

TECHNOLOGY DEPARTMENT CAREER PATHS

Drafting and Design

- College Technical Drawing**
- College Architecture**
- College CAD**
- College Robotics**
- College Engineering**
- Video Production
- Stage Craft

Construction

- College Technical Drawing**
- Woodworking
- Advanced Carpentry
- College Architecture**
- College CAD**
- Stage Craft

Technology Fundamentals

- College Technical Drawing**
- Woodworking
- Media Production
- College Coding **
- Introduction to the World of Drones

Communications

- College Technical Drawing**
- College CAD**
- Media Production
- Video Production
- TV Studio
- College Coding **
- Introduction to the world of Drones

**** Allows students to earn 3 college credits when enrolled in this dual enrollment course.**

TECHNOLOGY DEPARTMENT

The Technology Department offers opportunities for students to explore careers, learn practical skills or master career skills. Students are encouraged to master skills in Construction, Drafting, Engineering, Media & Video Production, or explore the world of technology and learn a variety of life skills. The program and course content are student centered and is designed to develop insights and understandings of the application of technological concepts, processes, and systems. All activities use hands-on experiences to motivate students to make connections between concepts and real-world applications. Students are challenged to use the technology education facility to design, apply materials, machines, instrumentation, processes, and technical concepts in an efficient and safe manner.

VIDEO PRODUCTION

One Credit

One Year

This course will familiarize students with the field of filmmaking. Students will produce, direct, edit, and film low budget movies. In the past, students produced movies that ranged from comedy flicks to music videos. Final Cut Pro will be the exclusive video editing software that will be used in this course. Students will learn to perform basic editing functions while familiarizing themselves with the user interface. Topics include basic setup, adjusting and customizing preferences and settings, capturing video and audio, various editing and trimming techniques, ripple, roll, slip and slide tools, audio editing and audio creation, finishing and final output. A portfolio will be developed throughout the course on DVD.

TELEVISION STUDIO

One Credit

One Year

In this course students will be working with the TriCaster 460 which is the next revolution in video production. Students will concentrate on producing live & taped shows that will be aired on Bruin TV, such as the Baldwin Sports Network (BSPN) and the Baldwin News Network (BNN). Some examples of shows are Good Morning Baldwin, The Teacher's Lounge and Inside Sports. This course will introduce students to broadcast performance situations applicable to television, including commercial announcing, news reporting, interviewing and the technical expertise needed to operate a television control room and studio floor. Student's will gain hands-on knowledge and experiences through the use of the TriCaster 460 and its innovative design and concept of a single system to broadcast, project stream, and record simultaneously, recording, encoding, switching, sub mixing, playback, audio mixing, DVE, advanced graphics and titling, animation store, scan conversion, multiple channels of virtual sets, live streaming, camera automation, scopes and monitors, and social media publishing. A digital portfolio will be developed throughout the course.

COLLEGE ARCHITECTURE (FARMINGDALE STATE COLLEGE)

One Credit

One Year

Prerequisite: Technical Drawing

This course is an introductory study of the theory, history, principles, and practice of architecture. Basic principles of architectural analysis, criticism and aesthetic principles will be studied. Including the roles and responsibilities of the design professions, including interior design, landscape architecture, urban planning, and engineering and how they relate to each other. Design concepts analyzed through graphical representation and modeling. Students will design fully functional prototypes and create models of homes and generate construction plans via CAD software. Fundamentals of Computer Aided Drafting (CAD) introduces concepts, techniques, and procedures necessary to facilitate a basic functional understanding of Vectorworks software. A portfolio will be required as a final project.

COLLEGE CAD (Computer-Aided Design) (FARMINGDALE STATE COLLEGE)

One-Half Credit

One-Half Year

This course covers the fundamentals of engineering graphics including the drawing of orthographic, isometric, and auxiliary projections related to engineering design. Other topics include scaling, sectioning, dimensioning, and drawing documentation. This course uses the latest release of computer-aided design (CAD) software commonly used in industry to introduce students to CAD interface, structure, and commands. This course will also expose students to the next industrial revolution in personal fabrication.

This course will allow students to discover for themselves the potential and limitations of 3D Printing through design, creation, innovation, and fabrication utilizing the latest release of 3D printing software.

*This course allows students to earn 3 college credits when enrolled in this dual enrollment course. ARC 101 Introduction to Architecture and Construction (SUNY Farmingdale).

COLLEGE ENGINEERING (FARMINGDALE STATE COLLEGE)

One Credit

One Year

This course will prepare students for career paths focusing on the ever-expanding field of engineering. Students will be introduced to design principles through an engineering design project approach, which includes teamwork, design process, fabricating and machining techniques, creative and analytical thinking, and professionalism. Projects may vary from robotics design to the mechanical design of trebuchets. Students will focus on traditional and current design theories, fabrication of working prototypes of designs, and calculating mathematical and physical outcomes. Students will be exposed to computer-aided design software as well as 3D printing software throughout the course.

*This course allows students to earn 3 college credits when enrolled in this dual enrollment course. MET 215 Special Topics in Principles of Engineering (SUNY Farmingdale).

COLLEGE ROBOTICS (FARMINGDALE STATE COLLEGE)

One-half Credit

One-Half Year

This course is designed to introduce students to the field of Robotics and stimulate their interests in science and engineering through the participation of the entire engineering design process. This course focuses on the skills and techniques required to fabricate and machine robots from the design phase to the operational phase. Students will utilize robotic drivetrain chassis through the design, fabrication, testing and programming stages of development, in coordination with the tenets of the FIRST Robotics program.

*Allows students to earn 3 college credits when enrolled in this dual enrollment course. MET 215 Special Topics in Robotics (SUNY Farmingdale)

MEDIA PRODUCTION

One-half Credit

One-half Year

This course will introduce students to the field of communication arts. Students will learn advertising and graphic design, photographic manipulation, graphic animation, and video editing techniques via computer software such as Adobe PhotoShop and Adobe After Effects. Students will be familiarized with Garage band software that will allow them to create or arrange musical compositions. Finished compositions can be opened in Apple's iTunes and distributed as MP3 files or burned to create audio CDs. Additionally, forms of communications technology such as radio, television, film, and telecommunications will be explored. Students will create a DVD portfolio.

TECHNICAL DRAWING

One-half Credit

One-half Year

This course will cover the fundamentals of basic drafting practices and architectural conventions. Includes use of tools, lettering, dimensioning, drafting techniques, and associated vocabulary and technology. Topics include isometric and oblique drawings, orthographic projections, floor plans and dimensioning practice. Upon completion, students should be able to complete a set of working drawings for a simple structure. Upon completion, students should be able to create and plot basic construction drawings. Throughout this course, students will develop a portfolio of drawings.

BASIC WOODWORKING

One-half Credit

One-half Year

Recommended Course: Technical Drawing

This level one hands-on course introduces the students to the use of hand tools, power tools and stationary woodworking machines to cut, shape and assemble projects constructed from wood. In the basic woodworking class, students will build a project while studying the various methods used by industry to produce goods. Projects may include bookcases, board games, and wooden toys. Upon satisfactorily

completing Basic Woodworking, students may take Residential Structures or Advanced Projects in any order. Students will be responsible for purchasing wood for projects (approx. \$30).

ADVANCED CARPENTRY

One-half Credit

One-half Year

Prerequisite: Basic Woodworking

This course is an in-depth course permitting students an opportunity to master woodworking skills. Students will build projects related to a home – sheds, doghouses and outdoor furniture are projects previously completed by this course. Students will have the opportunity in working on real world projects through an ongoing partnership between the Baldwin School District and the New York State Parks & Recreation Department.

STAGE CRAFTS AND ENTERTAINMENT TECHNOLOGY

One Credit

One Year

Grades 9 – 12

Motion Picture, Television, Theatre, Theme Park and Cruise Ship industries all need people knowledgeable in the field of Stage Crafts and Entertainment Technology. This class is for students who aspire to work with their hands, have artistic and carpentry talents, like to work with a group, and love the magic of bringing a production to life. The class will design and build scenery, and design and operate lighting for Baldwin High School's three shows - including how to operate computer controlled intelligent lights. Additionally, technology used in television, film and amusement parks will be covered. The class will go on one or more field trips to visit backstage at the Metropolitan Opera House, and/or see behind the scenes of a Broadway show before watching the show. The course may be repeated for credit.

COLLEGE CODING 1 (FARMINGDALE STATE COLLEGE)

One-half Credit

One-half Year

The course will introduce computer science in the context of scientific, engineering, and commercial applications. The course will teach basic programming logic and problem-solving techniques for practical issues and will prepare students to use computers effectively for applications in computer science, engineering, robotics, and other disciplines. Topics include hardware and software systems with an emphasis in basic programming in Java, Visual Basic, C++ and use of Arduino and raspberry pi boards.

INTRODUCTION TO THE WORLD OF DRONES

One-half Credits

One-half Year

Are you interested in learning how to pilot and become certified as an FAA Drone Pilot? This course is designed to provide students with the knowledge and real-world experiences which will allow them to learn basic flight operations, industry applications, and the latest FAA policies for drone aircrafts to prepare them to take the FAA pilot certification exam. Students will be utilizing the Zephyr Flight Simulator as well as logging indoor & outdoor flight time using the DJI Tello and Autel EVO II drones.