

Science Undergraduate Laboratory Internships (SULI)

Summer 2022 - Application for: Jacob Casimir Dulya

APPLICANT PROFILE

General Applicant Information

First Name: Jacob

Middle Name: Casimir

Last Name: Dulya

Previous Last Name(s):

Primary Email Address: dulyaj@duq.edu

Alternate Email Address 1: jdulya03@gmail.com

Alternate Email Address 2:

ORCID: [0000-0002-5101-8580](https://orcid.org/0000-0002-5101-8580)

Current Address

Primary Phone Number: 412-901-5493

Alternate Phone Number:

Citizenship/Languages/Eligibility Information

I will be 18 years of age or older by the time the internship begins: Yes

Are you a U.S. Citizen? Yes

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EDUCATIONAL BACKGROUND

Academic Information

Are you currently attending a community college or 2-year college?

No

Current academic status:

Freshman

If you are selected as a participant in this DOE program, will you receive academic credit from your university/college for participating?

No

Undergraduate Institution Information

College/University Country: United States and U.S. Territories

College/University State/Province/Territory: Pennsylvania

College/University Name: Duquesne University

College/University Address: 600 Forbes Avenue

College/University City: Pittsburgh

College/University Zip Code: 15282-0001

Expected/Declared Major: Physical Sciences - Physics

Expected Degree From This College/University: Bachelor's

Expected/Completed Graduation Date: May / 2025

Transcript: Transcript.pdf

Does this institution provide grades? Yes

GPA Scale: 4.0

Total Attempted Credits: 17.00

Total Earned Credits: 17.00

Total Quality Points: 60.20

GPA: 3.54

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Science, Technology, Engineering and Mathematics (STEM) Courses

Course Title: Calculus 1

Course Number: 115

Enrollment Status: Recently Completed

Course Title: Calculus 2

Course Number: 116

Enrollment Status: Currently Enrolled

Course Title: Computer Programming: Java

Course Number: 160

Enrollment Status: Currently Enrolled

Course Title: General Analytical Physics 1

Course Number: 211

Enrollment Status: Recently Completed

Course Title: General Analytical Physics 2

Course Number: 212

Enrollment Status: Currently Enrolled

Course Title: General Chemistry 1

Course Number: 121

Enrollment Status: Recently Completed

Course Title: General Chemistry 2

Course Number: 122

Enrollment Status: Currently Enrolled

High School Graduation or GED

Date of High School Graduation or GED: June / 2021

Country: United States

City: Pittsburgh

State/Province/Territory: PA

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WORK EXPERIENCE & SKILLS

Professional Associations

Are you a member of any
professional organizations? No

Computer Skills

Computer related skills: I have been around computers my entire life and have a lot of general computing literacy as well as being a fast learner in many cases. I have done light coding in C# but plan to gain more applicable computer programming literacy via an upcoming Java class as well as taking up some personal projects with Java.

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PROGRAM INFORMATION

Eligibility

Have you previously participated in 2
SULI appointments? No

Previous DOE Internship/Fellowship or Lab Activity Experience

Have you ever had an
internship/fellowship with the
Department of Energy or any of its
National Laboratories (such as SULI,
CCI, VFP) or attended an activity at
one of the National Laboratories
(such as a Mini-Semester or
Sustainable Research Pathways)? No

Availability

What is the earliest date you can
begin your internship? 5/13/2022

When do you need to complete your
internship? 8/13/2022

First Choice Host DOE Laboratory

DOE Laboratory: Thomas Jefferson National Accelerator Facility (TJNAF)

First Choice Research Area: Accelerator Physics/Science

Second Choice Research Area: Nuclear Physics

Third Choice Research Area: Nuclear Science

Second Choice Host DOE Laboratory

DOE Laboratory: Princeton Plasma Physics Laboratory (PPPL)

First Choice Research Area: Plasma and Fusion Sciences

Second Choice Research Area: Renewable Energy Sciences and Technologies

Third Choice Research Area: Materials Sciences

Relatives Employed at DOE Laboratories

Are you a relative of an employee at
the proposed host DOE laboratories? No

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ESSAYS

Research Experience:	Being a freshman, this is my first opportunity to formally work with research as well as working as a member on a research team. That being said, I don't have direct research experience though I have always worked well with others throughout my entire educational career as well as with other jobs I have carried out. I make it a point to collaborate with people and ask and answer questions as needed to reach a common goal. This is especially important to me when tasked with problems that aren't necessarily trivial to solve.
Research Interests:	I had been recommended to look into Jefferson Lab from a professor here at Duquesne University. Said professor had mentioned the Particle Physics fellowship opportunity at Jefferson Lab and I was excited to learn more because I am very interested in particle physics. The other options all stem from a general interest and respect in all of those other fields but most of my research of the options had been in the Jefferson Lab Accelerator Physics.
Personal Experience:	My best personal skill that I bring to any team I'm a part of is my ability to communicate very openly as well as my extreme flexibility and availability. Academically my first semester at Duquesne has taught me a lot about my interests as well as has enhanced my love for learning and physics especially. I pride myself in having a willingness to learn and keeping a modest and humble attitude in any professional environment.
Professional Goals:	Long term I hope to be well rounded in a scientific career potentially in research or even education at a college level and I believe being able to participate in the SULI program can really get me started in advancing my skills in working in professional research environments/projects. I have had and always will have a passion for physics and learning and I think SULI is a great place to start looking.

RECOMMENDATIONS

Recommendation 1:	First Name: Patrick Last Name: Cooper Email: cooperp@duq.edu Status: Received 1/11/2022
Recommendation 2:	First Name: Nicholas Last Name: Hurl Email: hurln@duq.edu Status: Received 1/11/2022



DUQUESNE UNIVERSITY

OFFICE OF THE UNIVERSITY REGISTRAR

600 Forbes Avenue
Pittsburgh, PA 15282

Student No: D01809703

Date Issued: 09-JAN-2022

Record of: Jacob Casimir Dulya

Issued To : JACOB C DULYA

Course Level : Undergraduate

Academic Program:

Degree : Bachelor of Science

Program : BS Physics School of Nat & Env

College : Bayer School of Nat & Env Sci

Major:

Physics

Subj	No.	Title	Cred	Grade	Pts	R
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INSTITUTION CREDIT:

Fall 2021

BRDG 100	Research & Information Skills	1.00	A	4.0000
BRDG 101	Writing and Analysis	3.00	A-	11.1000
CHEM 121	General Chemistry I	4.00	A	16.0000
CHEM 121L	Gen Chemistry I Lab	1.00	C	2.0000
CHEM 121R	Gen Chemistry I Recitation	0.00	NG	0.0000
MATH 115	Calculus I	4.00	B	12.0000
PHYS 211	General Analytical Physics I	3.00	A-	11.1000
PHYS 211L	Gen Analytical Physics I Lab	1.00	A	4.0000
PHYS 211R	Gen Analytical Physics I Rec	0.00	NG	0.0000

Earned Hrs	GPA-Hrs	QPts	GPA
17.00	17.00	60.2000	3.5411

Dean's List
Good Standing

Spring 2022

CHEM 122	General Chemistry II	4.00	In Prog	Course
CHEM 122L	Gen Chemistry II Lab	1.00	In Prog	Course
CHEM 122R	Gen Chemistry II Recitation	0.00	In Prog	Course
COSC 160	Computer Programming: Java	3.00	In Prog	Course
COSC 160L	Computer Prog: Java Lab	0.00	In Prog	Course
MATH 116	Calculus II	4.00	In Prog	Course
PHYS 212	General Analytical Physics II	3.00	In Prog	Course
PHYS 212L	Gen Analytical Physics II Lab	1.00	In Prog	Course
PHYS 212R	Gen Analyt Phys II Rec	0.00	In Prog	Course

Transcript Totals	Earned Hrs	GPA Hrs	Points	GPA
TOTAL INSTITUTION	17.00	17.00	60.2000	3.5411
TOTAL TRANSFER	0.00	0.00	0.0000	0.0000
OVERALL	17.00	17.00	60.2000	3.5411
-----END OF TRANSCRIPT-----				



Student No: D01809703

Date Issued: 09-JAN-2022

DUQUESNE UNIVERSITY • 600 FORBES AVENUE • PITTSBURGH, PA 15282-0299

Education for the Mind, Heart and Spirit

RELEASE OF INFORMATION

In accordance with USC 438(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 the consent of the student. Alteration of this transcript may be a criminal offense.

GRADING SYSTEM

The plus/minus grading system is the officially recognized method of grading course work and rating academic performance of undergraduate, graduate, and law students. Quality point average is the ratio expressed to the nearest hundredth of the sum of course credits for which the grades of A+, A, A-, B+, B, B-, C+, C, C-, D+, D, and F were received to the sum of quality points earned. The quality point values of these grades are as follows:

UNDERGRADUATE		
Grade	Quality Points	Description
A	4.0	Superior
A-	3.7	Excellent
B+	3.3	Very Good
B	3.0	Good
B-	2.7	Above Average
C+	2.3	Satisfactory
C	2.0	Average
C-	1.7	Below Average
D	1.0	Lowest Passing Grade
F	0.0	Failure

GRADUATE		
Grade	Quality Points	Description
A	4.0	Distinguished Scholarly Work
A-	3.7	
B+	3.3	
B	3.0	Normal Progress Toward Degree
B-	2.7	
C+	2.3	Satisfactory
C	2.0	Warning – Student Subject to Faculty Action
F	0.0	Failure

OTHER DESIGNATIONS (These grades carry no quality points.)	
Grade	Description
AUD	Audit
CG	Contested Grade
H	Honors
I	Incomplete
IP	In-progress
LG	Late Grade
M	Military Withdrawal
N	Not Passing
NG	Not Graded
P	Pass
S	Satisfactory
T	Transfer
U	Unsatisfactory
W	Withdrawal
X	Never Attended
*	In-progress or Not Graded

COURSE NUMBERING SYSTEM

100-299 Lower-level undergraduate
300-499 Upper-level undergraduate
500-900 Graduate level

Any course numbered below 100 is to be considered equivalent to the **Course Level** as designated on the transcript.

W After a course number indicates a writing-intensive course
L After a course number indicates a lab
H After a course number indicates an honors course
E or I In the repeat ("R") column indicates a repeated course and whether it has been Included or Excluded in credits and GPA.

LAW SCHOOL • prior to 2004-2005		
Grade	Quality Points	Description
LA+	4.0	
LA	3.75	
LA-	3.5	
LB+	3.25	
LB	3.0	Professional Competence
LC+	2.75	
LC	2.5	
LF	2.0	Failure

LAW SCHOOL • 2004-2005 to 2009-2010		
Grade	Quality Points	Description
A	4.0	
B+	3.5	
B	3.0	
C+	2.5	
C	2.0	Professional Competence
D+	1.5	
D	1.0	
F	0.0	Failure

LAW SCHOOL • effective 2010-2011		
Grade	Quality Points	Description
A/A+	4.0	
A-	3.67	
B+	3.33	
B	3.0	
B-	2.67	
C+	2.33	
C	2.0	Passing
C-	1.67	
D+	1.33	
D	1.0	
F	0.0	Failure

UNIVERSITY ACCREDITATION AND AFFILIATION

Middle States Association of Colleges and Schools
State Board of Education of the PA Department of Education
American Bar Association

ACADEMIC CALENDAR

Duquesne University operates under the Semester Calendar.

SULI PROGRAM APPLICATION RECOMMENDATION FOR JACOB CASIMIR DULYA

Recommender Contact Information

- **First Name:** Patrick
- **Last Name:** Cooper
- **Title:** Assistant Professor
- **Department:** Physics
- **Institution/Organization:** Duquesne
- **Telephone:** 929-431-7650
- **Email:** cooperp@duq.edu

Applicant Information

Association

Describe your relationship to the applicant, including how long you've known the applicant, where, and in what capacity.

Jake was in my first semester, freshman Physics 1 course in the fall (an advanced section reserved for physics majors).

Applicant Comments

Please provide substantive comments about the applicant's education, training, aptitude, or promise relevant to the SULI program. Include any relevant additional detail or perspective regarding the applicant's research experience or equivalent experience on complex projects, including the level of independence or other factors that would contribute to the applicant's ability to make an excellent contribution to the SULI program.

Jake is a great student. A lot of students see a YouTube video or two, a couple sci-fi movies, and decide they want to be a physicist. This is great, it brings people to our field, but also it sets up a false expectation that physics 1 is going to be about wormholes and warpdrives. Jake is actually interested in physics for the *physics* itself. Principia Mathematica physics. Down and dirty experimental error and inference physics. He appreciates projectile motion for the way it elucidates a simplified kinematics, he appreciated the beauty of conservation principles and excelled at geometrically challenging problems related to torque and angular momentum. When he had questions he would stay after class, he would come to office hours. Often he would have physics debates with his friends and would come to me to adjudicate them. He works independently in our problem solving sessions which is uncommon, which shows he has his own motivations and can show grit without external motivators. He's also very kind and polite and I think would make a great team member, and a great future physicist.

Applicant Rating

In comparison to other undergraduate students, please rate the applicant relative to his/her peers on the following qualifications:

	Do Not Know	Below Average	Average	Above Average	Superior
Analytical and Mathematical				X	
Experimental Research	X				
Overall Academic				X	
Initiative and Self Reliance					X
Motivation toward Scientific Career					X
Originality of Thought					X
Emotional Maturity					X
Ability to Work with Others				X	
Potential for Leadership				X	
Oral Communication Skills				X	
Written Communication Skills	X				

SULI PROGRAM APPLICATION RECOMMENDATION FOR JACOB CASIMIR DULYA

Recommender Contact Information

- **First Name:** Nicholas
- **Last Name:** Hurl
- **Title:** Dr.
- **Department:** Math and Comp Sci
- **Institution/Organization:** Duquesne
- **Telephone:** 724-456-8560
- **Email:** hurln@duq.edu

Applicant Information

Association

Describe your relationship to the applicant, including how long you've known the applicant, where, and in what capacity.

Jacob Dulya was a student in a Calculus I course in the Fall 2021 in which I was the instructor. The first day of class is when I met the applicant.

Applicant Comments

Please provide substantive comments about the applicant's education, training, aptitude, or promise relevant to the SULI program. Include any relevant additional detail or perspective regarding the applicant's research experience or equivalent experience on complex projects, including the level of independence or other factors that would contribute to the applicant's ability to make an excellent contribution to the SULI program.

I recommend Jacob Dulya for a Science Undergraduate Laboratory Internship. The attribute that best describes Jacob is that he is a deep thinker. After completing a problem he always sits and thinks about how it was done and what it means. His questions during class were never the run of the line, "Can you explain that again," but rather would start with "Can this be used to say..." His calculus skills and his mathematical skills are very good. He attended class everyday and completed his Homework and other assignments on time. I cannot speak to his previous research experience. He worked well with others completing in-class worksheets. Often he would explain problems to the group and students enjoyed working with him.

Applicant Rating

In comparison to other undergraduate students, please rate the applicant relative to his/her peers on the following qualifications:

	Do Not Know	Below Average	Average	Above Average	Superior
Analytical and Mathematical				X	
Experimental Research	X				
Overall Academic				X	
Initiative and Self Reliance					X
Motivation toward Scientific Career					X
Originality of Thought					X
Emotional Maturity					X
Ability to Work with Others				X	
Potential for Leadership				X	
Oral Communication Skills					X
Written Communication Skills				X	