

Objective To obtain a position at a University that puts students learning first and provides ample opportunities to mentor undergraduates.

Education **Masters in Applied Mathematics (2021)**

GPA: 3.73

Arizona State University

Tempe, Arizona, United States

**M.S.E., Aerospace Engineering (2011)**

Arizona State University

Tempe, Arizona, United States

Plan of study GPA 3.87

Masters Committee: Marc Mignolet, Marcus Hermann, Kangping Chen

Masters Culminating Event: *"Development of a Three Dimensional Multi-block Hydrodynamic Solver"*

**B.S., Aerospace Engineering (2006)**

Arizona State University

Tempe, Arizona, United States

GPA 3.71

Minors: Philosophy

Certificate Program: International Business

Undergraduate Honors Advisor: Dr. Pavlos Mikellides

Undergraduate Honors Thesis: *"Numerical Simulation of a MW-Class Self Field Magnetoplasmadynamic Thruster using MACH 2 Code,"*

Teaching Experience **In total : 190 Courses Taught Across All Schools in 15 years**

**Fall 2014 – Spring 2025 (Instructor Rank attained December 24')**

**Arizona State University**

**Instructor, Honors Faculty**

Course Prefix | Number | Name | Times Taught (In Person / Online)

**Courses Taught: 63 in person, 50 online**

MAT 210 – Brief Calculus ( 4 / 4 )

MAT 211 – Math for Business Analysis ( 2 / 0 )

MAT 242 – Elementary Linear Algebra ( 8 / 14 )

MAT 251 – Calculus for Life Sciences ( 2 / 0 )

MAT 265 – Calculus for Engineers I ( 6 / 9 )

MAT 266 – Calculus for Engineers II ( 8 / 5 )

MAT 267 – Calculus for Engineers III ( 17 / 9 )

MAT 270 – Calculus with Analytic geometry I ( 2 / 0 )

MAT 271 – Calculus with Analytic Geometry II ( 3 / 0 )

MAT 275 – Modern Differential Equations ( 12 / 8 )

**2012 – 2018      Maricopa Community College District**

***Estrella Mountain (EMCC), Chandler Gilbert (CGCC)  
Paradise Valley (PVCC), South Mountain (SMCC)***

Courses Taught: 24      Labs Taught: 9      (Course / Lab)

ECE 102 – Engineering Analysis Tools and Techniques (4)  
ECE 103 – Engineering Problem Solving and Design (3)  
PHY 101 – Introduction to Physics (3/3)  
PHY 121 – University Physics I (2/5)  
PHY 131 – University Physics II (1/1)  
MAT 142 – College Mathematics (1)  
MAT 151 – College Algebra/Functions (1)  
MAT 182 – Plane Trigonometry (1)  
MAT 213 – Brief Calculus (2)  
MAT 221 – Calculus with Analytic Geometry I (1)  
MAT 231 – Calculus with Analytic Geometry II (2)  
MAT 241 – Calculus with Analytic Geometry III (1)  
MAT 276 – Modern Differential Equations (2)

**March 2010 – September 2014      ITT Technical Institute**

Courses Taught: 44      Course Number      Course Name (Times Taught)

GE 127 College Math 1 (2)	GE 192 College Math 2 (3)
GE 253 Physics (1)	MA3110 Statistics (1)
ET 215 Electronic Devices I (1)	ET 245 Electronic Devices II (1)
ET 255 Digital Electronics I (5)	ET 285 Digital Electronics II (7)
ET 345 Control Systems (6)	ET 355 Microprocessors (4)
ET156 Introduction to C Programming (5)	MA3310 Calculus I-II (1)
ET 365 Computer and Electronics Capstone Project (2)	
NT1210 Introduction to Networking (2)	TB143 Intro to Personal Computers (3)

**2004 – 2008 Arizona State University***Grading:*

Thermodynamics	Fall 2006, Spring 2007
Rocket Propulsion	Fall 2007
Aerodynamics	Fall 2005

*Teaching Assistantship:*

Gas Dynamics	Fall 2006
Mechanical Engineering Lab	Spring 2007

*Research Assistantship:*

Undergraduate	2004 – 2006
<i>Analyzed results of various MHD simulations and made performance predictions</i>	
Graduate	2006 – 2008
<i>Worked towards implementing additional physics models for the Hall Effect and Ion Slip terms of Ohms Law within the MACH 2 code</i>	

## Additional Experience

**STEM Summer Boot Camp at PVCC**

Sophomore	2014
Junior	2013 & 2014
<i>Developed curriculum for Engineering Portion and presented for Science and Physics</i>	

**STEM - Joaquin Bustoz Math-Science Honors Program (ASU)**

Calculus with Analytical Geometry II - Summer	2015
Calculus with Analytical Geometry II - Summer	2016
<i>Taught an extended course for a summers honors program for high school students from underrepresented population demographics</i>	

**2001 – 2010 General Tutoring**

Mesa Community College	2001 – 2002
A+ Math Tutoring	2002
ASU Disability Resource Center	2003 – 2006
ASU Engineering Tutoring Center	2004 – 2006
Private Tutoring	2006 – 2010

## Professional Projects

**Web Page** [www.TheEnglandUniversity.com](http://www.TheEnglandUniversity.com)

Maintain lectures, examples, for all the courses I teach

## Software Proficiency

Analysis : Labview, Ansys, SolidWorks, Tecplot, Paraview, Inventor  
 Programming : C, C#, C++, Java, Matlab, Fortran, HTML  
 Typesetting: Latex, CSS

## Research Interests

Numerical Modeling and Computational Physics  
 Laminar and Turbulent Fluid Mechanics  
 Electricity and Magnetism and Plasma Physics  
 Applied PDE's  
 Meta data analysis and Optimization

## Publications:

**“Numerical Simulation of a MW-Class Self Field Magnetoplasmadynamic Thruster using MACH 2 Code,”** B. England and P.G. Mikellides, IEPC paper 2005-2006, Presented at the 29<sup>th</sup> International Electric Propulsion Conference, -Princeton University, N.J. Nov. 2005.

**“Modeling of Plasma Thrusters”**, Mikellides, P.G.; Ratnayake, N, England, B. The 33<sup>rd</sup> IEEE International Conference on Plasma Science, 2006.

**“Energy Deposition via Magnetoplasmadynamic Acceleration”, Pavlos G. Mikellides; Brian England; James H. Gillant, Proceedings of the 2006 International Congress on advances in Nuclear Power Plants, “ ICAPP06 2006**

**“Energy Deposition via Magnetoplasmadynamic Acceleration, Part II: Modeling and Performance Predictions,” Pavlos G. Mikellides and Brian England, Plasma Sources Science and Technology.**

Affiliations

Sigma Gamma Tau

Professional Societies

American Institute of Aeronautics and Astronautics

American Mathematical Society

Society for Industrial and Applied Mathematics