Program Description

Mineola High School and CUNY Queensborough Community College (QCC) have partnered to offer our students a no cost opportunity to earn 30 college credits and a Certificate in Internet and Information Technology. This program is administered via the Connect2College (C2C) program at QCC. C2C administrators link the high school and the college not only by enrolling the students so that they receive college credit but by providing opportunities to experience and explore QCC as a viable option after graduation. This cohort program is an exciting chance for students to prepare themselves for a fast growing field where the job prospects are excellent. USA Today College reports that by 2022, job growth in this field will increase 20-25% with hundreds of thousands of new jobs becoming available.

Students will begin taking college courses in the high school and continue in their senior year on the Queensborough campus. At the end of their senior year, successful completion will earn them both a high school diploma and a Certificate from Queensborough Community College. This would enable students to attend a two year college and finish their Associates Degree, attend a 4-year college and finish their Bachelor's Degree, or enter the workforce using the skills attained and their Certificate and High School Diploma.

If you have any questions please feel free to call your child's counselor or Mrs. Fahey in the guidance office (516-237-2650).

Sincerely,

Whittney Smith, Ed.D., Principal

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MINEOLA HIGH SCHOOL

QUEENSBOROUGH COMMUNITY COLLEGE

Internet & Information Technology Program

Course Sequence

<u>8th Grade</u>
- Full year Technology 8 experience (beginning Fall 2016)

<u>9th Grade</u>
- Exploring Computer Science (Full year, every other day course)

<u>10th Grade</u>
- Introduction to Robotics (1/2 year course – 4 credits)

<u>11th Grade</u>
- Operating Systems & Systems Deployment (2 credits)
- Web Technology I (4 credits)
- Web Client Programming: JavaScript (3 credits)
- College Pre-Calculus (4 credits)

<u>12th Grade</u>
- * Network Fundamentals I (4 credits)
- * Introduction to C++ (3 credits)
- Economics/Government (3 credits)
- English Composition I (3 credits)

<u>1 Intersession or Summer Session:</u>
*Personal Computer Technology, Architecture, and troubleshooting (A+ Certification) – **2 credits**

To be taught on the QCC Campus

Total = 32 credits

Course Descriptions

ET-375 Introduction to Robotics
This course is designed to introduce robotic construction, programming, operation and basic theory to students. Topics included are electronic components, analog and digital signals, CPU, microcontroller, I/O ports, continuous rotation and servo motors, light sensors, ultrasonic sensors, IR sensors, encoders, robot controllers, structure and motion of a robot, power, and programming of robots. Students will construct and test microcontroller-based robots in the laboratory

ET-504 Operating Systems and System Deployment
The course covers a number of operating system types such as: single tasking, cooperative, preemptive, multithreading and multitasking systems. Current operating systems are deployed under various environmental configurations. Operating Systems and programs will be installed using Remote Network Access Services. The Internet will be utilized to download drivers, apply corrective service packs and updates.

ET-710 Web Technology I: Building and Maintaining Web Sites
Students will learn to design, build, and administer their own website. The course will cover everything from Web Server installation to the preparation of multimedia content for delivery on the Internet/Intranet.

ET-712 Web Client Programming: JavaScript
Students will learn to write Web client programs using JavaScript and Dynamic HyperText Markup Language (DHTML). The course will be project and results oriented, with real-world problem solving. Topics covered will include: DHTML; JavaScript language: statements, operators, functions, methods, expressions, variables, and properties; Cascading Style Sheets; Object Orientation and Layers; Objects: arrays, windows, documents, screen, navigator, math, date, strings.

ET-704 Networking Fundamentals I
This course introduces students to the skills needed to design, build and maintain small to medium networks. Topics include: OSI model; electronics and signals, collisions and collision domains, MAC addressing, LANs, structured cabling, cabling tools, Ethernet, network design and documentation, power supply issues, Internet Protocol addressing and subnetting, network protocols.

ET-575 Introduction to C++ Programming Design and Implementation
This foundation course provides a general understanding of the use and development of computer software applications in fields such as science, mathematics, and business. Topics include the analysis and use of concepts such as: primitive data types and their operators, basic I/O, control statements, decision making, looping, subprograms, arrays, strings and computer ethics.

ET-481 Personal Computer Technology, Architecture and Troubleshooting
Essential concepts in PC architecture, application and history are demonstrated via this hands-on course in modern PC computing technology. This course covers the hardware and software concepts for CompTIA A+ Certification.

MA – 440 Pre-Calculus Mathematics
Mathematical foundations necessary for the study of the calculus. An introduction to analytic geometry, and the elementary functions of analysis, including algebraic, trigonometric, logarithmic, and exponential functions. The use of the graphing calculator will be included.