

INDIANA UNIVERSITY OF PENNSYLVANIA'S 2024

GENCYBER STUDENT CAMP

CAMP DATES: JUNE 24-28, 2024

ONLINE PRE/POST CAMP DATES: 4/13/24, 5/4/24, 9/7/24, & 10/5/24

CAMP DETAILS

- Advanced face-to-face cybersecurity camp for middle/high school students.
- Learn detailed information about cybersecurity.
- Learn hacking defense techniques.
- Acquire skills to land your dream job.

ADVANTAGES

- Offered at no cost!
- An Electronic Kit for each participant!
- FREE lunch and snack!
- Instruction and mentorship from IUP faculty and other experts!
- Skills and knowledge for a growing career field!

Through this opportunity, you will learn safe online behavior, increase knowledge of cyberspace, and explore cybersecurity careers.

Apply NOW, space is limited: www.iup.edu/iupgencyber

QUESTIONS

Email gen-cyber@iup.edu

CAMP LOCATION

IUP Main Campus

PROJECT DIRECTOR

Dr. Waleed Farag

THE IUP GENCYBER PROGRAM IS
PROUDLY SPONSORED BY:



PARTICIPATION ADVANTAGES

Offered at no cost!

**An Electronic Kit for
each participant!**

**FREE lunch and
afternoon snack!**

**Instruction and
mentorship from
IUP faculty and
other experts!**

**Skills and
knowledge for a
growing career
field!**

HOW TO APPLY

Applications are accepted
online only. To apply or view
other important program
information, please visit:

www.iup.edu/iupgencyber



PROGRAM DATES

**In-person Camp,
June 24 - 28, 2024**

**Online pre-camp activity days
(4/13/24 & 5/4/24) and
post-camp activity days
(9/7/24 & 10/5/24).**

PROGRAM DIRECTOR

Dr. Waleed Farag
Director, Institute for Cybersecurity

**IUP GENCYBER IS
SPONSORED BY:**



**SUMMER 2024
GENCYBER
STUDENT CAMP**

**Proudly Presented by:
IUP & NSA**

IUP GENCYBER

GenCyber is a national initiative that is supported by the National Science Foundation and the National Security Agency.

GENCYBER GOALS

- Ignite, sustain, and increase awareness of K12 cybersecurity content and cybersecurity postsecondary and career opportunities for participants through year-round engagement
- Increase student diversity in cybersecurity college and career readiness pathways at the K-12 level
- Facilitate teacher readiness within a teacher learning community to learn, develop, and deliver cybersecurity content for the K-12 classroom in collaboration with other nationwide initiatives

THE FUNDED GRANT

Under the leadership of Dr. Waleed Farag, grant PI, IUP, along with a selected group of national universities, has again been awarded funding for nine years in a row to run the GenCyber program in 2024.

This year, the camp is open to middle and high school students. The prospective camp will address essential security concepts in an interesting, novel approach to foster interest in cybersecurity among middle and high school students in western Pennsylvania.

Visit

www.iup.edu/iupgencyber
for full grant details.

PROGRAM SUMMARY

This is a free, five-weekday day camp in summer 2024 (daily schedule from 9 AM - 4:00 PM), two online pre-camp activity days, and two online post camp activity days (daily schedule from 9 AM - 3 PM).

Instruction will be delivered by a team of professors with varied backgrounds but established expertise in cybersecurity teaching and research.

The program provides a uniformly distributed, engaging blend of delivery that includes direct instruction, group activities, hands-on labs, and informal instructional techniques to individual and combined cohorts.

SATURDAY, APRIL 13, 2024 – PRE CAMP DAY 1

Proudly sponsored by:



Middle School Students

High School Students

9:00 AM – 10:45 AM

Session 1
*Welcome, Introduction to Team Members, Orientation,
 Logistics, Pre-Camp Survey and Introduction to Cybersecurity Concepts*
 Dr. Waleed Farag

10:45 AM – 10:50 AM

BREAK

10:50 AM – 12:35 PM

Session 2
Master the Cybersecurity Lingo
 Mr. George Karnbauer

Session 2
*Cybersecurity Fundamentals and
 GenCyber Concepts*
 Dr. Raj Ezekiel

12:35 PM – 1:15 PM

BREAK

1:15 PM – 3:00 PM

Session 3
*Security-Aware
 Programming Part I*
 Mr. Eric Pino

Session 3
*Protecting Integrity via Strong
 Hash Algorithms Part I*
 Dr. Xin-Wen Wu

SATURDAY, MAY 4, 2024 – PRE CAMP DAY 2

9:00 AM – 10:45 AM

Session 1
*Career Opportunities in
 Cybersecurity*
 Mr. George Karnbauer

Session 1
*Protecting Integrity via Strong
 Hash Algorithms Part II*
 Dr. Xin-Wen Wu

10:45 AM – 10:50 AM

BREAK

10:50 AM – 12:35 PM

Session 2
Introduction to Networking
 Mr. George Karnbauer

Session 2
*Security-Aware
 Programming Part I*
 Mr. Eric Pino

12:35 PM – 1:15 PM

SNACK BREAK

1:15 PM – 3:00 PM

Session 3
*Security-Aware
 Programming Part II*
 Mr. Eric Pino

Session 3
Red Team Strategies Part I
 Dr. Raj Ezekiel

MONDAY, JUNE 24, 2024 – CAMP DAY 1

Proudly sponsored by:



Middle School Students
112A Stright Hall (unless otherwise noted)

High School Students
107 Stright Hall (unless otherwise noted)

9:00 AM – 9:50 AM

Session 1.1
Camp Orientation and Logistics
Dr. Waleed Farag (Leonard 126)

9:50 AM – 10:00AM

BREAK

10:00 AM – 10:50 AM

Session 1.2
Tour of IUP Server Room and IUP Network Security Infrastructure
IUP IT Security Team

10:50 AM – 11:00 AM

BREAK

11:00 AM – 11:50 AM

Session 2.1
Data Concealing for Digital Privacy Protection
Dr. Xin-Wen Wu

Session 2.1
Security-Aware Programming Part II
Mr. Eric Pino

11:50 AM – 1:00 PM

LUNCH BREAK

1:00 PM – 1:50 PM

Session 2.2
Data Concealing for Digital Privacy Protection
Dr. Xin-Wen Wu

Session 2.2
Security-Aware Programming Part II
Mr. Eric Pino

1:50 PM - 2:00 PM

BREAK

2:00 PM – 2:50 PM

Session 3.1
History of Cryptography
Ms. Jacquie Gentile

Session 3.1
Data Concealing for Digital Privacy Protection Part I
Dr. Xin-Wen Wu

2:50 PM – 3:10 PM

SNACK BREAK

3:10 PM – 4:00 PM

Session 3.2
History of Cryptography
Ms. Jacquie Gentile

Session 3.2
Data Concealing for Digital Privacy Protection Part I
Dr. Xin-Wen Wu

TUESDAY, JUNE 25, 2024 – CAMP DAY 2

Proudly sponsored by:



Middle School Students

High School Students

9:00 AM – 9:50 AM

Session 1.1
Cyber Explorers: Generative AI in Action

Guest Speakers Ms. Joti Balani and Mr. Raj Sakthi

Session 1.1
Network Traffic Investigation Part I
Dr. Xin-Wen Wu

9:50 AM – 10:00AM

BREAK

10:00 AM – 10:50 AM

Session 1.2
Cyber Explorers: Generative AI in Action

Guest Speakers Ms. Joti Balani and Mr. Raj Sakthi

Session 1.2
Network Traffic Investigation Part I
Dr. Xin-Wen Wu

10:50 AM – 11:00 AM

BREAK

11:00 AM – 11:50 AM

Session 2.1
Security Achieved by Decentralization
Dr. Xin-Wen Wu

Session 2.1
Cyber Intelligence: Dynamics of AI Attach Vectors
Guest Speakers Ms. Joti Balani and Mr. Raj Sakthi

11:50 AM – 1:00 PM

LUNCH BREAK

1:00 PM – 1:50 PM

Session 2.2
Security Achieved by Decentralization
Dr. Xin-Wen Wu

Session 2.2
Cyber Intelligence: Dynamics of AI Attach Vectors
Guest Speakers Ms. Joti Balani and Mr. Raj Sakthi

1:50 PM - 2:00 PM

BREAK

2:00 PM – 2:50 PM

Session 3.1
Personal Cybersecurity
Ms. Jacquie Gentile

Session 3.1
Robotics and Algorithm Development Part I
Dr. Raj Ezekiel

2:50 PM – 3:10 PM

SNACK BREAK

3:10 PM – 4:00 PM

Session 3.2
Personal Cybersecurity
Ms. Jacquie Gentile

Session 3.2
Robotics and Algorithm Development Part I
Dr. Raj Ezekiel

WEDNESDAY, JUNE 26, 2024 – CAMP DAY 3

Proudly sponsored by:



Middle School Students

High School Students

9:00 AM – 9:50 AM

Session 1.1
Computational Thinking
Ms. Jacquie Gentile

Session 1.1
Network Traffic Investigation Part II
Dr. Xin-Wen Wu

9:50 AM – 10:00AM

BREAK

10:00 AM – 10:50 AM

Session 1.2
Computational Thinking
Ms. Jacquie Gentile

Session 1.2
Network Traffic Investigation Part II
Dr. Xin-Wen Wu

10:50 AM – 11:00 AM

BREAK

11:00 AM – 11:50 AM

Session 2.1
Security Aware Programming Part III
Mr. Eric Pino

Session 2.1
Red Team Strategies Part II
Dr. Raj Ezekiel

11:50 AM – 1:00 PM

LUNCH BREAK

1:00 PM – 1:50 PM

Session 2.2
Security Aware Programming Part III
Mr. Eric Pino

Session 2.2
Red Team Strategies Part II
Dr. Raj Ezekiel

1:50 PM - 2:00 PM

BREAK

2:00 PM – 2:50 PM

Session 3.1
Pros and Cons of Cashless Society
Ms. Jacquie Gentile

Session 3.1
Ensuring Availability: Troubleshooting Techniques
Mr. George Karnbauer

2:50 PM – 3:10 PM

SNACK BREAK

3:10 PM – 4:00 PM

Session 3.2
Pros and Cons of Cashless Society
Ms. Jacquie Gentile

Session 3.2
Ensuring Availability: Troubleshooting Techniques
Mr. George Karnbauer

THURSDAY, JUNE 27, 2024 – CAMP DAY 4

Proudly sponsored by:



Middle School Students

High School Students

9:00 AM – 9:50 AM

Session 1.1
Using Offensive Security to Identify and Mitigate Threats
 Guest Speaker Mr. Drew Rado

Session 1.1
Security Aware Programming Part III
 Mr. Eric Pino

9:50 AM – 10:00AM

BREAK

10:00 AM – 10:50 AM

Session 1.2
Using Offensive Security to Identify and Mitigate Threats
 Guest Speaker Mr. Drew Rado

Session 1.2
Security Aware Programming Part III
 Mr. Eric Pino

10:50 AM – 11:00 AM

BREAK

11:00 AM – 11:50 AM

Session 2.1
Intro to Digital Forensics
 Dr. Raj Ezekiel

Session 2.1
Using Offensive Security to Identify and Mitigate Threats
 Guest Speaker Mr. Drew Rado

11:50 AM – 1:00 PM

LUNCH BREAK

1:00 PM – 1:50 PM

Session 2.2
Intro to Digital Forensics
 Dr. Raj Ezekiel

Session 2.2
Using Offensive Security to Identify and Mitigate Threats
 Guest Speaker Mr. Drew Rado

1:50 PM - 2:00 PM

BREAK

2:00 PM – 2:50 PM

Session 3.1
Sharing What You've Learned with Others
 Ms. Jacquie Gentile

Session 3.1
Digital Forensics
 Mr. George Karnbauer

2:50 PM – 3:10 PM

SNACK BREAK

3:10 PM – 4:00 PM

Session 3.2
Sharing What You've Learned with Others
 Ms. Jacquie Gentile

Session 3.2
Digital Forensics
 Mr. George Karnbauer

FRIDAY, JUNE 28, 2024 – CAMP DAY 5

Proudly sponsored by:



Middle School Students

High School Students

9:00 AM – 9:50 AM

Session 1.1
*Ensuring Availability:
 Troubleshooting Techniques*
 Mr. George Karnbauer

Session 1.1
*Robotics and Algorithm
 Development Part II*
 Dr. Raj Ezekiel

9:50 AM – 10:00AM

BREAK

10:00 AM – 10:50 AM

Session 1.2
*Ensuring Availability:
 Troubleshooting Techniques*
 Mr. George Karnbauer

Session 1.2
*Robotics and Algorithm
 Development Part II*
 Dr. Raj Ezekiel

10:50 AM – 11:00 AM

BREAK

11:00 AM – 11:50 AM

Session 2.1
End of Camp Competition Set-Up
 Ms. Jacquie Gentile, Mr. George Karnbauer, Mr. Eric Pino

11:50 AM – 1:10 PM

LUNCH BREAK

1:10 PM – 2:50 PM

Session 2.2
End of Camp Competition
 Ms. Jacquie Gentile, Mr. George Karnbauer, Mr. Eric Pino

2:50 PM – 3:10 PM

BREAK

3:10 PM – 4:00 PM

Session 3
Camp Conclusion and Surveys
 Dr. Waleed Farag