WESTLEY JAMES

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EDUCATION

PhD University of Central Florida — July 2020
Physics
Dissertation: *Investing the Inclusiveness of STEM Courses and Reducing Barriers by Applying the Universal Design for Learning Framework*
Advisor: Dr. Jacquelyn J. Chini

MS University of Central Florida — May 2018
Physics
Advisor: Dr. Jacquelyn J. Chini

BS University of Central Florida — May 2015
Physics
Graduated Magna Cum Laude, University Honors
Minored in Mathematics

TEACHING EXPERIENCE

Lecturer — August 2024 to Present
UCF
Introductory Physics Instructor

- Developed Physics 1 and Physics 2 course material which is all accessible outside of class time (slides, video recordings of class, problem sets)
- Averaged 4.9/5 evaluation scores from students
- Students performed 10% higher on final than on first test, showing a gain in student learning

Lecturer — August 2024 to Present
UCF
Lab/TA Coordinator

- Redesigned physics 1 labs with 10 unique in person labs which all incorporate basic data analysis (graphs, line of best fit, analysis of line of best fit).
- Scheduled ~60 TAs each semester across over 100 lab sections, over 100 discussion sections, and over 20 courses needing grading.
- Managed physics 1 labs throughout semester for ~2000 students; ensured labs all were running smoothly and that all TA absences were covered by other TAs

High School Instructor — August 2021 to May 2024
AP Research
Lake Mary High School

- Averaged 13 students; students guided in conducting a complete research project which culminated in a research paper and presentation
    - Students had to identify a gap from existing peer reviewed research literature, generate a research question, design a methodology, collect data, analyze their data, and synthesize conclusions and implications.
- Supported students through research process by providing deadlines, organizational documents, direct instruction about research skills (generating a research question, how to analyze data, etc.), forms to guide peer reviews, and connections to expert advisors.
- Guided students in refining their research through open ended questions; direct feedback was not allowed due to College Board guidelines

High School Instructor August 2020 to Present
Physical Sciences
Lake Mary High School

- Averaged 100 students, covered introductory topics in physics and chemistry
    - Over 40% of students identified with a disability and received either an IEP or 504 plan
    - Over 60% identify with a non-majority race
- Designing lessons and resources to support a wide variety of students who vastly differ in skills related to attention and cognition
- All course content available in a digital format to support students who were unable to be in class or desired to review content outside of class
- During 2020-21 class was taught in-person and remotely at the same time

High School Instructor August 2020 to Present
Physics
Lake Mary High School

- Averaged 20-30 students, covered physics topics including kinematics, optics, and waves
- Lessons included a mixture of lecturing, collaborative problem solving, and inquiry labs
- During 2020-21 class was taught in-person and remotely at the same time

Adjunct Instructor August 2019 to May 2020
Physics 2 for Engineers and Scientists
University of Central Florida

- Averaged 250 students, covered topics including electricity and magnetism, circuits, optics
- Developed all course content (excluding lab content)
    - Problem sets, PowerPoint slides, quizzes, and exams
- Implemented technology to ensure all in course content is available online, including the use of screen captures to provide videos of lecture
- Taught class in person and remote

Adjunct Instructor, LA pedagogy course August 2018 to May 2019
University of Central Florida

- Averaged 20 students, covered topics including supporting metacognition in students, teaching by inquiry, being mindful of accessibility, and supporting student diversity and inclusion

- Co-taught with instructor who had over 10 years of teaching experience
- Taught majority of lessons and moderated in-class discussions on topics presented

Excel Physics Specialist Teaching Assistant Fall 2016 to Summer 2017
University of Central Florida

- Provided tutoring services for students enrolled in Excel program at University of Central Florida
- Tutoring included introductory physics, chemistry, and math courses, along with some upper level courses in these content areas

Grader, Physics 2 for Engineers and Scientists, Summer 2015
University of Central Florida

- Grading of multiple tests, each with over 100 students
- Providing constructive feedback for students upon mistakes and also upon successes

Group presentation evaluator, Summer 2015
Physics 1 for Engineers and Scientists,
University of Central Florida

- Observing, critiquing, and grading group presentations on projects involving Physics 1 materials such as friction and angular acceleration

Graduate Teaching Assistant, Lab Instructor Summer 2015 to Fall 2015
Physics 2 for Engineers and Scientists,
University of Central Florida

- Independently instruct and guide students weekly through a predefined physics lab
- Provide review sessions to prepare students for upcoming tests

Undergraduate Learning Assistant, Fall 2014 to Summer 2015
SCALE-UP Physics 2 & SCALE-UP Physics 2 for Engineers and Scientists,
University of Central Florida

- Assist instructor in facilitating learning for students through the use of open questions, formative assessments, and other active learning pedagogy techniques
- Give guidance and recommendations for students in class project assignments

VOLUNTEER/OUTREACH EXPERIENCE

Chair, Graduate student mentorship committee, Summer 2018-Summer 2019

- Developed structure for mentorship between senior graduate students to first year graduate students
- Led orientation for mentors and mentees

President, Graduate Society of Physics Students, Summer 2017-Summer 2018
University of Central Florida

- Planning, advertising, and hosting events including research showcases by faculty and graduate students
- Led initiatives focused on supporting graduate students; included networking events and preparations for meeting doctoral degree requirements

Secretary, Graduate Society of Physics Students, Summer 2016-Summer 2017

University of Central Florida

- Planning, advertising, and hosting events including research showcases by faculty and graduate students

Volunteer, STEM day, Spring 2015-Summer 2018
University of Central Florida

- Occurs once every semester
- Used physics demonstrations to demonstrate and explain physics phenomena to elementary, middle, and high school students

Volunteer, Physics Career Exploration Day 2016, Fall 2016
University of Central Florida

- Managed and facilitated presenting of physics demonstrations by graduate physics students to middle and high school students

Volunteer Camp Assistant, Summer 2016
Summer Institute—Physics: Multidisciplinary
University of Central Florida

- Chaperoned and mentored middle school students during week-long physics camp

RESEARCH EXPERIENCE

Graduate Research Assistant, Project ACCESS, Fall 2016 to Present
***(PI: Jackie Chini PhD),* University of Central Florida**

- Development and implementation of interviews, surveys, and observations to investigate the experiences of students with disabilities in STEM classrooms
- Training and supporting of faculty and GTA's in implementing teaching practices focused on supporting students with disabilities

Graduate Research Assistant, MATH GAINS Summer 2016 to Spring 2019
***(PI: Xin Li, PhD),* University of Central Florida**

- Writing python scripts to organize survey/test results that measure student attitude and concept knowledge
- Running statistical analysis on said surveys/tests to measure effectiveness of student-centered pedagogy in math classrooms

Research Assistant, Fall 2015 to Summer 2016
Jackie Chini Research Group,
University of Central Florida

- Assisted in the development of "coding scheme" for interpretation and analysis of faculty interviews focused on experience in SCALE-UP classrooms
- Trained in and utilized Real-time Instructor Observing Tool (RIOT) in University of Central Florida labs

Undergraduate Research Assistant, Summer 2014 to Spring 2015
Dr. Saiful Khondaker Research Group,
University of Central Florida

- Assisted in the production and measurement of field-effect transistors which utilized carbon nanotube, graphene, MOS2, or a biological semiconductor

- Trained in the use of: atomic force microscope, electron-beam evaporation, spin coater, plasma etcher, annealer, and current/voltage probe station

PUBLICATIONS

Peer-Reviewed Journal Publications

James, W., Cooney, J. H., & Chini, J. J. (2021). Using Universal Design for Learning to Support Students with Disabilities in a SCALE-UP Physics Course. *The Physics Teacher*.

James, W., Bustamante, C., Lamons, K., Scanlon, E., & Chini, J. J. (2020). Disabling barriers experienced by students with disabilities in postsecondary introductory physics. *Physical Review Physics Education Research.*

Schreffler, J., Vasquez III, E., Chini, J., & James, W. (2019). Universal Design for Learning in postsecondary STEM education for students with disabilities: a systematic literature review. *International Journal of STEM Education*, 6(1), 8. https://doi.org/10.1186/s40594-019-0161-8

Scanlon, E., Schreffler, J., James, W., Vasquez, E., & Chini, J. J. (2018). Postsecondary physics curricula and Universal Design for Learning: Planning for diverse learners. *Physical Review Physics Education Research*, 14(2). https://doi.org/10.1103/PhysRevPhysEducRes.14.020101

Peer-Reviewed Conference Papers

James, W, Lamons, K., Spilka, R., Bustamante, C., Scanlon, E., & Chini, J. J. (2019). Hidden walls: STEM course barriers identified by students with disabilities. *Proceedings of the Physics Education Research Conference*, Provo UT. http://dx.doi.org/10.1119/perc.2019.pr.James

James, W, Bustamante, C., Lamons, K., Scanlon, E., & Chini, J. J. (2018). Beyond Disability as Weakness: Perspectives from Students with Disabilities. *Proceedings of the Physics Education Research Conference*, Washington DC. http://dx.doi.org/10.1119/perc.2018.pr.James

James, W, Lamons, K., Schreffler, J., Vasquez III, E., Scanlon, E., & Chini, J. J. (2017). Exploring Learner Variability: Experiences of Students with Cognitive Disabilities in Postsecondary STEM. *Proceedings of the Physics Education Research Conference*, Cincinnati OH. http://dx.doi.org/10.1119/perc.2018.pr.James

Schreffler, J., Vasquez III, E., James, W., & Chini, J. J. (2017). Using Observations of Universal Design for Learning to Enhance Post-secondary STEM Teaching Practices. *Proceedings of the Physics Education Research Conference*, Cincinnati OH. http://dx.doi.org/10.1119/perc.2017.pr.085

PRESENTATIONS

Contributed Talks

1. James, W., Cartagena, S., & Chini, J. J. (2020, January) *Evaluating the effectiveness of training instructors in Universal Design for Learning*. Talk presented at the American Association of Physics Teachers conference, Orlando, FL.

2. James, W., Lamons, K., Bustamante, C., Scanlon, E., & Chini, J. J. (2019, July) *Investigating the experiences of students with ADHD in postsecondary physics courses*. Talk presented at the Association on Higher Education AND Disability (AHEAD) conference, Boston, MA.

3. James, W., Kara, A., Schreffler, J., Vasquez III, E., & Chini, J. J. (2019, July) *Supporting learner variability in physics courses with a Universal Design for Learning lens*. Talk presented at the American Association of Physics Teachers conference, Provo, UT.

4. James, W., Lamons, K., Bustamante, C., Schreffler, J., Vasquez III, E., & Chini, J. J. (2018, February) *Experiences of Students with ADHD in Post-Secondary STEM*. Talk presented at the University of Central Florida's DBER seminar, Orlando, FL.

5. James, W., Schreffler, J., Vasquez III, E., & Chini, J. J. (2018, August) *Implementing Universal Design for Learning Aligned Strategies in STEM Courses*. Talk presented at the American Association of Physics Teachers conference, Washington D.C.

6. James, W., Gallegos, B., Marino, M., & Chini, J. J. (2017, July) *Exploring how Students with Executive Function Disorders Perform in Physics*. Talk presented at the American Association of Physics Teachers conference, Cincinnati, OH.

7. James, W., Cartagena, S., & Chini, J. J. (2020, January) *Evaluating the effectiveness of training instructors in Universal Design for Learning*. Talk presented at the American Association of Physics Teachers conference, Orlando, FL.

Workshops

1. Chini, J. J., Scanlon, E., & James, W. (2019, July) *Using universal design for learning to prepare for variation in physics learners' needs, abilities and interests*. Workshop presented at the meeting of the American Association of Physics Teachers Conference, Provo, UT.

2. James, W., & Chini, J. J. (2017, May) *Supporting SWD's in STEM Courses*. Workshop presented at the UCF Summer Faculty Development Conference, Orlando, FL.

PROFESSIONAL AFFILIATIONS

- American Association of Physics Teachers
- American Physical Society