

## Science Undergraduate Laboratory Internships (SULI)

Summer 2022 - Application for: Samuel Farmer

### APPLICANT PROFILE

#### General Applicant Information

First Name: Samuel

Middle Name:

Last Name: Farmer

Previous Last Name(s):

Primary Email Address: sfarme15@vols.utk.edu

Alternate Email Address 1: samueljfarmer05@gmail.com

Alternate Email Address 2:

ORCID: [0000-0002-2498-3908](https://orcid.org/0000-0002-2498-3908)

#### Current Address

Primary Phone Number: 276-274-8853

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

## Science Undergraduate Laboratory Internships (SULI)

Summer 2022 - Application for: Samuel Farmer

### EDUCATIONAL BACKGROUND

#### Academic Information

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

No

Current academic status:

Junior

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:

Tennessee

College/University Name: University of Tennessee, Knoxville

College/University Address: Knoxville, TN 37996

College/University City: Knoxville

College/University Zip Code: 37996-0001

Expected/Declared Major: Engineering - Nuclear

Expected Degree From This College/University:

Master's

Expected/Completed Graduation Date:

May / 2024

Transcript: utk transcript 2020-2021.pdf

Does this institution provide grades? Yes

GPA Scale: 4.0

Total Attempted Credits: 54.00

Total Earned Credits: 54.00

Total Quality Points: 167.70

GPA: 3.11

## Science Undergraduate Laboratory Internships (SULI)

Summer 2022 - Application for: Samuel Farmer

### Science, Technology, Engineering and Mathematics (STEM) Courses

**Course Title:** Nuclear Engineering - Intro to Radiological Engineering

**Course Number:** 233

**Enrollment Status:** Recently Completed

**Course Title:** Nuclear Engineering - Numerical Methods and Programming

**Course Number:** 362

**Enrollment Status:** Currently Enrolled

**Course Title:** Nuclear Engineering - Thermal Science

**Course Number:** 342

**Enrollment Status:** Currently Enrolled

**Course Title:** Physics

**Course Number:** 232

**Enrollment Status:** Currently Enrolled

### High School Graduation or GED

**Date of High School Graduation or GED:** June / 2019

**Country:** United States

**City:** Lebanon

**State/Province/Territory:** VA

## Science Undergraduate Laboratory Internships (SULI)

Summer 2022 - Application for: Samuel Farmer

### WORK EXPERIENCE & SKILLS

#### Professional Associations

Are you a member of any  
professional organizations?

No

#### Computer Skills

**Computer related skills:** Versed in multiple coding languages that include Python, MATLAB, Fortran, and Linux software. Also versed in applications such as Microsoft Word and Excel from previous schoolwork.

## Science Undergraduate Laboratory Internships (SULI)

Summer 2022 - Application for: Samuel Farmer

### PROGRAM INFORMATION

#### Eligibility

Have you previously participated in 2  
SULI appointments? No

#### Previous DOE Internship/Fellowship Experience

Have you ever had an  
internship/fellowship with the  
Department of Energy or any of its  
National Laboratories? No

#### Availability

What is the earliest date you can  
begin your internship? 5/23/2022

When do you need to complete your  
internship? 8/12/2022

#### First Choice Host DOE Laboratory

DOE Laboratory: Oak Ridge National Laboratory (ORNL)

First Choice Research Area: Engineering Nuclear

Second Choice Research Area: Nuclear Science

Third Choice Research Area: Plasma and Fusion Sciences

#### Second Choice Host DOE Laboratory

DOE Laboratory: Thomas Jefferson National Accelerator Facility (TJNAF)

First Choice Research Area: Nuclear Physics

Second Choice Research Area: Nuclear Science

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

## Science Undergraduate Laboratory Internships (SULI)

Summer 2022 - Application for: Samuel Farmer

### ESSAYS

<b>Research Experience:</b>	I currently have no research experience in a lab, but am working on securing an undergrad research position at The University of Tennessee - Knoxville. I do have team experience in being a member of teams and having some leadership roles, these are just not in a lab setting. I have done work on many group projects for my classes and have done well in those. These projects have led me to develop good teamwork skills and varying leadership skills when put in a position to lead a team. I tend to work well with others that are committed to getting their work done diligently and making sure that it is correct.
<b>Research Interests:</b>	When conducting research, my main area of interest is in radiation detection. This is a topic that I find very interesting and would like to continue to look into as I get further into my career. This is something that I would like to do at both labs, as both have the opportunities for it. In choosing the labs that I have, they are based on proximity and relation to my field of interest. Oak Ridge National Lab is a major choice for me because of the strong relationship with UTK and the nuclear department at the university.
<b>Personal Experience:</b>	Through my life, I have had many experiences that have contributed to my teamwork and leadership skills. Through high school, I was on multiple sports teams that put me into leadership roles and making sure that my teams work well. Continuing into my college career, I have been in numerous group work and project efforts that require my to work in groups and be cohesive in ideals and work ethic. Through all these experiences, I have learned how to work well in group settings. I was also able to make a constructive environment for my teams where everyone is able to give valuable input to work towards the group goal. As a member of groups, I tend to keep other members on task and focused. These skills have helped me to reach my goals for each project I have worked on and completed.
<b>Professional Goals:</b>	As I finish my college career, I am hoping to graduate with a MS in Nuclear Engineering. After graduation, I hope to work at Oak Ridge National Lab or for the Department of Homeland Security working with radiation detection research. These goals are very important to me as I want to be able to make an impact for my country and the world in keeping people safe. The SULI program would be immensely helpful in these goals as it would introduce me to these places and the work environment there. It would be able to set me on a path to these goals by making connections and learning how these environments work. It would also be very helpful to me now as it would further what I am learning in all of my classes and give me a better understanding of the concepts I have been learning. Seeing these concepts be put into use would change the way that I have learned them and give me a much fuller understanding. The SULI program would essentially be nearly life changing to me with the opportunities it could provide.

### RECOMMENDATIONS

<b>Recommendation 1:</b>	<b>First Name:</b> Drew <b>Last Name:</b> Kiser <b>Email:</b> drewkiser@charter.net <b>Status:</b> Received 1/5/2022
<b>Recommendation 2:</b>	<b>First Name:</b> Lawrence <b>Last Name:</b> Heilbronn <b>Email:</b> lheilbro@utk.edu <b>Status:</b> Received 11/12/2021
<b>Recommendation 3:</b>	<b>First Name:</b> Reed <b>Last Name:</b> Stanley <b>Email:</b> rstan0214@yahoo.com <b>Status:</b> Received 12/17/2021

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**Official Academic Transcript of:**  
SAMUEL J FARMER  
Transcript Created: 9-Jul-2021

**Requested by:**  
SAMUEL J FARMER  
104 W BANNER ST  
LEBANON, VA 24266-4304

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THE UNIVERSITY OF TENNESSEE KNOXVILLE  
ACADEMIC TRANSCRIPT

Farmer, Samuel J

000-52-9521

07/09/2021

1

From: Southwst Virginia Cmty Co  
FALL 2017 - FALL 2017

HIUS	221	History of the United States	BGI	3.00	U	A
MATH	130	Precalculus I (cont)	BGI	3.00	U	B
Total Hours Transferred - UNDERGRADUATE LEVEL				6.00		

From: Southwst Virginia Cmty Co  
SPRING 2018 - SPRING 2018

HIUS	222	History of the United States	BGI	3.00	U	A
MATH	LD	Precalculus I (cont 130)	BGI	3.00	U	A
Total Hours Transferred - UNDERGRADUATE LEVEL				6.00		

From: Southwst Virginia Cmty Co  
FALL 2018 - FALL 2018

ENGL	101	English Composition I	BGI	3.00	U	A
MATH	125	Basic Calculus	BGI	3.00	U	B
POLS	LD	U.S. Govt. I	BGI	3.00	U	A
Total Hours Transferred - UNDERGRADUATE LEVEL				9.00		

From: Southwst Virginia Cmty Co  
SPRING 2019 - SPRING 2019

ENGL	102	English Composition II	BGI	3.00	U	A
MATH	LD	Applied Calculus II	BGI	3.00	U	A
POLS	LD	U.S. Government II	BGI	3.00	U	A
Total Hours Transferred - UNDERGRADUATE LEVEL				9.00		

Total Hours Transferred - UNDERGRADUATE LEVEL 30.00

FALL SEMESTER 2019		Tickle College of Engineering	
CHEM	120	General Chemistry I	4.00 U B
ENGL	253	Introduction/Fiction	3.00 U B-
FYS	100	The Volunteer Connection	0.00 U S
FYS	101	The UT Experience	1.00 U A
MATH	130	Precalculus I	4.00 U B+ *

SPRING SEMESTER 2020		Tickle College of Engineering	
EF	105	Comput Meth/Engr Prob Solving	1.00 U B
EF	151	Physics for Engineers I	4.00 U B
MATH	141	Calculus I	4.00 U B+
SPAN	123	Intensive Elementary Spanish	6.00 U A-

Due to academic disruptions in Spring 2020, students in undergraduate courses with A-F letter grading were permitted to opt-in to satisfactory/credit/no-credit (S/CR/NC) grading before final grades posted. For undergraduates, letter grades A to C correspond to S, letter grades C- to D- correspond to CR, and F grades correspond to NC.

-----CONTINUED ON NEXT COLUMN-----

FALL SEMESTER 2020

From: Southwst Virginia Cmty Co  
SUMMER 2020 - SUMMER 2020

CHEM	130	General Chemistry II	BGI	4.00	U	B
Total Hours Transferred - UNDERGRADUATE LEVEL				4.00		

FALL SEMESTER 2020

Tickle College of Engineering

EF	152	Physics for Engineers II	4.00	U	B
EF	230	Comp Solution/Engr Problems	2.00	U	B+
MATH	142	Calculus II	4.00	U	A
ME	202	Engineering Mechanics	2.00	U	D
NE	200	Intro/Nuclear & Radiolog Engr	2.00	U	A-

SPRING SEMESTER 2021

Tickle College of Engineering

ECON	201	Intro Economics: Survey Course	4.00	U	B+
MATH	241	Calculus III	4.00	U	B
ME	331	Thermodynamics	3.00	U	C
NE	233	Intro to Radiological Engr	3.00	U	B
NE	250	Math & Comp Meth/Nuclear Engr	3.00	U	B

Cumulative:

U Att: 54.00 Earned: 88.00 Qpts: 167.70 GPA: 3.11

MEMORANDA

High School: Lebanon High School  
HS Address: Lebanon VA 24266  
HS Date Grad: 06/2019

END OF TRANSCRIPT



  
Jeff Gerkin  
Interim University Registrar



THE UNIVERSITY OF TENNESSEE, KNOXVILLE, OFFICE OF THE UNIVERSITY REGISTRAR  
209 STUDENT SERVICES BLDG, KNOXVILLE, TN 37996

**ACCREDITATION** - Since 1897, UT has been continuously accredited by the Southern Association of Colleges and Schools.

**CALENDAR SYSTEMS** – All course work completed prior to Fall Semester 1988 is under the quarter system. College of Law course work completed after Spring Quarter 1981 is under the semester system.

**GRADING SYSTEM**

GRADE	INTERPRETATION	UG PRIOR TO FALL 2008	UG FALL 2008	GR PRIOR TO FALL 2016	GR FALL 2016
A	Superior	4.0	4.0	4.0	4.0
A-	Intermediate Grade	N/A	3.7	N/A	3.7
B+	Very Good	3.5	3.3	3.5	3.3
B	Good	3.0	3.0	3.0	3.0
B-	Intermediate	N/A	2.7	N/A	2.7
C+	Fair	2.5	2.3	2.5	2.3
C	Satisfactory	2.0	2.0	2.0	2.0
C-	Unsatisfactory	N/A	1.7	N/A	N/A
D+	Unsatisfactory	N/A	1.3	N/A	N/A
D	Unsatisfactory	1.0	1.0	1.0	1.0
D-	Unsatisfactory	N/A	0.7	N/A	N/A
F	Failure	0.0	0.0	0.0	0.0
I	Incomplete	0.0	0.0	0.0	0.0
		Incomplete grade computed as failure for undergraduates prior to fall semester 1988			
		Incomplete grade computed as failure for graduate students prior to fall quarter 1976.			
WF	Withdrew failing	0.0 (discontinued as failing grade fall 2008)			
X	Exam missed	0.0 (discontinued fall 1975)			

**The following grades or notations are used by the university, however, these do not earn quality points and are not used in GPA calculations.**

GRADE	EXPLANATION
Aud	Audit (courses not recorded on academic record effective fall 1982.)
Blank	No report
CR	Credit earned grade-represents a grade of C-, D+, D, or D-. Spring 2020 only.
H	Satisfactory honors grade-satisfactory grade that equates to A or B for law and vet med students.
IW	Incomplete due to writing deficiency
N	No progress
NC	No credit-represents a standard of C-, D+, D, D-, F; spring 2020 only represents standard grade of F for undergraduates.
NC Grade	NC-,ND+, ND, ND-, NF, no credit grades-represents a standard of C-, D+, D, D-, F
NG	No grade
NP	No progress or inadequate progress
NR	Non-reported grade
P	Progress (progress toward completion of a thesis or dissertation)
S	Satisfactory (equates to A, B, or C for undergraduates; equates to A or B for graduate students)
SI	Incomplete grade for a course graded satisfactory/no credit
W	Withdrawn
WP	Withdrew passing
WF	Withdrew failing (effective fall 2008)
(*)	Repeated course-All attempted and earned hours and quality points for the course are excluded from the cumulative totals.
(#)	Repeated course-All earned hours for the course are subtracted from the cumulative totals.
IC	Incomplete grade for courses graded A, B, C, no credit grade
CI	Incomplete grade for courses graded S/CR/NC

**GRADES FOR COLLEGE OF LAW**-Effective fall semester 2006, the College of Law awards numerical grades and grades of satisfactory/no credit. Numerical grades are reported in 0.1 increments with 0.0 being the lowest possible grade, 0.8 the lowest passing grade and 4.3 the highest grade possible. Grades of 4.1-4.3 are considered to reflect extraordinary performance. Grade point averages will be rounded to the nearest tenth point by the college when determining class rank and honors distinctions although the official university transcript reflects averages rounded to the hundredth decimal place.

**CREDIT LEVEL AND NUMBERING SYSTEM**

U-Undergraduate level courses numbered 100(0) – 400(0)  
G-Graduate level courses numbered 500(0) and 600(0)  
L-Law level courses  
V-Veterinary Medicine level courses  
S or R in the course number signifies a service or research course  
N in the course number signifies an internship course

**TRANSFER POLICY**-(Effective fall quarter 1985)-Transfer hours are counted for degree programs but are not computed in the UT grade point average for courses transferred after summer quarter 1985.

**GOOD STANDING**-Unless otherwise noted by 'ACADEMIC DISMISSAL' student is in good standing and eligible to enroll.

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# SULI PROGRAM APPLICATION RECOMMENDATION FOR SAMUEL FARMER

## Recommender Contact Information

- **First Name:** Lawrence
- **Last Name:** Heilbronn
- **Title:** John D. Tickle Professor
- **Department:** Nuclear Engineering
- **Institution/Organization:** University of Tennessee
- **Telephone:** 510-734-5120
- **Email:** lheilbro@utk.edu

## Applicant Information

### Association

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

Samuel Farmer was a student in my "Introduction to Radiological Engineering" course that was taught during spring semester 2021. The course is required for all nuclear engineering majors at UTK.

### 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.

Samuel earned a high B in the course he took from me. Because of COVID restrictions, the course was taught in hybrid mode, where students were encouraged to attend at least one of the three classes offered during the week and then watch the other two weekly lectures as they were simultaneously broadcasted over Zoom. To earn a B or an A in the course took a good deal of discipline and effort, as many students found it easy to rely on recorded lectures that may have delivered the material, but did not provide a direct, live interaction with the professor and fellow students. Samuel made at least one lecture per week in the classroom, and he participated by asking questions both in class and online. His work ethic was very good.

I have no knowledge of his research skills, I've only had him in class. He did ask about research opportunities while taking the class, so I would rate his desire to conduct research as very good. Because of COVID restrictions on lab access at the time, I wasn't able to provide a research opportunity. However, I would certainly consider him for a position if the opportunity is there. His academic ability was probably in the top 35-40 percent of his class, and his enthusiasm to work in the lab was probably in the upper 20 percent of his class.

## 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 SAMUEL FARMER

## Recommender Contact Information

- **First Name:** James
- **Last Name:** Stanley
- **Title:** Environmental Engineer
- **Department:** SWRO Air Division
- **Institution/Organization:** VA DEQ
- **Telephone:** 276-608-3065
- **Email:** rstan0214@yahoo.com

## Applicant Information

### Association

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

I have known Sam Farmer for many years (15+) and would like to provide him a strong recommendation for this exciting opportunity with the Department of Energy Science Undergraduate Laboratory Internships. I live in Lebanon, VA which is also Sam's hometown. He and his family live in close proximity to my home in downtown Lebanon and we are neighbors. I have followed Sam's activities and achievements in our community for many years.

### 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.

Sam has demonstrated excellent character, a strong educational background, and great work ethic. I feel he would be an asset to the Department of Energy Science Undergraduate Laboratory Internships. I know he is very interested in this opportunity and the potential it has for his professional growth. He has demonstrated maturity and discipline by attending UTK in nuclear engineering. He just completed the Fall semester with a 4.0 GPA. I know first-hand the importance of an opportunity like this as I gained valuable experience through an internship at the Department of Energy Savannah River Site. This opportunity with SULI will be excellent for Sam and I know that he is very excited about the future. I am happy to recommend Sam for this program and know that SULI will be pleased with his performance.

Sincerely,  
J. Reed Stanley, P.E.

## 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