

**Nathan R. Finney**  
Physics, Math, and Engineering Teaching + Graphic Design and Illustration  
New York, NY  
www.natefinney.com  
nrfinney@gmail.com

## TEACHING CERTIFICATION

New York State, Physics 7-12, Initial Certificate

## EDUCATION

M.A. Physics and General Science Education (grades 7–12)  
Teachers College, Columbia University, New York City, May 2010  
GPA 4.0

B.A. Physics & Art Practice (Double Major)  
University of California, Berkeley, December 2007  
GPA 3.703, Graduated with Honors

## EMPLOYMENT

### **Physics, Engineering and Math Teacher**

*Columbia Secondary School, New York, NY, September 2010 – Present*

- 9<sup>th</sup> Grade NYS Regents Physics (Lead Teacher, 2011-Present)
  - Inquiry based, modeling-instruction-integrated physics course (implemented Mark Schober's Modeling Physics Curriculum) taught to all CSS 9<sup>th</sup> graders
- 9<sup>th</sup> Grade Engineering (Lead Teacher, 2010-Present)
  - Students learned to program using Alice, Python, VPython, and the Arduino physical computing platform
  - Students programmed animations of historical events, video games, projectile motion simulators, and i/o signal control on Arduino physical computing platforms
  - Taught NYS Regents Physics Electric Circuits content and skills using modeling approach and curricular materials developed by colleague and mentor Mark Schober
- 7<sup>th</sup> grade Arithmetic and Pre-Algebra (Lead Teacher, 2010-2011)
  - Co-developed a self-paced, highly differentiated 7<sup>th</sup> grade math practice scheme, using a combination of Google spreadsheets and an integrated Renaissance Math (Database/Software) / Saxon Math (Textbook) problem library and sequence
  - Focus was given to problem solving, written and visual communication, and individualized, data driven instruction
- 8<sup>th</sup>/9<sup>th</sup> Grade NYS Regents Geometry Elective (Lead Teacher, 2010-2011)
  - Tasked with teaching an accelerated geometry course as part of an elective schedule (with only about 2.5 contact hours total per week)
  - Used modified curriculum from J-MAP resources to prepare students for Regents Examination

### **Science Teacher (Maternity Leave Replacement)**

*Ross Global Academy Charter School, New York, NY, January 2010 – May 2010*

- Courses: 8<sup>th</sup> Grade NYS Regents Living Environment, 7<sup>th</sup> Grade Physical Science, Skateboarding

### **Science Instructor**

*East Bay Academy for Young Scientists (EBAYS), Lawrence Hall of Science, Berkeley/Oakland, CA, January 2009 – May 2009*

- Led Watershed Research projects

### **Deputy Field Organizer**

*Barack Obama's Campaign for Change, Ft. Myers, FL, October – November 2008*

### **Graphic Designer, Assistant Project & Product Manager**

*PictureTrail.com, Santa Clara, CA, January – September 2008*

- Graphic user interface design
- Planned workflow and product deployment for several online social networking applications, tracked bugs with international team

### **Researcher**

*Accelerator & Fusion Research Division, Superconducting Magnets Group, Lawrence Berkeley National Laboratory, Berkeley, CA, Summer 2005 – Summer 2006*

- Designed, built and tested a one-tesla dipole accelerator magnet (2005) as well as a quadrupole accelerator magnet (2006), both using a continuous wind of superconducting NbTi wire
- [www.natefinney.com/science/sc\\_mag/](http://www.natefinney.com/science/sc_mag/)

## **PUBLICATIONS**

Design, Fabrication, and Test of a Superconducting Dipole Magnet Based on Tilted Solenoids  
Caspi, S. Dietderich, D.R. Ferracin, P. Finney, N.R. Fuery, M.J. Gourlay, S.A. Hafalia, A.R.  
IEEE Transactions on Applied Superconductivity Volume 17, Issue 2, June 2007 Page(s):  
2266 – 2269

## **WORKSHOPS, FELLOWSHIPS AND OTHER PROFESSIONAL DEVELOPMENT**

### **Digital Teacher Corps Fellow**

*New Visions for Public Schools, New York City, NY, August 2011 – Present*

- Developed web based educational technology through a partnership organized for educators, technologists and designers
- For more information, see [edesignlabs.org](http://edesignlabs.org)

### **Columbia University, Post Baccalaureate Program**

*COMS W1004: Introduction to Computer Science and Programming with Java, Spring 2012*

### **ASU Summer Modeling Program**

*PHS 594: Modeling Instruction in Physical Science II (motion, force, intro chemistry), Summer 2010*