

# Engineering & Technologies Academy

## (Roosevelt HS)

### Course: **ADVANCED COMPUTER PROGRAMMING**

Course Description: Students expand their knowledge and skills in structured programming techniques and concepts by addressing more complex problems and developing comprehensive programming solutions. Students analyze the social responsibility of business and industry regarding the significant issues relating to environment, ethics, health, safety and diversity in society and in the workplace as it relates to computer programming. Students apply technical skills to address business applications of emerging technologies. Student must pass safety test with 100% mastery.

NEISD #**6632**      Credit: 1.0                      Term: Full Year                      Grade Placement: 11-12

Prerequisites: Computer Programming

**Special Notes:**

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### Course: **COMPUTER PROGRAMMING**

Course Description: Students acquire knowledge of structured programming techniques and concepts appropriate to developing executable programs and creating appropriate documentation. Students analyze the social responsibility of business and industry regarding the significant issues relating to the environment, ethics, health, safety and diversity in society and in the workplace as it relates to computer programming. Students apply technical skills to address business applications of emerging technologies. Student must pass safety test with 100% mastery.

NEISD #**6631**      Credit: 1.0                      Term: Full Year                      Grade Placement: 9-12

Prerequisites:

**Special Notes:**

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### Course: **ELECTRONICS (TECH WORLD II)**

Course Description: Students enrolled in this course will demonstrate knowledge and applications of circuits, electronic measurement and electronic implementation. Through use of the design process, students will transfer academic skills to component designs in a project-based environment. Students will use a variety of computer hardware and software applications to complete assignments and projects. Additionally, students explore career opportunities, employer expectations and educational needs in the electronics industry. Student must pass safety test with 100% mastery.

NEISD #**6655**      Credit: 1.0                      Term: Full Year                      Grade Placement: 11-12

Prerequisites:

**Special Notes:**

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### Course: **GEOGRAPHIC INFORMATION SYSTEMS I**

Course Description: The purpose of this course is to educate students about their community, local and global, utilizing a Geographic Information System (GIS). GIS allows us to view, understand, question, interpret and visualize data in many ways that reveal relationships, patterns and trends in the form of maps, globes, reports and charts. Learning exercises will include the use and analysis of High Resolution Landsat images over 100 GIS layers. The course curriculum is multidisciplinary by nature and incorporated math skills, science, social science and language arts. This course provides opportunities for students to receive GIS certification.

NEISD #**6703**      Credit: 1.0                      Term: Full Year                      Grade Placement: 9-12

Prerequisites:

**Special Notes:**

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Course:**INTERNETWORKING TECHNOLOGIES I**

Course Description: This program is designed to develop the skills needed to design, build and maintain small to medium sized networks. This course also covers aspects of hardware support relating to personal computers (PC's) including system troubleshooting, system board, drive subsystems, memory, input/output devices and multimedia. In a lab setting that corresponds to the real world, students utilize the building blocks of today's computer technology, global information, networks and ecommerce web development. This high-tech learning environment provides students with the knowledge and experience to enter the workforce and/or further their education and training in the computer networking field. This course prepares the student for the CompTIA A+, Net+ certification exams.

NEISD #**6699** Credit: 1.0 Term: Full Year Grade Placement: 9-12

Prerequisites:Application Required

**Special Notes:**

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Course:**INTERNETWORKING TECHNOLOGIES II**

This program is designed to develop the skills needed to design, build and maintain small to medium sized residential networks. In a lab setting that corresponds to the real world, students utilize the building blocks of today's Cisco Learning Institute Home Technology Integration training program along with the vision of home automation robotics. The course focuses on advanced residential home technology network integration, home network design, home network management and robotics. This high-tech learning environment provides students with the knowledge and experience to enter the workforce and/or further their education and training in home networking and robotics. This course prepares the

Course Description: student for the CompTIA A+, Net+, Leviton vendor and HTI+ certification exams.

NEISD #**6705** Credit: 1.0 Term: Full Year Grade Placement: 10-12

Prerequisites:Completion of Information Technology Applications I

**Special Notes:**

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Course:**RESEARCH IN INFORMATION TECHNOLOGY SOLUTIONS**

Course Description: Students gain advanced knowledge and skills in the application, design, production, implementation, maintenance, evaluation and assessment of products, services and systems. Knowledge and skills in the proper use of analytical skills and application of information technology concepts and standards are essential to prepare students for success in a technology-driven society. Critical thinking, information technology experience and product development may be conducted in a classroom setting with an industry mentor, as unpaid internship or as career preparation. Student must pass safety test with 100% mastery.

NEISD #**6698** Credit: 2.0 Term: Full Year Grade Placement: 11-12

Prerequisites:

**Special Notes:**

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Course:**SPATIAL TECHNOLOGY & REMOTE SENSING (GIS II)**

Course Description: This course will provide students with continued instruction in Geographic Information Systems and Remote Sensing (GIS/RS) technology. Students will participate in applied learning activities with emphasis placed on planning, conducting and presenting three special projects dealing with GIS/RS tools and data in various career cluster groups that deal with immediate school environment. Students will create and modify products which represent various types of data using ArcGIS, Spatial Analyst, 3D Analyst & data gathered from handheld GPS(Global Positioning System) units. Upon completion of the course and an independent investigation, the student will be professionally certified in GIS technologies

NEISD #**6707** Credit: 1.0 Term: Full Year Grade Placement: 9-12

Prerequisites:

**Special Notes:**