A message from the Dean:

As you are about to embark on an exciting decision of attending or returning to college, we want to take this opportunity to welcome you! STEM courses can be challenging throughout your journey here at OCC. We appreciate the hard work and dedication it takes to complete a rewarding STEM program. Your instructors are always open to fresh perspectives and philosophies, so please share your ideas with them!

For some of you, this may be your first semester here at OCC. Our faculty hope you stay engaged as you move onto a new chapter as an OCC student. For those continuing your career, we look forward to providing you with the best education possible.

- Dr. Sylvia Riviello

CONTACT:
DR. SYLVIA RIVIELLO
Dean, School of Science,
Technology, Engineering & Math
sriviello@ocean.edu

STEM CENTER

STEM is excited to share that our students have various options to attend tutoring within the STEM Center, including face-to-face sessions as well as on-line remote sessions. We have also expanded hours to accommodate student availability; for example, the STEM Center has appointments available after 5 p.m. and on the weekends (weekend availability is limited to synchronous support at this time). In addition, the STEM Center has adopted HyFlex support, allowing us to transform our drop-in and group tutoring sessions and provide students the option to attend in person or remotely. Clearly, students are taking advantage of these opportunities since our return to campus. The STEM Center has seen about 1,300 sessions last Fall. Although the majority of sessions (68%) were on campus, the online sessions continue to be popular as well. Online sessions have only seen a 13% decrease compared to a similar time period last fall, when tutoring was strictly online. The STEM Center has had forty nine drop-in sessions so far, compared to the four drop-ins during a similar time period in the 2020 fall semester.

Here is what one student had to say about their experience with the STEM Center:

"I can't say enough how grateful I am for the tutoring center. As a returning student, the value of having someone work with you in the areas for which you lack the foundation of experience or good schooling is priceless. My success is due to their dedication, patience and passion to help, teach, tutor. Thank you!"

A SLICE OF PI
NEWSLETTER
MATHEMATICS DEPARTMENT

OCEAN
COUNTY COLLEGE

Highlights of Math Club Event:
Mathemalchemy - A Virtual Tour of the Mathematical Art Exhibit by Dr. Samantha Pezzimenti
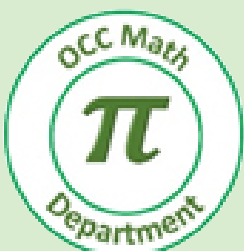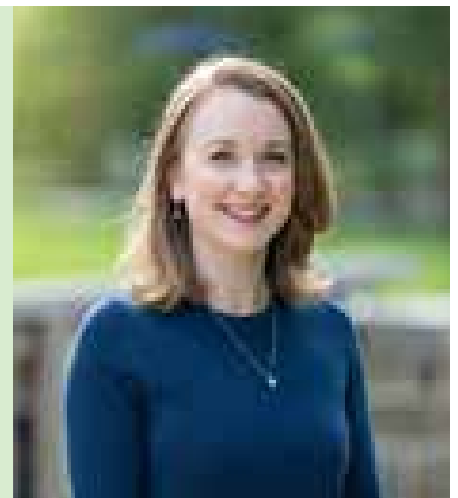

MATH

"While math has always been used in creating art, math can also be the inspiration for the art itself."
-Samantha Pezzimenti.

During this event, Dr. Samantha Pezzimenti shared her talk with Ocean County College students about her Mathemalchemy exhibition. Twenty-four mathematicians and artists are collaborating to put the finishing touches on this large-scale mathematical art installation, which will go on tour in the coming year. In this presentation, Dr. Pezzimenti gave a virtual tour of the art exhibit and explained the mathematics concept behind it. The presentation ended with the Origami Workshop, where the participants created cube (mathematical art) using six pieces of square paper to take home.

Math Club meets on the first Friday of every month in INST 115, as well as in WebEx. The four officers, Madison (President), Kylie (Vice President), Marianna (Secretary) and Ellison (Treasurer), are working very hard along with advisors to bring OCC students fun ways of being involved in a mathematical world. Please plan to join Math Club for all of the future events. If you have any questions, please email jkim@ocean.edu

WELCOME TO OUR NEW MATH LECTURERS!

Please give a warm welcome to Paul Kuehne.

Paul Kuehne was hired as an adjunct at Ocean County College in 2018 and became a full-time College Lecturer II, Mathematics in 2020. Previously, Paul worked in several colleges and universities where he taught a variety of mathematics, including Westmoreland College, Northampton Community College, Bloomsburg University and Delaware Valley University, in addition to holding other prominent positions such as acting Dean at Westmoreland and Director, Developmental Education at Northampton. Paul also has a professional background working for Dell as the Director, Technology Services and at Hewlett-Packard as a Professional Services District Manager. Paul earned a master's degree in Mathematics from Villanova University and an MBA from Corllins University in Santa Clara, CA. He enjoys reading biographies and history and playing golf. Welcome to OCC, Paul!

Please give a warm welcome to Nancy Rizzuto.

Nancy Rizzuto was hired as an adjunct at Ocean County College in 2017 and became a full-time College Lecturer II, Mathematics in July of 2021. Previously, Nancy worked as an adjunct at Brookdale Community College and Monmouth University, teaching a variety of mathematics courses. Nancy has a professional background working as a Structural Engineer at Thornton Tomasetti Engineers, designing steel and concrete buildings in New York City for five years. Nancy earned a master's degree in Structural Engineering from Rutgers University. She keeps busy with three children and three dogs, and enjoys sailing and skiing. Welcome to OCC, Nancy!

The Office of **COMPUTER STUDIES**

NEWSLETTER

SCHOOL OF SCIENCE | TECHNOLOGY | ENGINEERING | MATHEMATICS

OCEAN
COUNTY COLLEGE

ON CAMPUS

The College and Computer Science faculty continue to work hard to ensure our face-to-face learning experience is as good, if not better, than the past. An example of this hard worked was the introduction of our Artificial Intelligence program where the first course started in the spring of 2022.

New courses in the realm of cybersecurity – CSIT 200-Information Security Fundamentals – being offered are also a part of the new Cyber Security and Artificial Intelligence programs. Still, we are always open to your perspective as a student, so please let us know your thoughts on what is working and what isn't.

DID YOU KNOW…

The CS department is pleased to welcome a new faculty member, Helga Paggi. Helga earned her master's degree at Cornell University and was a former Vice President at AT&T's Integration Testing Laboratory, an adjunct professor at OCC, and CS teacher at a local high school.

The Computer Science Club is rebooting with an online presence and special activities. See the Club News. Joining is easy. Just click on the self-enrollment link: https://ocean.instructure.com/enroll/TC9HDJ.

FALL COURSES

CSIT110 – Introduction to Computers
CSIT115 – Introduction to Computer Game Development
CSIT123 – Integrated Office Software
CSIT126 – Integrated Spreadsheets and Databases
CSIT124 – Introduction to Programming
CSIT131 – Multimedia for the Web
CSIT144 – Introduction to Operating Systems Using Unix
CSIT163 – Introduction to C++ Programming
CSIT165 – Programming I
CSIT166 – Programming II
CSIT168–Introduction to Python Programming
CSIT175 – Digital Logic & Circuits

CSIT176 – Computer Organization
CSIT185 – Networking I
CSIT191 – Introduction to Artificial Intelligence
CSIT200 – Information Security Fundamentals
CSIT212 – Systems Analysis
CSIT213 – Database Management
CSIT240 – Ethical Hacking Techniques & Tools
CSIT265 – Data Structures and Analysis

CS TIP LINE

Hi Dr. Cohen,
I heard that there is yet another programming course. I've already taken some. Should I consider this one as well? - Thanks. Cpp.h
Dear Cpp.h,
The new course, *CSIT124-Introduction to Programming*, is a programming course for non-programmers. Intended for engineering students and others, e.g., math or business majors, the basic principles of programming and an introduction to some languages like *Python and Matlab* will be taught.

Have an item you'd like to share or a question you need answered? Contact Dr. Cohen (gcohen@ocean.edu).

CONTACT:
Dr. GERALD COHEN
Computer Studies
College Lecturer
gcohen@ocean.edu
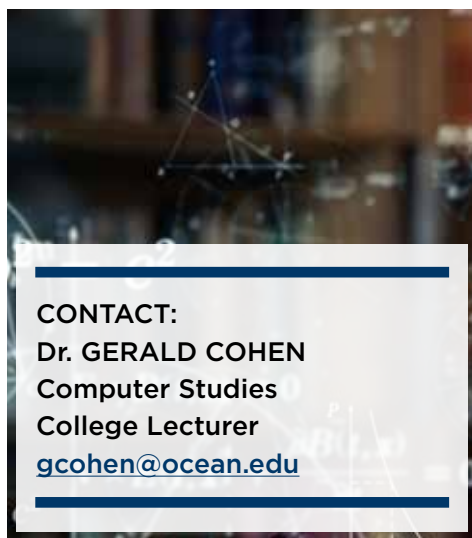
CLUB NEWS

Computer Science Club:

Club members have decided gaming is a good way to get started in technology trends and enrich their knowledge.

A special Canvas website has been established to not only serve as a remote gathering place, but also to host special events and activities. Joining is simple – self-enroll using the following link: https://ocean.instructure.com/enroll/TC9HDJ

If you have an interest in a specific topic that you would like to explore or share, please contact Dr. Cohen (gcohen@ocean.edu or Michael Erbaturakis (merbaturakis@students.ocean.edu).

MAKERS CLUB

This is a group of self-motivated, technology-based DIYers or inventors getting together to be more creative and productive in a teamwork environment. Members utilize common objects or scrapped parts from our daily life to make useful things. There is no limitation on what we can do. Imagination is our driving force, hands-on is our culture, and science and technology are our tools. Proposed activities are to promote projects such as Arduino control/ robotics programming in a virtual environment. We welcome new members to join our club. Details will be announced on Ocean Connect soon. Contact Prof. Hong (ehong@ocean.edu) for details.

CYBERSECURITY CLUB

The Computer Science Department has launched a new Cybersecurity Club. The club is student-ran, and its president Zachary Soricelli, and Professor Jon Weiss the faculty advisor. The purpose of the club is to learn about cybersecurity and to apply those learnings to compete in "Capture the Flag" events. So far, the club has 15 members and has hosted several activities, including:

- A presentation on " The Story of Secure Unix" by Professor Weiss, a first-hand account of the roles a famous astronaut, a famous cryptographer, and an infamous hacker played in the development of the first general purpose operating system approved for mixing classified and unclassified data on the same platform.
- An overview of CSAW '21 Cybersecurity Games and Conference by Stef Daley from New York University, the coordinator of the event; and
- A description of a virtual lab environment and toolset that may be used as a practice platform for the team's competitive activities.

Students may self-enroll in the Canvas page club at: https://ocean.instructure.com/enroll/ATNRAH

For more information, email zachary_soricelli@students.ocean.edu.

CONTACT:
PROF. EDMOND HONG
College Lecturer II,
Computer Science
ehong@ocean.edu

INTRODUCING THE NEW

ARTIFICIAL INTELLIGENCE PROGRAM

OCC ARTIFICIAL INTELLIGENCE
Associates in Applied Science (AAS) in Computer Science with a concentration in Artificial Intelligence

OCC teamed up with Maricopa Community College when developing its own certification. Courses include:

- CSIT-191
  Intro to AI - offered Spring 2022
- CSIT-192
  Machine Learning - coming Fall 2022
- CSIT 291
  Computer Vision - Spring 2023
- CSIT 292
  Natural Language Processing - Spring 2023
- CSIT 295
  AI Capstone

Program is 60 credits in total

- English, 3 Math courses, Programming I, Python Programming, Database, 2 CSIT electives, etc.

CSIT 191 -
Introduction to Artificial Intelligence – Spring 2022

- This course introduces the student to the emerging field of Artificial Intelligence and its applications.
- Students will be provided a basic understanding of what comprises the many fields of Artificial Intelligence.
- Students will also explore how AI is used in machine learning and neural networks.
- Topics covered include the various areas of machine learning such as supervised learning, unsupervised learning, and reinforcement learning as well as neural network applications such as computer vision and natural language processing.
- This course will also examine and discuss the impacts of AI in the world, in the students' daily lives, and the potential impacts to their careers.
- Available to all majors.

If you have any questions about these offerings, or the current version of CSIT 200 being delivered in the up-coming semesters, please e-mail Professor Michalek at kmichalek@ocean.edu or Professor Weiss at jweiss@ocean.edu.
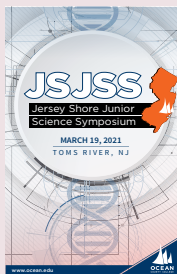
JERSEY SHORE JUNIOR SCIENCE SYMPOSIUM

The Jersey Shore Junior Science Symposium is a regional symposium for the national Junior Science and Humanities Symposium. It is sponsored by the Department of Defense and administered by the National Science Teaching Association. Ocean County College has been proud to host this competition annually for five years. The competition is for high school STEM students to showcase their research in areas of Environmental Science, Biomedical Sciences, Life Sciences, Medicine and Health/ Behavioral Sciences, Engineering and Technology, Mathematics and Computer Science, Physical Sciences and Chemistry.

They compete for the opportunity to go to Nationals and win prize awards and college scholarships.

The 2021 Symposium was planned as a virtual event due to the pandemic. We were able to present one of the finest events under these unusual circumstances. This year set a precedent as Ryan Park, our first-place winner last year at Regionals and Nationals, placed first again at our Regional and third at Nationals for Oral Presentations. Two other JSJSS winners – Harnoor Sachar from Bergen Academies and Lana Van Note from MATES – took first and third in Poster Presentations in their categories: Biomedical Sciences and Environmental Science, respectively.

Ryan Park:

All in all, these students earn a considerable amount of college scholarships in recognition of their extraordinary talent, dedication, and intelligence. They learn so much from this experience, which prepares them for rigorous studies in the baccalaureate and doctoral degrees they pursue. Some of our previous students have gone on to early admission and full-ride scholarships to places like MIT. We are very proud to have been a part of their journey.

It takes many individuals helping in this endeavor. Research papers are redacted from any identity, screened for rules and regulations, reviewed by at least five researchers, professors, engineers, etc., and then scored. The top 16 are chosen out of approximately 75 submissions. They compete in oral and poster presentations to win the top five seats representing our region at the national competition. We are lucky to have wonderful support from our military personnel, college faculty, and our administration. None of this could happen without all of them.

Watch Ryan Park's presentation:
[Presentation Video Link](#)

Spring 2022 Science Honors by Contract

Do you have a GPA of 2.5 or higher? Honors by Contract is a wonderful way for high-achieving students to work with an instructor on a project or paper related to the course objective. There isn't any additional cost to participate, and students completing Honors by Contract courses will have this designation included on their transcript. If you complete four Honors by Contract courses and have a GPA of 3.5 or higher, you will graduate Ocean County College with the designation of an Honors Student. Ask your professor if they are participating this semester. For more information visit: https://www.ocean.edu/programs-and-courses/honors-by-contract/, or contact Christine Pericone, 732-255-0400, Ext. 2444, cpericone@ocean.edu

Honors by Contract:

If you are registered for a STEM course that participates in Honors by Contract, you will have the opportunity to participate in this research for your course. This is a wonderful way to gain hands-on experience and explore your interests. Each instructor that is participating below will give you more information on the Field/Laboratory opportunities.

Biology:
Dr. Caterina Gibson

Environmental Science:
Professor Lincoln Simmons

You may also ask your STEM professor if they are willing to take part in this opportunity. Your instructor can contact Dr. Caterina Gibson at: cgibson@occ.edu.

CONTACT:
CHRISTINE PERICONE
School of Science
Assistant Professor of Science
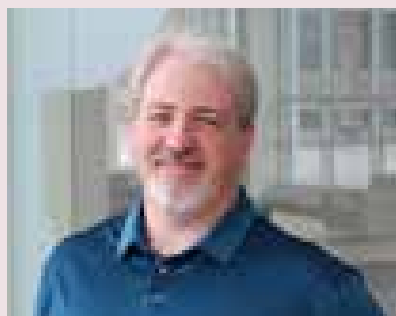cpericone@ocean.edu

Sunrise At Barnegat Bay Estuary
Photo by Michael Leon

VOLUNTEER AND INTERNSHIPS TO SUPPORT ARE AVAILABLE!

ReClam the Bay is a local, non-profit organization that promotes environmental involvement and education in a constructive and helpful way. Together with their staff, students, and volunteers, they grow and maintain millions of baby clams and oysters in the Barnegat Bay Watershed, which includes Barnegat Bay, Manahawkin Bay and Little Egg Harbor Bay.

The school of STEM is happy to announce that they will be partnering with ReClam the Bay to give students the opportunity to participate in several programs.

VOLUNTEER TO HELP AND IMPROVE THE ENVIRONMENT

Qualifications:
Students should have at least a C average status and have a genuine interest in the area in which they choose to volunteer. The areas include:
• Community Education and Engagement
• Field/Laboratory Research
• Habitat Biodiversity and Education

Intern expectations, responsibilities, and potential duties: These will be discussed related to the project.

Skills that will be developed: Will depend on the project and will be discussed with intern.

Duration/Hours: To be mutually agreed upon by student/volunteer as part of their requirements to earn volunteer hours to include on their resume.

FROM THE DESK OF PROFESSOR FARRELL

www.hosa.org

HOSA is a global student-led organization recognized by the U.S. Department of Education, the Department of Health and Human Services, and several federal and state agencies. HOSA's mission is to empower HOSA-Future Health Professionals to become leaders in the global health community, through education, collaboration, and experience. HOSA actively promotes career opportunities in the health industry and to enhance the delivery of quality health care to all people. HOSA's goal is to encourage all health science instructors and students to affiliate and be actively involved in the HSE-HOSA Partnership.

HOSA provides a unique program of leadership development, motivation, and recognition for secondary, postsecondary, middle school, adult, and collegiate students who are enrolled in health science education and biomedical science programs or have interests in pursuing careers in health professions. HOSA's mission is especially critical when considering the acute shortage of qualified workers for the health care industry. This shortage has been amplified by the COVID-19 pandemic. HOSA is 100% health care!

Since its inception in 1976, HOSA has grown steadily, reaching over 260,000 members through 54 chartered HOSA Associations, American Samoa, Canada, China, District of Columbia, and Puerto Rico.

CONTACT:
SCOTT FARRELL
Professor, Chemistry
School of Science
sfarrell@ocean.edu

WHAT'S HAPPENING IN STEM

Please join us on Wednesday evenings from 6:00 pm - 7:30 pm for our Lecture Series! Keep an eye out for our upcoming lineup!
New courses in Environmental Science:
  • Renewable Energy- ENVI 121
  • Carbon Foot Print Analysis- ENVI 134
  • Occupational Safety & Health- ENVI 217
  • Indoor Environmental Quality- ENVI 210
  • Life Cycles Analysis- ENVI 220
New course in Chemistry: Inorganic and Biological Chemistry rolled into one. Suitable for health-related pre-professional programs.
  • Principles of General, Organic, and Biochemistry- CHM 155