

February 13, 2017

**Please distribute to the Guidance Office, Mathematics, and Technology Education**

Dear Director of Guidance, Mathematics/Science/Technology Educator:

The Electrical and Computer Engineering Department at TCNJ offers an **Annual Summer Robotics Camp** with high-quality, innovative, and powerful learning experiences for students.

The **2017 Annual Summer Robotics Camp** is for high school students and it will take place from July 30 – August 4.

Participants in the camp will experience residential collegiate life at the beautiful campus of TCNJ and get a behind-the-scenes look at how robotics works. They will then apply their skills to their own robotics-related projects that culminate in a competition, and they get to keep their robot. This highly structured youth program offers the fun of robotics in a social and team-based environment.

- Our goal is to deliver a summer technology program using curriculum and teaching models that engage students and enhance their academic performance.
- We aim to instill in students essential leadership, communication, and planning skills.
- We only use state-of-the-art computers and industry leading software, and curricula delivered by TCNJ's expert professors.

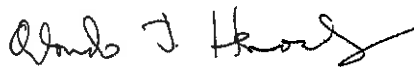
We hope you inform your students of the availability of this program. Enclosed you will find a brochure and a flyer with more details. You can also visit us online at <http://precollege.tcnj.edu/tcnj-robotics-summer-camp/>.

We look forward to serving your students through this camp this summer!

Sincerely,



Seung-yun Kim, Ph.D., Camp Director  
Electrical and Computer Engineering Department



Orlando J. Hernandez, Ph.D., Chair  
Electrical and Computer Engineering Department

Encl.



**TCNJ** THE COLLEGE OF  
NEW JERSEY

# ROBOTICS

## Summer Camp

July 30- Aug. 4, 2017



### A TYPICAL DAY AT CAMP

#### INCLUDES:

- Interesting electrical and computer engineering sessions each morning and afternoon, and their application to your robot
- Hands-on robot building, programming, and utilization facilitated by TCNJ faculty and students
- Site visits to facilities where state of the art electronic and computer technology is being developed
- A prominent guest speaker from the Electronics/Computer Industry
- Fun evening activities

High school students are invited to apply for an intensive summer Robotics Camp offered by the Department of Electrical and Computer Engineering at The College of New Jersey (TCNJ), and sponsored by the Institute of Electrical and Electronics Engineers (IEEE) and the Association for Computing Machinery (ACM).

The intent of the camp is to motivate the most creative minds of a new generation of prospective Electrical and Computer Engineers to become global leaders in an increasingly technological world. The program aims to create a community of students who participate in and contribute to an intensive and powerful academic experience delivered by distinguished educators and professionals.

Camp participants will be introduced through a residential College academic experience to the exciting field of Electrical and Computer Engineering, and will learn topics not traditionally taught in High Schools such as Microcontroller Programming, Sensing Systems, Digital Electronics, and more.

### WHO SHOULD APPLY?

Eligible camp participants are high school students who rank at the top 30% of their class, have an interest in engineering, and have successfully completed one year of college prep mathematics (preference will be given to those who have completed algebra).



**APPLICATION DEADLINE: MAY 15<sup>th</sup> 2017**

FOR MORE INFORMATION, VISIT OUR WEBSITE:

<http://precollege.tcnj.edu/tcnj-robotics-summer-camp/>



# ENTER THE WORLD OF ROBOTICS

High school students are invited to apply for an intensive summer Robotics Camp offered by the Department of Electrical and Computer Engineering at The College of New Jersey (TCNJ), and sponsored by the Institute of Electrical and Electronics Engineers (IEEE) and the Association for Computing Machinery (ACM).

The intent of the camp is to motivate the most creative minds of a new generation of prospective Electrical and Computer Engineers to become global leaders in an increasingly technological world. The program aims to create a community of students who participate in and contribute to an intensive and powerful academic experience delivered by distinguished educators and professionals.

Camp participants will be introduced through a residential College academic experience to the exciting field of Electrical and Computer Engineering, and will learn topics not traditionally taught in High Schools such as Microcontroller Programming, Sensing Systems, Digital Electronics, and more.

The participant will work with Electrical and Computer Engineering students and professors, and interact with professional engineers from the industry.

TCNJ offers a superior learning environment, and these experiences take place in specialized laboratories.



### CONTACT INFORMATION

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Electrical and Computer Engineering

The College of New Jersey

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EMAIL: KimS@tcnj.edu

<http://precollege.tcnj.edu/tcni-robotics-summer-camp/>

learning and fun.

TV and tune into a new world of  
This Summer, get kids to turn off the

Ewing, New Jersey 08628-0718

2000 Pennington Road

The College of New Jersey

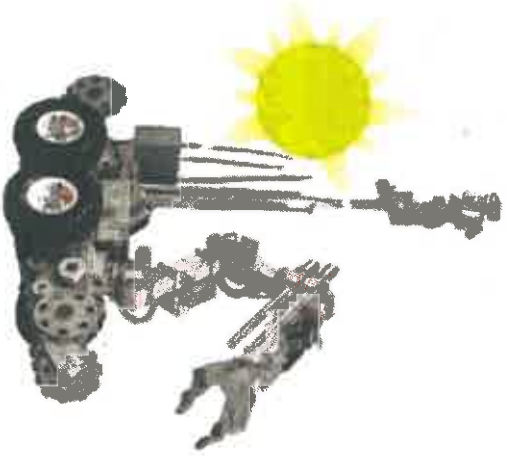
Electrical and Computer Engineering



# ROBOTICS

## Summer Camp

July 30- Aug. 4, 2017





## WHAT IS ROBOTICS?

Robotics is the science and technology of robots, their design, manufacture, and application. It requires a working knowledge of electronics, software, and mechanics. Before the coining of the term robotics, there was interest in ideas similar to robotics (namely automata and androids) dating as far back as 400 BC. Robotics are used in industrial, military, exploration, home making, and academic and research applications. Although the appearance and capabilities of robots vary vastly, all robots share the features of electronic sensors, and a movable structure under some form of autonomous electronics, computer, and software control.



## TCNJ ROBOTICS CAMP:

Students will build, program, and use their own robot. Each participant will receive a robotics kit, and at the end of the camp they get to take home their own robot. The Kit provides everything necessary to build an expandable robotics platform. During the process of building their robot, students get to perform a series of activities, which culminate with a robotics competition.

The activities introduce motor control and interfacing your robot to the human world to avoid objects, following light, provide sound and light feedback, communications, and computer vision.

## WHO SHOULD APPLY?

Eligible camp participants are high school students who rank at the top 30% of their class, have an interest in robotics or engineering, and have successfully completed one year of college prep mathematics (preference will be given to those who have completed algebra).

## A TYPICAL DAY AT CAMP

### INCLUDES:

- Interesting electrical and computer engineering sessions each morning and afternoon, and their application to your robot.
  - Hands-on robot building, programming, and utilization facilitated by TCNJ faculty and students.
  - Site visits to facilities where state of the art electronic and computer technology is being developed, and meeting with practicing engineers.
  - Fun evening activities.
- At the end of the week, a prominent guest speaker from the Electronics/Computer Industry will give a special presentation about their organization and the industry.



## LOCATION & COST



The camp will be held at the beautiful campus of The College of New Jersey, Ewing, NJ. Participants stay in a TCNJ air-conditioned residence dorm and are chaperoned by electrical and computer engineering students.

### Program Dates:

Fundamental Session: July 30-August 4, 2017

### Cost of the camp:

\$2,071. All students accepted to the camp will receive a \$500 scholarship.

**TOTAL COST: \$1,600 (includes a non-refundable \$29 application fee)**

This covers robot kit, electronic parts, tuition, educational materials, room and board, and entertainment expenses. Camp participants must provide their own transportation to and from Ewing, New Jersey.

Limited number of seats are available for this program. Interested students should submit an application as early as possible. Apply online at:

<https://precollege.tcnj.edu/tcnj-robotics-summer-camp/>

All applications must be received by May 15, 2017.

All applicants will be notified by May 31, 2017.

**PAYMENT WILL BE DUE JUNE 15, 2017.**