

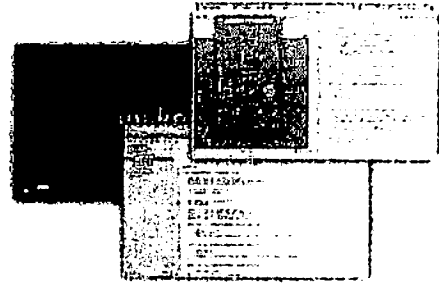


Programming & Software Career Pathway

Year 1: Mobile App Development

(904 & 905):

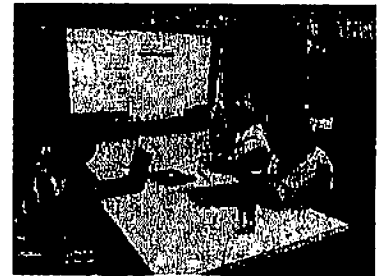
Enroll in Mobile App Development in order to learn the basics of computer programming while creating iPhone and iPad apps. Programming experience or not, learn how to make your own apps.



Year 2: AP Computer Science Principles

(601 & 602):

Enroll in AP Computer Science Principles in order to learn advanced topics in mobile app development. Students will work with clients to produce apps while preparing for the Advanced Placement Exam.



Year 3: AP Computer Science - A

(9091 & 9092):

Enroll in AP Computer Science A in order to learn algorithm development in Java. Students will be prepared for the Advanced Placement Exam.

Possible Careers:

Computer and Information Research Scientist and System Manager
Computer Hardware Engineer
Computer Network Architects and Support Specialist
Computer Operator and Programmer
Computer Science or Engineering Teacher
Computer Systems or Information Security Analyst
Computer User Support Specialist
Multimedia Artist and Animator
Network and Computer System or Database Administrator
Software Developer: Applications or System Software
Computer Systems Analyst

Did you know?? There are over 500,000 open computing jobs in the U.S.?

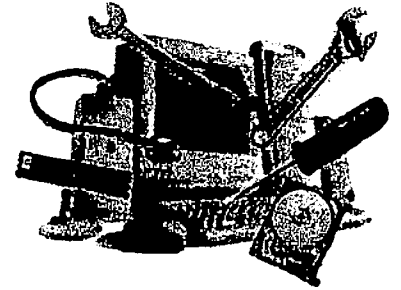


*“Whether you want to uncover the secrets of the universe,
or you just want to pursue a career in the 21st century,
basic computer programming is an essential skill to learn.”*

- Stephen Hawking

Information Systems Pathway

- 60740 - College IT Fundamentals (NET105)
- 66740 - College A+ Hardware (NET111)
- 66800 - College A+ Operating Systems Technology (NET112)
- 66810- College Computer Networking Basics (NET121)
- 01040 – Advanced Networking and Security



College IT Fundamentals – Entry level course that introduces students to:

- Computer hardware (motherboards, HD, phones and laptops)
- Software (Windows, Apple OS, Apple iOS and Linux).
- Security concepts (Viruses, social engineering, encryption)
- Networking (WAP, Routers, Switches, securing networks)
- Basic IT literacy (Configure system, navigate OS, backup and supports systems)

This is a great entry level course for those with little or no knowledge of technology. Advanced students will have the opportunity to test out of this course. Dual credit is available thru Harper CC.

College A+ Hardware – Students will be working with and learn to troubleshoot the following equipment as part of this course:

- Computer Hardware (Motherboards, processors, RAM, Hard Drives, video)
- Computer Networking (SOHO Routers, Switches, WAP) Cisco
- Mobile devices (tablets, phones and laptops)



Students will be provided many scenarios and asked to resolve and troubleshoot these issues. This is an area where many students believe they are proficient but need work and practice in the area. Knowledge of how components work, will help with troubleshooting. **Students will be prepared for the CompTIA A+ Certification.** The certification is not a requirement of the course.

College A+ Software – Student will work with computers and mobile devices to:

- Support and Configure Windows Operating Systems – Windows 7, 8 and 10
- Support and Configure Linux and Mac Operating Systems
- Properly secure, support and monitor devices security.
- Properly troubleshoot software and learn to use the utilities provided.
- Safely work within systems, properly dispose of equipment and understand troubleshooting theory.



Students will be provided many scenarios and asked to resolve and troubleshoot these issues. This is an area where many students believe they are proficient but need work and practice in the area. Knowledge of how components work, will help with troubleshooting. **Students will be prepared for the CompTIA A+ Certification.** The certification is not a requirement of the course.

College Computer Networking Basics – Students will use the Cisco Networking curriculum and Cisco hardware to develop skill in:

- Network Architecture – topologies, media types (Copper, Fiber, Wireless)
- Network Operations – Configure, Install and manage hubs, switches, routers, and firewalls.
- Network Security – configure and secure devices from attack
- Troubleshooting – learn to problem solve devices, to get networks up and working.
- Industry standards, practice and network theory

Students will be provided many scenarios and asked to resolve and troubleshoot these issues. Students in this class will also participate in the CyberPatriot Cyber Security Competition. This is an area where many students believe they are proficient but need practice in the area. Knowledge of how components work, will help with troubleshooting. **Students will be prepared for the CompTIA NET+ Certification**. The certification is not a requirement of the course.



Advanced Networking and Security – Students will use their experience in CyberPatriot as well as scenarios and problems provided to better understand:



- Network Security – both physical and network based security
- Compliance and Operational Security – better understand security policies and procedures
- Threats and Vulnerabilities – be prepared to identify and fix threats as they as they are identified.
- Application, Data and Host Security – learn to protect and manage data security
- Access Control and Identity Management – learn to establish procedures to protect systems from outside intruders.
- Cryptography – better understand how cryptography works, the benefits that it can provide and the differences between the many algorithms.

Students will be provided many scenarios and asked to resolve and troubleshoot these issues. Students in this class will also participate in the CyberPatriot Cyber Security Competition. This is an area where many students believe they are proficient but need practice in the area. Knowledge of how components work, will help with troubleshooting. **Students will be prepared for the CompTIA Security+ Certification**. The certification is not a requirement of the course.



Questions? Contact –

Tom Polak (JHHS, WHS, BGHS and PHS) – tom.polak@d214.org 847-718-4834

Mike Drenth (RMHS and EGHS) – Michael.drenth@d214.org 847-718-5737

<http://jhhs.d214.org/academics/information-technology-networking/>