TECHNOLOGY EDUCATION:
Courses for MDCPS Senior High Academies

The senior high school technology education program is designed to provide students with in-depth career preparation. The goal of each technology education program is to prepare students for further education in college, in advanced vocational / technical programs, or in other postsecondary schools, as well as, to provide occupational technological skills.

Each technology education program qualifies for the Florida Gold Seal Scholars Award. The award provides up to 75% of the average state tuition and fees at a Florida postsecondary school for up to four years.

Academy of Architecture and Construction

- **Construction Technology 8600700**
  860071001 Construction Technology 1
  860072001 Construction Technology 2
  860073001 Construction Technology 3 *
  860190001 Advanced Technology Applications *

- **Drafting/Illustrative Design Technology 8600800**
  860081001 Drafting/Illustrative Design Technology 1
  860082001 Drafting/Illustrative Design Technology 2
  860083001 Drafting/Illustrative Design Technology 3 *
  860190001 Advanced Technology Applications *

- **Materials and Processes Technology 8601100**
  860111001 Materials and Processes Technology 1
  860112001 Materials and Processes Technology 2
  860113001 Materials and Processes Technology 3 *
  860190001 Advanced Technology Applications *

Academy of Communication Arts & Digital Media

- **Communication Technology 8601000**
  860101013 Communication Technology 1
  860102023 Communication Technology 2
  860103033 Communication Technology 3 *
  860190001 Advanced Technology Applications *

- **Technology Studies 8600100**
  860051001 Technology Studies 1
  860061001 Technology Studies 2
  860171001 Technology Studies 3 *
  860190001 Advanced Technology Applications *

Academy of Manufacturing Technology

- **Materials and Processes Technology 8601100**
  860111001 Materials and Processes Technology 1
  860112001 Materials and Processes Technology 2
  860113001 Materials and Processes Technology 3 *
  860190001 Advanced Technology Applications *

- **Production Technology 8604000**
  860054001 Production Technology 1
  860064001 Production Technology 2
  860174001 Production Technology 3 *
  860190001 Advanced Technology Applications *

- **Technology Studies 8600100**
  860051001 Technology Studies 1
  860061001 Technology Studies 2
  860171001 Technology Studies 3 *
  860190001 Advanced Technology Applications *

- **Drafting/Illustrative Design Technology 8600800**

Academy of Engineering

- **Electronics Technology 8600900**
  860091013 Electronics Technology 1
  860092023 Electronics Technology 2
  860093033 Electronics Technology 3 *
  860190001 Advanced Technology Applications *

- **Engineering Technology 8607000**
  860057001 Engineering Technology 1
  860067001 Engineering Technology 2
  860067002 Engineering Technology 2 (District Honors) *
  860177001 Engineering Technology 3 *
  860190001 Advanced Technology Applications *

- **Production Technology 8604000**
  860054001 Production Technology 1
  860064001 Production Technology 2
  860174001 Production Technology 3 *
  860190001 Advanced Technology Applications *

- **Technology Studies 8600100**
  860051001 Technology Studies 1
  860061001 Technology Studies 2
  860171001 Technology Studies 3 *
  860190001 Advanced Technology Applications *

- **Drafting/Illustrative Design Technology 8600800**

Additional course for all programs:

- **Work-Based Experience 8601800**
  860180015 Work-Based Experience Internship
  At least one credit of a Technology Education 3-credit program must be completed before enrolling in this course.

For additional information contact:
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Rev. 12.18.06
Each of the Technology Education program areas incorporates three sequential annual courses and an advanced applications course.

Aerospace Technologies – 8600080
- This “high-tech” field slices across several other areas of study; however, its emphasis is definitely in the sky and space beyond. The program includes the study of the history and development of aviation, principles of flight, power systems, computer applications, computer-aided drafting (CAD), computer control, and robotics. Studying space travel and man’s ability to live in space is an integral part of these courses. As the courses progress, students will be involved in research and design projects that focus on aerospace technology.

District course titles and numbers:
860058001 Aerospace Technology 1
860068001 Aerospace Technology 2
860178001 Aerospace Technology 3 *
860190001 Advanced Technology Applications *

Communications Technology – 8601000
- This program builds a foundation in the vast area of communications technology. The communications industry will continue to be a growth field in the future. Miami-Dade County Public Schools programs emphasize graphic communications, which includes layout and design, various printing production methods, digital photography, and a variety of finishing techniques. Both state-of-the-art technology and computer applications, as well as traditional graphics equipment, are used to teach methods currently used in industry. Many programs go beyond two-dimensional graphics and venture into areas such as animation, audio communications, and video production.

District course titles and numbers:
860101013 Communication Technology 1
860102023 Communication Technology 2
860103033 Communication Technology 3 *
860190001 Advanced Technology Applications *

Construction Technology – 8600700
- This program of study builds a knowledge base in all phases of modern construction. Sample course topics can range from site planning for a single-family residence to engineering aspects of civil construction. Technical skills are emphasized to develop a wide range of aptitudes and interests. Participants deal with activities such as reading and interpreting drawings, masonry, carpentry, installing utilities, and computer applications related to the construction industry. This area feeds into a wide range of career options.

District course titles and numbers:
860071001 Construction Technology 1
860072001 Construction Technology 2
860073001 Construction Technology 3 *
860190001 Advanced Technology Applications *

Drafting/Illustrative Design Technology – 8600800
- This program provides students with a foundation of technically oriented experiences in the study of drafting, computer aided drafting (CAD), and design technology. The drafting laboratories are equipped with the latest state-of-the-art digital design hardware and software capable of the highest industry standard CAD and design solutions. Participants deal with activities that range from basic drafting, in the fields of engineering and architecture to advanced three dimensional computer modeling. This program feeds into a wide range of career options and opportunities.

District course titles and numbers:
860081001 Drafting/Illustrative Design Technology 1
860082001 Drafting/Illustrative Design Technology 2
860083001 Drafting/Illustrative Design Technology 3 *
860190001 Advanced Technology Applications *

* Honors credit given for this course
2006-2007
TECHNOLOGY EDUCATION
Senior High School Programs of Study

Electronics Technology – 8600900
• Although available at a limited number of schools, this program gives the 21st century student a technical foundation for the electronics industry. Experiences in this program use applied basic math and science skills. Understanding technology systems and their interrelationships is an important part of the program. The use of electronic equipment and experimentation are basics of these courses.

District course titles and numbers:
860091013 Electronics Technology 1
860092023 Electronics Technology 2
860093033 Electronics Technology 3 *
860190001 Advanced Technology Applications *

Engineering Technology – 8607000
• Engineering Technology first introduces the student to the principles of fluid, thermal, electrical, and mechanical systems utilizing hands-on applications. Being able to communicate solutions to engineering problems graphically is an important part of this program. Students will be expected to work independently as well as part of a team. At higher levels, they will use a variety of tools and machines, including computer numeric control mills and lathes and robotics, to solve design problems. Original research in the area of engineering is also included at the higher levels of study.

District course titles and numbers:
860057001 Engineering Technology 1
860067001 Engineering Technology 2
860067002 Engineering Technology 2 (Honors) *
860177001 Engineering Technology 3 *
860190001 Advanced Technology Applications *

Materials and Processes Technology – 8601100
• As the title implies, this program introduces the participant to modern materials and the various processes for manipulating and converting these materials into useful products. The primary materials used are wood, metal, and plastic. Focus is on modern industry practices, with computer applications such as computer numeric control included. Materials testing and production planning are also integral parts of the program.

District course titles and numbers:
860111001 Materials and Processes Tech. 1
860112001 Materials and Processes Tech. 2
860113001 Materials and Processes Tech. 3 *
860190001 Advanced Technology Applications *

Power and Energy Technology – 8601300
• Power and Energy Technology are the building blocks for the social and economic future of our society. Students study emerging technologies in these fields through hands-on experiences with hydraulic, pneumatic, electric, and solar power technology. Students design and construct projects, such as solar powered vehicles and wind turbines.

District course titles and numbers:
860131002 Power and Energy Technology 1
860132001 Power and Energy Technology 2
860133002 Power and Energy Technology 3 *
860190001 Advanced Technology Applications *

* Honors credit given for this course

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Production Technology – 8604000
- This relatively new curriculum shares elements with several traditional courses of study, with an emphasis on state-of-the-art technology. Initially, the student will explore processes related to industrial materials and composites. Custom-made, as well as, mass-produced projects are course outcomes. As the program progresses, computer-aided manufacturing (CAM), computer numeric control (CNC), and computer-integrated manufacturing (CIM) work cells are integrated into classroom activities. Design and engineering of various construction projects are the primary emphasis in year three of this comprehensive training.

District course titles and numbers:
860054001 Production Technology 1
860064001 Production Technology 2
860174001 Production Technology 3 *
860190001 Advanced Technology Applications *

Technology Studies – 8600100
- This program of study uses a problem-solving approach to explore skills in a variety of modern technologies. System recognition and identification are the starting place for the student to enter into a wide variety of experiences. Basic exercises look at the physical, information/communication, and biotechnology fields. As studies advance, areas such as robotics, control technology, computer-aided drafting (CAD), lasers, and fiber optics will also be explored. At the highest level, students will be expected to complete original research on a specific material or process.

District course titles and numbers:
860051001 Technology Studies 1
860061001 Technology Studies 2
860171001 Technology Studies 3 *
860190001 Advanced Technology Applications *

Transportation Technology – 8601200
- Transportation technology is a varied and fast-changing program. Traditional skills related to steam, diesel, and internal combustion powered transportation are a core part of the curriculum. Components dealing with hydraulic, pneumatic, electric, jet, rocket, and solar technology are all explored in detail. Systems relationship, efficiency, and research help to complete this well-rounded program.

District course titles and numbers:
860121013 Transportation Technology 1
860122023 Transportation Technology 2
860123033 Transportation Technology 3 *
860190001 Advanced Technology Applications *

Work-Based Experience – 8601800
- This course is appropriate to provide Technology Education students with an opportunity to apply and integrate the knowledge, skills, and abilities acquired during their School-Based Experience to actual work situations independent of school facilities. At least one credit of a Technology Education program consisting of three credits must be completed before enrolling in this course.

District course title and number:
860180015 Work-Based Experience / Internship

Advanced Technology Applications – 8601900
- This course is appropriate to be used for content area continuation in each program after all three credits of program have been completed. Students are provided the opportunity to develop a school-based project from “vision” to “reality.” Working in teams to design, engineer, manufacture, construct, test, redesign, test again; and then produce a finished project.

District course title and number:
860190001 Advanced Technology Applications *

* Honors credit given for this course

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