Postgraduate Application Form

UNIVERSITY OF CAMBRIDGE
Postgraduate Admissions Office

Williams, Miss Meghan

Course	MASt in Astrophysics (MASAS)	**Date submitted**	05 Dec 2023
Department	Institute of Astronomy	**Mode of study**	Full Time
Course start date	01 Oct 2024 (MT 2024)	**PUF**	No

Academic History

Aug 2019 - May 2023	Bachelor of Science in Physics Education (Engineering and Physics) - All or mostly full-time	3.95/4.0	Elizabethtown College ** (*United States*)

Immigration

Nationality	United States (1st)
Country of birth	United States
Currently ordinarily resident	United States
Country of birth is ordinary residence since birth	Yes
Estimated fee status	Overseas
Visa	Required
Visa type	I do not currently have a UK visa

Language

Not required

Scholarships

Apply for funding	Yes
Apply for Cambridge Trust	Yes
Apply for Gates Cambridge	No

* Document not uploaded at the point of submission
** Other university

Curriculum Vitae

Uploaded

Career Goals

214/1000 chars

Ideally, I would like to continue conducting research as a PhD student, researcher, or physics professor at a university. In any capacity, my strongest research interests relate physics to helping the environment.

Additional Information to Support Application

0/1000 chars

Course Specific Questions

Core - statement of interest	I am interested in studying astrophysics, because I want to combine my knowledge of physics and my interest in astronomy to help create a more sustainable future. My personal interest in helping the environment began as a small child and has only grown with time. As a graduate student, I would like to apply my academic interest in physics to conduct research related to climate change. My past education and experience as a researcher have prepared me to be successful in this graduate program, and I am excited to join other likeminded students to explore the topics of physics and astrophysics in greater depth.
Core - reasons for applying	The Astrophysics Master's degree is appealing for several reasons. First, it is an academically challenging program where I can learn and grow as a scientist and researcher. Additionally, getting the opportunity to conduct my own research on a topic that is of interest to me is very attractive. Finally, having a supervisor to work with one-on-one to discuss research and provide support would be an extremely valuable asset for me during the research process.
Astronomy - Extra Materials WP	Uploaded

Application Information

Academic Awards

Reber Award	Outstanding senior in the Physics and Engineering Department	31 May 2023

Employment History

Jun 2022 - Jul 2022	Student Researcher	Elizabethtown College Physics and Engineering Department (*Elizabethtown, United States*)
Sep 2021 - May 2023	Teacher's Assistant for Physics and Thermodynamics	Elizabethtown College Physics and Engineering Department (*Elizabethtown, United States*)
Jan 2020 - May 2023	Academic Tutor	Elizabethtown College (*Elizabethtown, United States*)

Oct 2023 -	Mathematics Teacher	Northeastern High School (*Manchester, United States*)

Other Applications Made

Applied Physics	University of Limerick (*Ireland*)
Math and Theoretical Physics	University College Dublin (*Ireland*)

Personal Information

Identifying Information

Full name	Williams, Miss Meghan	**Date of birth**	14 Feb 2001
Previous name		**Legal gender**	Female

Contact

Email	cupwilly@gmail.com	**Phone**	7179688164 (1st)
Skype address			
Contact address	2405 Clairian Drive, York, Pennsylvania, 17403, United States	**Home address**	Same as contact address
Valid until		**Valid until**	

Dependants

Partner	**WILL NOT** bring partner	**Child**	**WILL NOT** bring children

Disability

Disability	No
Further information	

Adjustment for Interview

Adjustment required	No
Details	

College Preferences

College	No College preference

Current Membership

College	Not College member

Visa Requirement

Visa type	I do not currently have a UK visa

Study Visas

Applicant previously **HAS NOT STUDIED** in the UK

Visa not entered

Funding Application

Cambridge Trust

Here is a list of CT awards that you would like to be considered

Cambridge Masters Studentship
I am a prospective student applying for a master's program in astrophysics. I have a Bachelor of Science in Physics Education and experience working on multiple research projects.

Cambridge Trust Scholarship (postgraduate)
I am a prospective student from the United States applying for a master's program in astrophysics. I have a Bachelor of Science in Physics Education and experience working on multiple research projects.

Gates Cambridge Scholarships (Overseas)

Apply for Gates Cambridge No

Personal Statement 0/3000 chars

Harding Scholarship

Mastercard Foundation

UKRI

Department Funding

College Funding

Based on the information you have provided, you are eligible to apply for these awards.

Girton Joyce Biddle Scholarship

You have applied for Girton Joyce Biddle Scholarship

Sheepshanks Studentship in Astronomy

You have applied for Sheepshanks Studentship in Astronomy

Wolfson College & Rowan Williams Cambridge Studentship

Separate application form
To be considered for this studentship, applicants should complete and return a separate application form to the Trust, which has been designed to assist the Trust in the identification of eligible candidates. The Rowan Williams Cambridge Studentship application form is available at https://www.cambridgetrust.org/our-scholarships/highlighted-scholarships/rowan-williams-cambridge-studentship.
Notes for applicants:
The Rowan Williams Cambridge Studentships are not available for courses offered by the Institute of Continuing Education, premium rate courses offered by the Judge Business School (including MBA, MFin, EMBA etc.) or for courses where the fees are charged at the higher Clinical rate.
Selection panels will assess applications taking regard of the severity of barriers faced to pursuing higher education at the University of Cambridge.

Your Funding

Funding Sources

No funding sources entered

Declaration

The information you have provided forms the legal basis of your application to the University of Cambridge. We reserve the right to refuse admission in the event of any misrepresentation by you. Submission of an application does not imply an offer of admission.

- The University of Cambridge, the Cambridge Colleges, the Gates Cambridge Trust and the Cambridge Commonwealth, European and International Trust (and their collaborators) will use your personal information for the purpose of processing your applications for admission and funding and deciding whether to offer you a place for the course you have applied for. For further information on the use of your personal information during the application process, please see How we use your personal information (for applicants).
- I certify that all the information given in this application is complete and accurate. I also understand that if I have given false or misleading information, the University of Cambridge will not admit me as a Postgraduate student and may take legal action against me.
- I certify that I am the original and sole author of all work submitted as part of this application, except where clearly indicated otherwise.
- I understand that if my application is unsuccessful, the papers relating to it will be destroyed and cannot be returned.

I confirm that I have read, understand and agree to the above declarations.

SSN : ###-##-1876
ID : 3777501
Name : **Meghan L. Williams**
Address : 2405 Clairian Dr
York, PA 17403

Elizabethtown College
1 Alpha Drive, Elizabethtown, PA 17022
P: (717)361-1409 F: (717)361-1427

Undergraduate Student Division

Course Number	Title	Gra	Rpt	Ernd	Q.Pts	GPA
Transfer Courses : Fall Transfer Courses						
	Harrisburg Area Community Coll			10.00		
			Term Totals :	**10.00**	**0.00**	**0.00**
2019-2020 : Fall Semester						
ED 105	Found Tchg Lrng	A		4.00	16.00	
ES 113	Earth in Space	A		4.00	16.00	
FYS100	Hnr Frst Yr Sem	A		4.00	16.00	
MA 121	Calculus I	A		4.00	16.00	
			Term Totals :	**16.00**	**64.00**	**4.00**
2019-2020 : Spring Semester						
ED 151	EA/Adol Develop	A		4.00	16.00	
ED 161	Intgr Tech	A		2.00	8.00	
MA 122	Calculus II	A-		4.00	14.80	
PHY201	College Phys I	A		4.00	16.00	
			Term Totals :	**14.00**	**54.80**	**3.91**
2019-2020 : Summer Transfer Courses						
	Penn State University			4.00		
			Term Totals :	**4.00**	**0.00**	**0.00**
2019-2020 : Summer Session						
HMA251	Hnr Prob&Stat	A		4.00	16.00	
			Term Totals :	**4.00**	**16.00**	**4.00**
2020-2021 : Fall Semester						
CH 105	Fund of Chem	A		4.00	16.00	
MA 222	Calculus III	A		4.00	16.00	
SED212	Lrng in Inclsv	A		4.00	16.00	
SED222	Fnd Inclsv Ed	A		4.00	16.00	
			Term Totals :	**16.00**	**64.00**	**4.00**

Undergraduate Student Division

Course Number	Title	Gra	Rpt	Ernd	Q.Pts	GPA
2020-2021 : Spring Semester						
BIO113	HnrIntroEnvrSci	A		4.00	16.00	
EGR312	Electromagnetis	A		3.00	12.00	
EGR467	Thermodynamics	A		3.00	12.00	
EN 240	American Lit	A		4.00	16.00	
			Term Totals :	**14.00**	**56.00**	**4.00**
2021-2022 : Fall Semester						
	* * * Emergent Scholar 2021 * * *					
ED 305	Mthds Sec Ed	A		4.00	16.00	
ED 341	ELL: Div in Cls	A		4.00	16.00	
EGR210	Circuit Analys	A-		4.00	14.80	
MA 235	HnrIntMathProof	A-		4.00	14.80	
			Term Totals :	**16.00**	**61.60**	**3.85**
2021-2022 : Spring Semester						
CS 121	Comp Science I	A-		4.00	14.80	
HJA245	Hnr Anime-Zen	A		4.00	16.00	
MA 201	Linear Algebra	A		4.00	16.00	
PHY203	Collg Physc III	A		4.00	16.00	
			Term Totals :	**16.00**	**62.80**	**3.92**
2022-2023 : Fall Semester						
ED 470	Prof Internship	P		12.00	0.00	
ED 497	Senior SemSecEd	A		4.00	16.00	
PHY484	Hnr IS Physics	P		2.00	0.00	
			Term Totals :	**18.00**	**16.00**	**4.00**
2022-2023 : Spring Semester						
ART105	Drawing I	A		4.00	16.00	
BIO101	Bio Concepts	A		4.00	16.00	
COM261	Film Studies	A		4.00	16.00	

Date Printed: October 10, 2023

In accordance with USC438 (6) (4) (8) (The Family Educational Rights and Privacy Act of 1974) you are hereby notified that this information is provided upon the condition that you, your agents or employees, will not permit any other party access to this record without consent of the student. Alteration of this transcript may be a criminal offense.

B. Beverly Schmalhofer, Registrar

SSN : ###-##-1876
ID : 3777501
Name : **Meghan L. Williams**
Address : 2405 Clairian Dr
York, PA 17403

Elizabethtown College
1 Alpha Drive, Elizabethtown, PA 17022
P: (717)361-1409 F: (717)361-1427

Undergraduate Student Division

Course Number	Title	Gra	Rpt	Ernd	Q.Pts	GPA
2022-2023 : Spring Semester						
PHY484	Hnr IS in Phys	P		2.00	0.00	
		Term Totals :		**14.00**	**48.00**	**4.00**

	Att	Ernd	HGpa	Q.Pts	GPA
Division Career Totals :	**142.00**	**142.00**	**112.00**	**443.20**	**3.95**

Degree Information :

(1) 'Bachelor of Science' Date Conferred : 05/13/2023

Major(s)
Physics Education

Minor(s)
Mathematics

Honor(s)
Summa Cum Laude
Etown College Honors Prog

* * * End of Transcript * * *

Date Printed: October 10, 2023

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B. Beverly Schmalhofer, Registrar

Academic reference for **Miss Meghan Williams**

MASt in Astrophysics

Referee Details

Name	Dr Mark Brinton	**Job title**	Assistant Professor of Engineering & Physics
Email	brintonm@etown.edu	**Department**	Engineering and Physics Department
Phone		**Institution**	Elizabethtown College
Relationship	Instructor and Research Mentor	**City**	Elizabethtown
Known for	August 2021 - Present / last ~2.5 years	**Country**	United States

Reference

Academic ranking	Among the top 20% in year (i.e., in the top 8 if the group size was 40) Megan performed very well in the course I instructed (93% overall grade), 11th/48 students. I also have interacted with her in a research setting where her written and oral communication is the best I have seen (out of 15 undergraduate students I have mentored).
Student potential	Outstandingly original/creative/independent of thought
Course suitability	Exceptionally Suitable

Reference provided as uploaded file. Please see the next page.

ETOWN
ELIZABETHTOWN COLLEGE
SCHOOL OF
ENGINEERING, MATH,
AND COMPUTER SCIENCE

November 22, 2023

To whom it may concern,

I am writing to give my recommendation for Meghan Williams for graduate studies at the University of Cambridge. I first came to know Meghan over 2 years ago in my circuit analysis course. As part of the physics education program, Meghan completed several of our engineering and physics courses, each with the excellence of our best engineering students. Meghan's academic prowess, strong mathematics and physics foundation, and excellent communication skills will serve her well in graduate school. I recommend Meghan fully, without reservation.

Because of Meghan's attention to detail and excellent performance in my course, I invited her to complete a summer-research position in my laboratory in 2022 (Mastery-Based-Learning to Study Anxiety and Belonging in a Circuit Analysis Course). She continued this research under my guidance and presented our preliminary findings at the American Society for Engineering Education in June 2023. It was while writing code to analyze our data that Meghan expressed her desire to transition away from physics education, engage in more engineering and physics research, and ultimately become a professor herself.

Through both coursework and research activities Meghan has demonstrated many strengths. She is an excellent math student—easily understanding and using the calculus, differential equations and algebra included in my circuit analysis course. Her outstanding GPA (Summa Cum Laude graduation honors from Elizabethtown College with a GPA of 3.95/4.0) as well as unsolicited verbal feedback to me from other engineering and physics faculty at the college indicate excellence not confined to my course alone.

I continue to be impressed with Meghan's oral and written communications skills. While working together I relied heavily on Meghan's ability to write conference abstracts and a research paper. Her writing is organized, clear and concise—the best I have seen among the 15 undergraduate students I have mentored. When reviewing her writing, I made very few edits prior to submission. Meghan clearly and professionally presented our preliminary findings at a local regional (poster) and international conference (podium, American Society for Engineering Education). Meghan researched traditional and mastery-based learning courses, wrote code to perform statistical analyses of survey results, and helped develop syllabi and testing assessments for a circuit analysis course. Even after graduation, Meghan has continued to support the research and will remain the first author on the final paper.

Over the last two years, I have observed Meghan's drive to succeed and willingness to tackle difficult projects and classes. I have also seen her grow as a person, becoming more confident as she stepped out of her comfort zone to take advantage of many social and professional opportunities. Presenting at an international conference, despite feeling very nervous, was a wonderful opportunity to grow personally and professionally. Meghan has also grown through

1 Alpha Drive, Elizabethtown, PA 17022 **etown.edu**
Dr. Mark R. Brinton brintonm@etown.edu O:717-361-1563

active participation in student clubs, including in leadership positions, and through many hours spent tutoring students in physics, thermodynamics, and calculus.

The Engineering and Physics department at Elizabethtown College has successfully prepared many engineering and physics students for top graduate programs (e.g., Dartmouth, Case Western, Notre Dame, Pitt, Carnegie Mellon, and Cornell). Because we keep our class sizes small, I get to know each student personally. Having worked with students at excellent universities like Stanford (where I earned my doctorate) and the University of Utah (my post doctorate and undergraduate institution) I can assure you that Elizabethtown's top students match those at other institutions.

I am excited for Meghan to continue her education and reach her goal of becoming a physics professor. Her academic excellence and communication strengths will enable her to become both a successful scholar and educator. She has the intellect, perseverance, and initiative to thrive in a rigorous graduate program.

Sincerely,

Dr. Mark R. Brinton
Assistant Professor of Engineering
School of Engineering, Math, and Computer Science at Elizabethtown College

Academic reference for **Miss Meghan Williams**

MASt in Astrophysics

Referee Details

Name	Dr Peter Licona	**Job title**	Associate Professor of PK-12 STEM Education
Email	liconap@etown.edu	**Department**	Education Department
Phone	7173611210	**Institution**	Elizabethtown College
Relationship	Former Professor/Advisor	**City**	Elizabethtown
Known for	4.5 years (Fall 2019 to present)	**Country**	United States

Reference

Academic ranking	Among the top 5% in year (i.e., in the top 2 if the group size was 40) The cohort was approximately 50 students.
Student potential	Outstandingly original/creative/independent of thought
Course suitability	Exceptionally Suitable

Reference provided as uploaded file. Please see the next page.

Elizabethtown College

www.etown.edu

One Alpha Drive
Elizabethtown, PA 17022
Phone: (717) 361-1000

To Whom It May Concern:

Please accept this letter of recommendation for Meghan Williams in her application for acceptance into your graduate program. It is with honor and pride that I provide this recommendation for Meghan. I will construct my recommendation according to the areas specified in your online directions.

Academic Results to Date:

Meghan is an outstanding teacher-scholar. I use the term teacher-scholar as she demonstrates high proficiency in her teaching practice, but also within her discipline of physics. Her level of scientific literacy is evidenced by her overall GPA of 3.95/4.00 in a very challenging and diverse major. In addition to her required coursework in Education and Physics, Meghan also engaged in a science research project not required of her formal degree coursework. Furthermore, she was a member of and assumed important leadership roles in the Elizabethtown College chapters of the National Science Teaching Association, Education Organization, Women Engineers, Math Club, Circle K, and College Women in STEM. As an education major, Meghan also engaged in various professional development opportunities, such as the Poverty Simulation, LGBT Sensitivity Seminar, Creating Safe and Supportive Spaces, and the Education Department Tempest Events, not required in her formal coursework. Her breadth and depth of activities, both academic and extracurricular, demonstrate that Meghan is not only a dedicated and competent educator and scientist, but an individual able to take on multiple responsibilities.

Knowledge of the Proposed Field of Study

As a physics education major, Meghan engaged in a wide variety of science and engineering courses drawing from the following disciplines: Earth and Space Science, Engineering, Biology, Chemistry, Computer Science, and Physics. As such, Meghan has developed scientific literacy that is both deep and wide. Closely related is her proficiency in mathematics, as she completed a minor in mathematics requiring her to take 24 credits of mathematics coursework. The combination of her scientific and mathematical literacies will provide Meghan with a strong foundation for success in your graduate program.

Critical Evaluation Skills and Independence of Thought

Throughout my professional relationship with Meghan, I have been impressed by her in numerous ways. She is a highly motivated and professional educator, who seeks to develop herself professionally to ensure that she is prepared to provide her future students with relevant and responsive educational opportunities. Additionally, she is a very strong early career scientist who has developed a strong scientific literacy which she hopes to employ in solving some of the challenges facing humanity. Furthermore, throughout her undergraduate career, she has engaged

in a plethora of field placements and observations, all of which provided her with an understanding of the diverse and practical day-to-day workings of the formal science learning environment. Should Meghan decide to pursue science or science education as a career, it is clear that she will find success in either. She is self-motivated and demonstrates a high degree of independence of thought and originality in her coursework. As a science education student teacher, Meghan performed at consistently high levels as indicated by her planning, attention to the classroom environment, instruction, and professional responsibilities. I mention her student teaching, as she employed critical evaluation skills, creativity, and independent thought as she planned, implemented, and evaluated science learning opportunities for students at the secondary level.

Aptitude and Potential

My experiences with Meghan are based her attendance and participation in my undergraduate courses, my role as her academic advisor, and a science education research project of which I was a faculty advisor. As a student in my classes, I found Meghan to be hard-working, professional, and dedicated to the fields of both science and education. Her dispositions and work ethic lend themselves well to successful science teaching in formal educational settings and graduate studies, writ large. Again, I mention her undergraduate GPA of 3.95/4.00 in a very challenging major and equally challenging minor.

Other Relevant Experience and Skills

During Meghan's undergraduate career, she served as a campus tutor for the following courses: Physics 1, Thermodynamics, Fundamentals of Chemistry, Calculus 1, Calculus 2, and Calculus 3. Additionally, she also served as a teaching assistant for the following courses: Introductory Physics, Thermodynamics, Physics 1 Lab. Both of these additional relevant experiences are testament to Meghan's academic prowess and her ability to present complex subject matter to her peers. She was the recipient of numerous awards – Honors, Alpha Lambda Delta Honor Society, Hager Scholar in Engineering and Physics, Emergent Scholar, Kappa Delta Pi, and the Reber Award for Outstanding Senior in Physics and Engineering. As an undergraduate student, Meghan participated in two research projects, both requiring formal presentations. As a summer student researcher in our Scholarship and Creative Arts Research Program (SCARP) program, Meghan researched and presented on The Design of Mastery-Based-Learning Course Structure to Assess Student Anxiety and Belonging. As her Senior Thesis in the Elizabethtown College Honors Program, Meghan researched and presented on Climate Engineering: Potential Benefits and Ramifications.

Final Comments

Meghan Williams comes with my highest recommendations. Her dispositions, work ethic, curiosity, academic literacies, professional experiences, ability to balance multiple commitments, and kind demeanor will make her an intellectual and creative asset that will enhance any graduate program fortunate enough to enroll her.

If clarification or expansion of this recommendation is needed, please feel free to contact me at liconap@etown.edu or 717-361-1297.

Sincerely,

Peter R. Licona, Ph.D.
Associate Professor of PK-12 STEM Education
Education Program Director/Department Chair
Elizabethtown College

UNIVERSITY OF CAMBRIDGE

We thank you for your time spent taking this survey.
Your response has been recorded.

Below is a summary of your responses Download PDF

Institute of Astronomy

Important: please read before continuing
In this form, you will be asked a series of questions to help us gather information about your **previous** university study. The questions relate to your previous study, not the course that you are currently applying to. Depending on department procedures, relevant contextual data may have a small impact on some funding opportunities, so if your application is eligible for University funding, we encourage you to fill in this form.

You will be given the opportunity to tell us about any events or circumstances that have had an impact on your education, and limited your ability to perform in your studies. **You do not need to provide personal or detailed information about these circumstances**, we only ask you give details of the **impact** that they have had on your studies.

Please only provide the information that you are asked for in the form, and leave the text box blank if you cannot/ do not wish to respond. You should only provide information in the form if you feel comfortable to do so. Your application will not be disadvantaged if you choose not to respond to the questions, and your academic merit will be assessed based on the information you provide in other parts of the application. Once you have completed this form, you will need to download a PDF copy of your answers to upload to the applicant portal. You will be given the option to download the PDF at end of the form, and you will also receive a copy by email. This

the PDF at end of the form, and you will also receive a copy by email. This will be sent to you as soon as the form is submitted.

Your first name:

Meghan

Your surname:

Williams

Your email address:

cupwilly@gmail.com

Confirm your email address:

cupwilly@gmail.com

The following questions relate to your experience of studying at undergraduate/ bachelor's level.

Your undergraduate/ bachelor's institution:

Elizabethtown College

Did you undertake your degree full-time or part-time?

- (●) **Full-time**
- ( ) Part-time (for any part of the degree)

When choosing your university, were there any factors other than grades that you felt limited your choice of institution?

e.g. not being able to live away from home, financial considerations, concerns about fitting in

N/A

Characters remaining: 997

Did you have any essential regular commitments that impacted the extent to which you could dedicate yourself to your studies? If so, please explain the impact of this on your studies.
e.g. caring responsibilities, being a single parent or guardian, employment during studies

N/A

Characters remaining: 997

Did you experience any serious disruption to your studies that prevented you from studying for at least 3 months over the course of a year? If so, please explain the impact of this on your studies. It is not necessary to provide details about the nature of the disruption.
e.g. illness, bereavement

N/A

Characters remaining: 997

The following questions relate to your previous experience of university study at all levels (undergraduate and/or postgraduate).

Some students get off to a slower start than others in their studies, and later show an upward progression in their marks.
Were there any circumstances that you feel initially inhibited your academic performance? If so, please provide details of the impact on your studies, and the change in circumstances that allowed you to improve your performance.

N/A

Characters remaining: 997

Please use the space below to let us know about anything else that has had an impact on your studies or educational pathway. You might like to explain any incomplete qualifications or course changes.

N/A

Characters remaining: 997

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MEGHAN L. WILLIAMS

717-968-8164 | williamsm7659@gmail.com

EDUCATION

Elizabethtown College, Elizabethtown, PA — May 2023
Bachelor of Science in Physics Secondary Education, Minor in Mathematics
Summa Cum Laude (GPA: 3.95/4.0)

ACADEMIC ACHIEVEMENTS

Honors Program, Elizabethtown College — 2019 - 2023
Alpha Lambda Delta Honor Society, Elizabethtown College — 2020 - Present
Hager Scholar in Engineering and Physics, Elizabethtown College — 2020, 2021, 2022
Emergent Scholar, Elizabethtown College — 2020 - 2021
Kappa Delta Pi Honor Society, Elizabethtown College — 2021 - Present
Pi Mu Epsilon Honor Society, Elizabethtown College — 2021 - Present
Reber Award for Outstanding Seniors (one of two students selected),
Physics and Engineering Department Elizabethtown College — 2023

RESEARCH EXPERIENCE

Student Researcher, Scholarship and Creative Arts Research Program (SCARP)
Design of Mastery-Based-Learning Course Structure to Assess Student Anxiety and Belonging
Supervisor: Mark Brinton, Ph.D., Professor of Engineering & Physics
Elizabethtown College, Elizabethtown, PA — May 2022 - Present

- Conducted research involving curriculum design and student anxiety associated with various course structures.
- Continue to compile data and analyze survey responses regarding levels of student anxiety and belonging as part of ongoing faculty research.
- Presented at Landmark Summer Research Symposium (Summer 2022) and American Society for Engineering Education (ASEE) Conference (Fall 2022, Summer 2023).

Senior Thesis, Elizabethtown College Honors Program
Climate Engineering: Potential Benefits and Ramifications
Supervisors: Peter Licona, Ph.D., Professor of STEM Education and Michael Scanlin, Ph.D., Professor of Engineering & Physics, Elizabethtown College, Elizabethtown, PA — August 2022 - May 2023

- Conducted research involving climate improvement technologies and climate engineering techniques and formulated opinions on best approaches.
- Presented at Elizabethtown College Scholarship and Creative Arts Day (April 2023).

ACADEMIC WORK EXPERIENCE

Tutor (Physics 1, Thermodynamics, Chemistry, Calculus 1, Calculus 2, Calculus 3)
Elizabethtown College, Elizabethtown, PA — January 2020 – May 2023

- Met with students, one-on-one or in small groups, to help them understand key concepts taught in class and to solve specific problems.
- Assisted students with test preparation, homework, projects and other academic tasks.
- Identified areas needing improvement and addressed those difficulties with students.

Teaching Assistant (Introductory Physics, Thermodynamics, Physics 1 Lab)
Elizabethtown College, Elizabethtown, PA — Fall 2021, Spring 2022, Spring 2023

- Assisted professor with instructional responsibilities.
- In professor's absence, provided students with support.
- Set up and led labs for students.

TEACHING EXPERIENCE

Ninth – Twelfth Grades: Mathematics

Northeastern High School October 2023 – Present

- Create and deliver daily lessons to honors algebra and personal finance students.
- Build personal relationships with students from a variety of backgrounds and skill levels.
- Communicate with students, parents, and fellow faculty about curriculum and grades.
- Provide feedback to students in regard to their academic standing and performance and offer enrichment, as needed.

Eleventh – Twelfth Grades: Student Teaching Physics Education Experience

Hershey High School, Hershey, PA August 2022 - December 2022

- Developed and delivered daily lessons to honors and college preparation physics classes.
- Led labs for honors and college preparation physics using Vernier lab equipment including dynamics tracks, pulleys, photogates, and LabQuests.
- Communicated with students on assignments, projects, grades, and other academic areas.
- Worked one-on-one with struggling students during free periods to provide individualized assistance and additional explanation.
- Integrated prediction discussions, videos, and demonstrations into lessons to help students think through and visualize various physics topics.

Eleventh - Twelfth Grades: Methods Physics Education Experience

Hershey High School, Hershey, PA September 2021 - November 2021

- Created and executed several lesson plans for honors physics classes.
- Assisted the teacher in running lab activities.
- Graded and assessed student work.

ACTIVITIES

Education Organization, Member 2019 - Present
National Science Teacher Association Elizabethtown College Student Chapter, Member 2019 - Present
Elizabethtown College Circle K, Member 2019 - Present
Treasurer 2020 – 2023
- Received Distinguished Treasurer Award for Pennsylvania 2022

Elizabethtown College Women Engineers, Member 2019 - Present
E-motion, Member (Student Dance Performance Club) 2020 - Present
Elizabethtown Math Club, Member 2020 - Present
Honors Council, Representative 2021 - Present
Elizabethtown College Women in STEM Club, Member 2021 – Present
Ireland Study Abroad Summer 2023

PROFESSIONAL DEVELOPMENT

Poverty Simulation September 2019
LGBT Sensitivity Seminar March 2020
Creating Safe and Supportive Spaces for LGBTQIA+ Students Seminar October 2022
Engaging Enrichment Seminar October 2022