN: 978-1-58107-320-1. Equal effort from both authors. Peer reviewed. Acceptance rate: 70%. (2018)
- David L. Largent. Team work does not have to be a bad thing. In C. Sweet, H. Blythe, & R. Carpenter (Eds.), *It Works for Me with High Impact Practices: A step-by-step guide.* New Forums Press. Stillwater, OK. 63-65. ISBN: 978-1-58107-320-1. Peer reviewed. Acceptance rate: 70%. (2018)
- David L. Largent. Highlight your student's work: Art show (but not by artists)! In C. Sweet, H. Blythe, & R. Carpenter (Eds.), *It Works for Me with High Impact Practices: A step-by-step guide.* New

Forums Press. Stillwater, OK. 132-134. ISBN: 978-1-58107-320-1. Peer reviewed. Acceptance rate: 70%. (2018)

- David L. Largent. My exploration of specifications grading in a discussion-based course. Abstract in *The Journal of Computing Sciences in Colleges, papers of the CCSC: Midwest 2017 conference* (CCSC:MW 2017). (Grand Rapids, MI, September 22-23) Consortium for Computing Sciences in Colleges, Monroe. LA, USA, 89. Peer reviewed. (2017)
- David L. Largent. Try out your new pedagogy. Find out it works. Share it with the world. Hold on! Not so fast…. In H. Blythe, C. Sweet, & R. Carpenter (Eds.), *It Works For Me with SoTL: A step-by-step guide.* New Forums Press. Stillwater, OK. 58-60. Peer reviewed. ISBN: 978-1-58107-307-2. Acceptance rate: 50%. (2017)
- Scott S. Hall, David L. Largent, and Mary Lou Vercellotti. Building Institutional Support for SoTL In H. Blythe, C. Sweet, & R. Carpenter (Eds.), *It Works For Me with SoTL: A step-by-step guide.* New Forums Press. Stillwater, OK. 56-58. Peer reviewed. ISBN: 978-1-58107-307-2. Acceptance rate: 50%. (2017)
- David L. Largent. A case study in Computer Science. In L. Santos Green, J. R. Banas, & R. Perkins (Eds.), *The flipped college classroom: Conceptualized and re-conceptualized*. Springer. New York, NY, 163-167. Peer reviewed. ISBN: 978-3-319-41853-7. Acceptance rate: 24%. (2017)

Recent presentations include:

- David L. Largent. Holding Students Responsible With Specifications Grading. Lilly International Conference on College Teaching. Miami University, Oxford, Ohio, November 18-20, 2021. Accepted based on blind peer review of an extended abstract.
- Karen Morris, Michele Roberts, and David Largent (equal effort). Zombie Contagion, Business Teachers, and IndianaComputes! (Oh my!). Indiana Business Educators Association Conference. Online, November 21, 2020. Invited presentation.
- David L. Largent. Holding Students Responsible With Specifications Grading. Lilly International Conference on College Teaching. Miami University, Oxford, Ohio, November 21-23, 2019. Accepted based on blind peer review of an extended abstract.
- David L. Largent. Holding Students Responsible With Specifications Grading: An Implementation Workshop. Lilly International Conference on College Teaching. Miami University, Oxford, Ohio, November 21-23, 2019. Accepted based on blind peer review of an extended abstract.
- Lilly International Conference on College Teaching. Miami University, Oxford, Ohio, November 15-18, 2018. Another year of giving students choice, and then holding them responsible: Combining specifications grading with learner-centered teaching. Presentation accepted based on review of extended abstract.
- Innovative Educator Conference, Muncie, Indiana, June 20, 2018. Computer Science Unplugged K-8. Co-presented with Monica Appel. Invited presentation.
- Innovative Educator Conference, Muncie, Indiana, June 20, 2018. Computer Science Panel. Paul Buis, moderator; David Largent and Susie Cunningham, panelists. Invited presentation.
- Lilly International Conference on College Teaching. Miami University, Oxford, Ohio, November 16-19, 2017. Giving Students Choice, and Then Holding Them Responsible: Combining Learner-Centered Teaching and Specification Grading. Presentation accepted based on review of extended abstract.

ACTIVITY HIGHLIGHTS

- Summer-Fall 2021: Participated in a summer **Faculty Externship Program** with the Indianapolis Airport Authority which required skills representative of those required of CS majors/minors and included more than forty-five hours of on-site learning, writing an externship experience summary, writing a final narrative report, and ending with a department presentation in the fall. The experience provided insights into what is expected of recent graduates as they enter the workforce, and what recent graduates can expect as they start their career, thus permitting me to better prepare students for the current workplace environment.
- Summer 2021: **Computer Science freshmen retention by race/ethnicity and gender**. Summer assessment grant. PI: David L. Largent and Paul Buis. We studied retention of Computer Science majors. Specifically, we identified a set of 464 first-time freshmen who were actively enrolled at Ball State, and who declared a major in computer science between the academic years starting fall 2015 through fall 2019. Then, we looked at their status a year later and focused on the question of them still being computer science majors. Grant awarded: $1,000.
- Fall 2017-Present: CS 341: **Computer Science Community & School Outreach.** Envisioned, developed, and mentor this immersive learning course/project, the focus of which is to expose K-12 learners, particularly underrepresented minorities and females, to Computer Science (CS). Each semester, the project team researches the needs of our partner schools, curates instructional resources, and develops activities and modules that will better incorporate CS experiences, with a focus on meeting Indiana CS academic standards. During fall 2020, I proposed and gained approval by the department, college, and university to **establish this dedicated course** to be used for this and similar projects. CS 341 was first offered fall 2021. The project was previously delivered using CS 499 (Independent Study) using three different course titles: Computer Science for Muncie (and Surrounding) Schools (CS4MS+), Computer Science for Middle Schoolers Plus (CS4MS+), and Computer Science for Middle Schoolers (CS4MS). The CS 341 course catalog description is *"Partnering with schools or community organizations, students may research, develop, curate, or deliver instructional resources which incorporate Computer Science (CS) into educational offerings, and may work to advance teachers' understanding of CS or interact with their students as a teaching assistant. Students may deliver CS-related workshops to community organizations."* Supported by a series of Provost Immersive Learning grants: $23,733 (2020-2023), $10,979 (2019), $10,696 (2018) and $9,960.50 (2017).
- Fall 2019-Present: *IndianaComputes!* (in response to RFP 20-009: **K-12 Teacher Professional Development in Computer Science**). PI: Karen Morris (University of Notre Dame). Indiana Department of Education, contract. Funded: $578,608. BSU portion $20,366. Serving as facilitator and on the executive committee.
- Spring 2019-Present: Developed and taught a **new Honors College Inquires in the Physical Sciences course** (HONR 296) titled "**Computer Science and Algorithms to Live By.**" This course is a broad survey of computer science including its history, applications, programming languages, and computer architecture. A special emphasis is placed on algorithms and the relationships of computer science to human concerns and society, including the social and ethical consequences raised by the application of technology in contemporary society. I use discussion and active learning to teach this course, mostly utilizing "unplugged" computer science activities.
- Spring 2019: Participated as a Faculty Fellow in the Ball State Career Center **Skills Infusion Program**. We explored how to augment our courses and syllabi by mapping course outcomes to the National Association of Colleges and Employer's (NACE) transferable skills.

- Fall 2018: Developed and taught a **new Honors College colloquium course** (HONR 390) titled "**2019-2054: 35 to 70 years after Orwell's Nineteen Eighty-Four. Is it inevitable?**" This course explored current and future technology trends, and our interaction with them. The emphasis was on discussion, reflection, individual projects, and ways of combining information from several sources. The course used two primary sources to guide discussions: George Orwell's *Nineteen Eighty-Four*, and Kevin Kelly's *The Inevitable: Understanding the 12 technological forces that will shape our future*. Orwell set his story 35 years into his future. Kelly makes predictions about 12 technological forces that he believes will inevitably determine our future 30 years from now.
- Spring 2017-Present: Implemented **specifications grading** in all courses to improve student learning by focusing on meeting assignment requirements rather than gradations of points. I create and share with the learners a clearly stated specification of what I expect for each assignment. My evaluation of learner work then generally determines that they either have met, or not met, the specifications, rather than assigning points or a letter grade for the assignment.
- Summer 2016-Spring 2017: Selected and participated in the BSU **Entrepreneurial Learning Academy** (ELA). I met with other ELA participants during the summer to explore the entrepreneurial learning mindset, create active learning outcomes for students, and apply this work to our course syllabi. During fall 2016 and spring 2017 semesters, I taught from my new syllabus. The ELA participants also meet regularly during the academic year as the Faculty Entrepreneurial Learning Community.
- Spring 2016: Selected and participated in the BSU **Faculty Academy for Contract Faculty**. Topics included academic ethics and grade appeals, teaching to promote entrepreneurial learning, assessment, technology in teaching, "new" pedagogy, and balancing work and home life, etc.
- Summer-fall 2016: *Developing SED (Science, Education, and Diversity) Modules*. PI: Lynne Stallings, Co-PI: David Largent, and Carolyn Dowling. (Equal effort by all three investigators.) BSU Provost **Immersive Learning** Grant, Total: $20,600; my portion: $5,500. Development of STEM modules. An interdisciplinary team of BSU students researched the specific needs of the partner, evaluated existing and developed new pedagogy and content, and delivered the completed program to the partner. The focus of the program was to expose underrepresented minorities and females to STEM.
- Spring 2014-Present: Introduced a significant **diversity and inclusivity** component into CS 239.
- Fall 2014-Spring 2015: Appointed to serve as a **Diversity Associate**. Participated in a year-long mentor-mentee relationship with David Concepción. Developed inclusive pedagogy. Focused on increasing diversity and decreasing disparities in expectations in computer science courses.
- Fall 2014-Present: Implemented **learner-centered teaching pedagogy** in my courses. Example activities include course policy negotiation, establishment of what a good learning environment is, exam and assignment corrections, and a mid-semester survey about the learning environment of the class. Starting fall 2019, the mid-semester survey was replaced with a mid-semester reflection paper which asks them to review how they are doing in the course and what they plan to do to earn the grade they want. There is also an opportunity for them to provide feedback to me.
- Fall 2013-Present: Organize and promote an all-section **CS 120 Art Show** where the best learner-created image collages (a project in the course) are selected from each section and exhibited each semester. This provides a venue in which learners can highlight their work to their peers and others, motivates learners to be creative and engaged, and increases awareness of the department within the university. Each semester I create supporting web pages, and recruit judges from across the campus, and externally. I continue to organize and promote this event, which has become a department tradition each semester. I also coordinate with University Libraries which is providing

a publicly available digital media repository of CS 120 student art.
Show website: www.cs.bsu.edu/homepages/dllargent/cs120/artShow/

- Fall 2012-Present: Implemented a blended model in CS 110 and CS 120 by using **flipped learning**. The initial content presentation is outside the classroom—via links to videos (I self-record and edit)—and the homework and project work is mostly done in the classroom. Thus, classroom focus is on learners' questions and learning, while they work on reinforcing activities in pairs and small groups. The learners experience material in the lower third of Bloom's Taxonomy on their own, and the upper two-thirds (the harder parts) while others can provide help.
- Summer 2012-Present: Participated in the Division of Online and Strategic Learning's **Active Learning Academy** which has the objective of strengthening learning though pedagogy, learning space design, and technology. In this environment, the course focus moves from content to application, and supports the implementation of engaged learning methodologies such as Inquiry Based Learning, Team Based Learning, and Problem Based Learning.
- Summer 2011-summer 2012: Envisioned, developed, and delivered a new **international field study course** titled "***Computer Science, Education, and History: The British Isles Connection***" which provided opportunities to gain an appreciation for, and understanding of, computer science history, and higher education in England, Ireland, Northern Ireland, and Scotland. Learners had opportunities to expand their worldview by their immersion in the cultures of these countries.
- Fall 2010-Present: Started using the **iClicker response system** in fall 2010 sections of CS 104. I have since used them in all sections of CS 104, CS 110, CS 120, CS 200, and CS 239 that I have taught. I was the first in the department to adopt this technology.

SERVICE

- August 2021-Present: College of Sciences and Humanities **Inclusive Excellence Committee**. Member.
- August 2021-Present: Honors College **Dean's Advisory Committee**. Member.
- August 2021-Present: Computer Science Department **Undergraduate Curriculum Committee**. Member.
- July 2020-Present: **Academic Planning Group.** Made academic-related recommendations to the Provost concerning how the university should address the myriad of issues and opportunities related to COVID-19. College of Sciences and Humanities representative.
- May 2020-Present: Computer Science Department **Social Media Committee.** Chair.
- December 2019-Present: **Computer Science for Middle Schoolers Plus (CS4MS+)** student organization. Faculty advisor.
- September 2019-Present: **Disability Services Faculty Mentor Program**. Mentor.
- August 2019-June 2021: **IndianaComputes!** Executive Committee member.
- September 2018-2020: College of Sciences and Humanities **Teacher Education Committee**. Member.
- September 2018-April 2019: College of Sciences and Humanities **Innovative Teaching Task Force**. Member.

- September-November 2018: Computer Science Department ad hoc **Office Hour Policy Development Committee**. Member.
- April 2018-Present: **Indiana Computer Science Higher Education Advisory Board for K-12 Computer Science**. Member.
- January-June 2018: **Innovative Educator Conference**. Member of planning committee.
- Fall 2017-Spring 2019: **Academic Technology Committee** of Faculty Council. Member.
- Summer 2017-Summer 2019: **Medallion Scholar Faculty Review Committee**. Member.
- Fall 2017-Present: Serving as the "point person" for **development of the Computer Science Teacher Education Major**. Appointed by the CS department chair. Working with the CS Chair, other CS faculty, and individuals from the Dean's offices of the College of Sciences and Humanities, and the Teachers College.
- Summer 2017-Present: Serving as a **faculty marshal** for both university and college commencement ceremonies.
- Summer-Fall 2017: Computer Science Department ad hoc **Contract Faculty Committee**. Served as chair.
- Fall 2016-Fall 2017: **Diversity Research Symposium** (DRS). Member of planning committee.
- Fall 2015-2020: Computer Science Department **Foundations Curriculum Committee**. Member. Served as Secretary 2015-2020.
- Spring 2015-Present: **Faculty mentor of Honors Thesis** for six students.
- Fall 2014-Fall 2016: **American Cancer Society, Colleges Against Cancer**, BSU chapter. Faculty advisor. Major event was Relay for Life.
- Spring 2012-Present: **East Central Indiana Regional Science Fair**. Judge.
- Fall 2010-Spring 2015: Computer Science Department **Service Curriculum Committee**. Member. Served as Secretary 2012-2015.
- Summer 2010-Present: **Golden Key International Honour Society (GKIHS)**, BSU chapter. Faculty advisor.
- Fall 2010-Present: **Consortium for Computing Science in Colleges: Midwest (CCSC:MW) conference**. Member of planning committee. Chair, vice chair, site chair, chair for publicity, and co-chair for the student showcase.

RECOGNITIONS

- September 2021: Canvas Accessibility Initiative. Recognized for my HONR 296 course meeting the Canvas accessibility criteria set by BSU Disability Services and being considered accessible to students with disabilities. I was the first BSU faculty member to submit a course that met the criteria for the Canvas Accessibility Initiative.
- April 2020: Immersive Learning Faculty Award for CS4MS+. The purpose of this award is to recognize faculty for demonstrating excellence in the creation, mentoring, and execution of immersive learning projects. Full announcement video may be viewed at youtu.be/e4EjH7NrVWY. Announcement of my award is here: youtu.be/e4EjH7NrVWY?t=262.

- September 2017: Association for Computing Machinery (ACM). Recognized as a Senior Member. awards.acm.org/senior-members
- July 2017: Measuring and understanding team development by capturing self-assessed enthusiasm and skill levels. *ACM Transactions on Computing Education* **16**, 2 (Mar. 2016), Article No. 6 was included on the ACM Computing Reviews 21st Annual Best of Computing: Notable Books and Articles list. www.computingreviews.com/recommend/bestof/notableitems.cfm?bestYear=2016.
- April 2017: National Residence Hall Honorary, Ruth Peters (BSU) Chapter. Independently nominated by two students for my "dedication to academic excellence and student success."

CERTIFICATIONS

- **ACUE's Certificate in Effective College Instruction**
  Association of College and University Educators. This certificate signifies my completion of a 25-module course in effective teaching practices requiring the implementation of evidence-based instructional approaches. The credential is co-issued by the American Council on Education and distinguishes faculty for their commitment to educational excellence and student success. ACUE's online course addresses over 200 evidence-based teaching practices organized around topics including designing an effective course and class, establishing a productive learning environment, using active learning techniques, promoting higher order thinking, and assessing to inform instruction and promote learning. February 2020-January 2021.
- **Flipped Learning Global Initiative (FLGI)**
  www.credential.net/profile/davidlargent/wallet
  a. 2018-2021: Flipped Learning 3.0 Level-II Certification.
  b. 2017-2021: Flipped Learning 3.0 Level-I Certification.
  c. 2017-2018: Flipped Learning Trainer Certification Level-I.
- **Collaborative Institutional Training Initiative (CITI)**
  a. 2018-Present: Responsible Conduct of Research for Engineers/Technology Sciences. Expires: N/A. International.
  b. 2010-Present: Social & Behavioral Research - Basic/refresher curriculum. Expires: 11/07/2024. International.

PROFESSIONAL MEMBERSHIPS

- 2014-present: Computer Science Teachers Association (CSTA)
- 2010-present: Consortium for Computing Sciences in Colleges (CCSC)
- 2009-present: IEEE Computer Society
- 2008-present: Association of Computing Machinery (ACM)
- 1980-2007: Indiana Regional Users Group for Hewlett-Packard Computer Users (INRUG)
- 1983-2005: International Association of Hewlett-Packard Computing Professionals (Interex)