

Course of Study Engineering

Freshman

Introduction to Engineering	5 credits
Microsoft Office & Digital Literacy	5 credits
CP or Honors English I	5 credits
CP or Honors US History I (first semester)	5 credits
CP or Honors US History II (second semester)	5 credits
CP or Honors Level Mathematics	5 credits
CP or Honors Lab Biology	5 credits
CP or Honors Spanish I or Italian I	5 credits
Fitness for Life I	5 credits

Sophomore

College Level Engineering Clinic I	7.5 credits
Engineering I Technology	7.5 credits
CP or Honors English II	5 credits
CP or Honors Level Mathematics (first semester)	5 credits
CP or Honors Level Mathematics (second semester)	5 credits
CP or Honors Lab Chemistry	5 credits
CP or Honors Spanish II or Italian II	5 credits
insertssssFitness for Life II	5 credits

Junior

College Level Digital Electronics for Engineers	7.5 credits
College Level 3D Modeling – CADD	7.5 credits
CP or Honors Lab Science	5 credits
CP or Honors English III	5 credits
CP or Honors Mathematics	5 credits
CP, Honors or College Level World History	5 credits
Financial Literacy or Performing Arts or World Lang III	5 credits
Fitness for Life III or Fitness for Life III – Indep/Sports	5 credits

Senior

College Level Phys Fitness/Contemporary Health at RCSJ, Fitness for Life IV or Fitness for Life IV- Indep/Sports	5 credits
CP, Honors or College Level English Composition 101 at RCSJ	5 credits
Financial Literacy or Performing Arts or World Language IV or Electives	5-30 credits

Attention: Understand that registering for a college-level course, means college level credit will be awarded. Regardless of the final grade, this information will be posted to the student's PERMANENT academic transcript at Rowan College of South Jersey. Be aware that unsuccessful completion of these courses may negatively affect a students' eligibility for financial aid in the future.

Academy of Engineering – Freshman

Introduction to Engineering

5 credits

This course prepares students to understand and apply technological concepts and processes that are the cornerstone of the high school engineering education program. Students study the nature and technological issues of the designed world. Students engage in group and individual activities where they develop innovations, design, fabricate, and engineer practical solutions to a variety of problems using a selection of technologies including robotics, 3D printing and other advanced manufacturing technologies. Technology content, resources, and laboratory/classroom activities allow students to apply science, mathematics, and other school subjects in authentic situations.

Microsoft Office & Digital Literacy

5 credits

This course teaches the relevant computer concepts and skills needed in today's digital world. You'll learn practical, "real world" skills that can be applied on the job or in the classroom. From basic computer skills to file management and digital citizenship; students will gain a strong foundation before venturing into the world of word processing and spreadsheets and slideshow presentations using Word, Excel, and PowerPoint. This class also prepares the students for the Microsoft Office Specialist: Associate Certification which could lead to college credit for Computer Literacy.

Academy of Engineering – Sophomore

Engineering Technology

7.5 credits

Students build skills for success through research, experiments, and challenges that incorporate science, technology, engineering, and math concepts. Engineering Technology introduces students to a variety of different technologies. They gain experience with using measurement tools and instruments, and perform experiments with electrical circuits, mechanical, and fluid systems. The units of the class include: Alternative Energy, Architectural Design, Construction Technology, Environmental Technology, Manufacturing Technology, Materials Science, Robotics, and Automation and Biotechnology.

College Level Engineering Clinic I

7.5 credits

Engineering Clinic is the first of an eight-course series through Rowan College of South Jersey and Rowan University. This course presents an introduction to Engineering, communication, and measurement through application problems drawn from engineering disciplines. All learning is active and hands-on and includes topics such as technical communication formats, basic engineering software, an introduction to design, measurement, and engineering problem solving.

**Must meet college Placement Test Exemption.*

Academy of Engineering – Juniors

College Level Digital Electronics for Engineers

7.5 credits

This is an introductory course in digital electronics in which the basic concepts in digital electronics will be covered to include binary system, Boolean algebra, binary arithmetic, basic logic gates, combinational logic circuits analysis and design, flip-flops, sequential circuits analysis and design, digital

to analog and analog to digital conversions. Completion of a term project will be required. Laboratory work supports lecture topics. **Must meet college Placement Test Exemption.*

College Level 3D MODELING –CADD I

7.5 credits

Learning 3D design is an interactive process. Students learn best when they can explore the practical applications of the concepts that they learn. This course has many activities and exercises that enable students to put design concepts into practice. Students create their ideas such as artificial heart components, extreme sports equipment, hip replacement parts, robotic arm components, musical instruments and their parts as well as many others. Ideas become reality in this course as some of these items can be produced in the prototyping lab. One of the goals of the class is to have students pass the SolidWorks CSWA Certification which allows them to work as an engineering assistant/CAD technician. **Must meet college Placement Test Exemption.*

Academy of Engineering – Seniors

Engineering students may choose the following senior options:

1. Take HSOP courses on RCSJ's campus for a discounted fee.
2. Take College English Composition 101 and College Physical Fitness/Contemporary Health on RCSJ's campus and return to GCIT for elective courses that can be found under the "Elective" title in this course guide.
3. Take CP or Honors level English and Fitness for Life and additional electives on GCIT or RCSJ's campus.