Philip A Sands

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**EDUCATION**

*Post-Baccalaureate Teacher’s Certification* (2006, August). Eastern Michigan University, Ypsilanti, MI

*BSE in Computer Engineering*. (2001, December). University of Michigan, Ann Arbor, MI.

**WORK EXPERIENCE**

*K-12 Outreach Coordinator for Computer Science*. (2013 – Present). Purdue University.

Collaborate with Purdue University faculty and staff on grant proposals and projects. Deliver professional development trainings for K-12 educators. Promote computer science in Indiana communities and schools.

*Secondary Math and Computer Science Teacher.* (2008 – 2013). Plymouth-Canton Community Schools.

Developed curriculum for entire sequence of computer science courses, including the AP Computer Science offering. Started technology club for women, promoting academic achievement through after school IT activities. Achieved a 100% passing rate for AP Computer Science students, and a 92% passing rate for AP Statistics students on College Board examinations. Provided mentoring for new teachers and introduced peer observation program.

*Secondary Math Teacher.* (2006 – 2008). Prince George’s County Public Schools.

Developed AP approved Statistics curriculum for first-time offering of class. Achieved an 89% passing rate for 9th graders during first year of instruction (64% school average; 45% county average). Planned and led Algebra team meetings for a group of 11 instructors. Trained colleagues in new grading system and the use of Edusoft software to analyze results of standardized testing.

**PUBLICATIONS**

## PRESENTATIONS (SELECTED)

**Sands, P.A.** (2014, November). *Implementing the new AP CS A Labs*. Session presented at the Indiana Business Educators Association annual conference, Indianapolis, IN.

**Sands, P.A.** (2014, November). *How to Recruit Diverse Students to your Computer Science Classroom*. Session presented at the Indiana Business Educators Association annual conference, Indianapolis, IN.

Alano, J., Hagen, D., **Sands, P.A.** (2014, November). *Teaching Computer Science Courses at the High School Level-Tips, Tricks, and Tidbits*. Session presented at the Indiana Business Educators Association annual conference, Indianapolis, IN.

**Sands, P.A.** (2014, July). *Using App Inventor to Engage High School Engineering Students.* Session presented at the Purdue EPICS workshop, West Lafayette, IN.

Walker, W. S., III, **Sands, P.A.** (2013, October). *Investigating the Common Core Standards for Mathematical Practices*. Session presented at the Annual Conference of the Indiana Council of Teachers of Mathematics, Indianapolis, IN.

**Sands, P.A.** (2013, October). *Using App Inventor and Apps Clubs to Attract Computer Science Students.* Session presented at the October meeting of the Indiana Hoosier Heartland Computer Science Teachers Association, Fishers, IN.

## GRANTS RECEIVED (SELECTED)

*Content Thematic Units for Integrated STEM Education.* (2014 – 2016). PI: Shepardson, D.P.Co-PI: Bayley, W.G., **Sands, P.A.**, Smith, S. C., & Walker, W.S. Indiana Department of Education Mathematics and Science Partnership Program, $250,000 (total project).

*Encouraging the Participation of Women in Computer Science Through Mentoring and After-school Organizations.* (2014 – 2016). PI: **Sands, P.A.**, State Farm Insurance Systems Priority School Grant, $16,250.

*NAO Robot for K-12 Outreach.* (2014 – 2016). PI: **Sands, P.A.**, State Farm Insurance Systems Priority School Grant, $21,199.

*Purdue University Adventures in Computer Science Summer Camp for high school and middle school students.* (2014). PI: **Sands, P.A.**, State Farm Insurance Systems Priority School Grant, $12,500.