

## **TECHNOLOGY/BUSINESS/DISTANCE LEARNING**

The technology department strives to provide students with the opportunity to thrive in a complex digital world. It is our goal to help students develop skills in the analysis, evaluation, and application of the digital tools at their disposal. They will use these skills in all areas of their studies. The course program fosters innovation, creativity, the responsible use of social media, and the ethical gathering and use of information. All registered students have access to Office 365, which allows them to download the Microsoft Office Suite free on up to five devices, including home computers, iPads, and smartphones.

### **MICROSOFT OFFICE 2013: INTRODUCTORY CONCEPTS AND TECHNIQUES - COLLEGE PREP**

#3533                      Freshman, Sophomore, Junior, Senior                      .33 credit                      Term course

Do you want to save time by learning how to construct a research paper for your English or Social Studies classes or how to prepare a chart for a lab report? The Microsoft Office 2013 course will teach you the skills to accomplish these tasks. This course introduces students to the new generation of Microsoft Office which uses features that are specifically designed to engage students, improve retention, and prepare them for future success. A step-by-step, screen-by-screen approach encourages students to expand their understanding of the Office 2013 software through experimentation, exploration, and planning ahead. The course prepares students to become more capable software users by requiring them to use critical thinking and problem-solving skills to create real-life documents.

### **MICROSOFT WORD 2013 - COLLEGE PREP**

#3535                      Freshman, Sophomore, Junior, Senior                      .33 credit                      Term course

Prerequisite: Microsoft Office 2013: Introductory Concepts and Techniques

Do you want to go beyond the basics of MS Word and learn skills that will allow you to efficiently produce high-quality, effective, sophisticated documents? Then MS Word 2013 is the course for you. This comprehensive word processing course is designed to allow students to develop technology skills needed in all areas of their lives. The course builds on the introductory concepts and techniques learned in the Microsoft Office course and encourages independent study in meeting the following objectives: incorporating tables, charts, and graphics into a Word document; generating form letters, mailing labels, and envelopes; learning to work with a master document; creating indices, tables of contents, and online forms.

### **DIGITAL PRESENTATION SOFTWARE – COLLEGE PREP**

#3537                      Freshman, Sophomore, Junior, Senior                      .33 credit                      Term course

Keynote, PowerPoint, Prezi – what's the best tool for your project? Students will learn how to create presentations using innovative applications. In addition, they will develop skill in determining the best digital tool for the task and how to apply their knowledge to authentic learning experiences.

### **MICROSOFT EXCEL 2013 - COLLEGE PREP**

#3539                      Sophomore, Junior, Senior                      .33 credit                      Term course

Prerequisite: Microsoft Office 2013: Introductory Concepts and Techniques

Do you need to organize data for a class into lists and then summarize, compare, and present your data graphically? MS Excel 2013 is a comprehensive spreadsheet course designed to allow students to develop technology skills needed in all areas of their lives. The course builds on the introductory concepts and techniques learned in the Microsoft Office course and encourages independent study in meeting the following objectives: performing What-If analysis, charting, and working with large worksheets; using financial functions, data tables, amortization schedules, and hyperlinks; creating, sorting and analyzing a worksheet database.

**PHOTOSHOP - COLLEGE PREP**

#3519 Freshman, Sophomore, Junior, Senior .33 credit Term course

Prerequisite: Microsoft Office 2013: Introductory Concepts and Techniques

Welcome to Adobe Photoshop! This course offers creative projects, concise instructions, and complete coverage of basic to advanced Photoshop skills, helping you to create polished and professional-looking artwork. In this course you will learn many skills, including how to work with layers, make selections, adjust color techniques, use paint tools, work with filters, transform type, liquefy an image, annotate and automate a Photoshop document, and create Photoshop images for the web.

**MODERN CODING/WEB DEVELOPMENT – COLLEGE PREP**

#3545 Freshman, Sophomore, Junior, Senior .33 credit Term course

“Everybody in this country should learn how to program . . . because it teaches you how to think.” Steve Jobs. Learn how to make your device do what you want it to do as you engage in a hands-on creative development process to code applications. This course develops skills in web development, programming, logical thinking, and problem solving and allows you to make your innovative ideas a reality.

**STOP ANIMATION – COLLEGE PREP**

#6041 Freshman, Sophomore, Junior, Senior .33 credit Term Course

Prerequisite: Art Foundations

This is a class designed to introduce the student to the art of stop animation. Various media will be used to produce a series of short animated films. The student will work through a creative process including: storyboard production and development, character creation, sound editing, and final editing. The iPad will act as the primary technology for filming and editing. Art Foundations is a pre-requisite for the Stop Animation class.

**INTRO TO MEDIA PRODUCTION**

#3542 Freshman, Sophomore, Junior, Senior .33 credit Term Course

This course is intended to provide students with the ability to create, produce, and effectively work with a variety of production tools for writing, media collection/organization, production, and delivery methods. Students will work as team members on a number of school projects from conception to completion. School project campaigns may include school event videos, special announcements/promotions, awards presentations, and social media projects.

**INTRODUCTION TO 3D PRINTING AND DESIGN**

#3547 Freshman, Sophomore, Junior, Senior .33 credit Term Course

This introductory course gives students the basics of 3D printing and design. Combining lectures and class discussions along with exciting hands-on projects, students will gain the theoretical and practical knowledge they need to take advantage of 3D printing technology in the real world. By making abstract concepts tangible and real, 3D printing can help students improve their comprehension and motivate them to integrate 3D printing into other areas of their course of study.

**INTRODUCTION TO ROBOTICS**

#3549 Freshman, Sophomore, Junior, Senior .33 credit Term Course

Are you interested in science and technology? If the answer is yes, then this class is for you. Students enrolled in this course will be introduced to basic programming and problem solving strategies. Students will work individually and in groups to construct robots using LEGO MINDSTORM EV3 kits and program them to perform real-world tasks. This class is for the student who wants to bring learning to life!

## ELECTIVE BUSINESS COURSES

**THESE ARE NOT MATH COURSES AND DO NOT FULFILL THE MATHEMATICS GRADUATION REQUIREMENT.**

### PRINCIPLES OF ACCOUNTING - COLLEGE PREP

#3701	Junior, Senior	1.00 credit	Yearlong
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Do you have aspirations of someday owning or working for a business? If so, do you want to help that business be successful? Of course you do, because a successful business translates into more money for all involved with that business, including you. Principles of Accounting is an introductory course that will help you understand the role that financial information plays in making decisions to help businesses become successful, and you will find this information valuable even if you don't have plans to become an accountant. Topics include the accounting cycle with emphasis on analyzing, summarizing, reporting and interpreting financial information as it applies to service and merchandising businesses operated as sole proprietorships and partnerships. You will learn to prepare financial statements, which are the tools of good decision making in business. Technology will be used to demonstrate current accounting procedures along with simulations and worksheets to provide needed hands-on experience that will enhance the learning process.

### YOUR FINANCIAL FUTURE - COLLEGE PREP

#3703	Junior, Senior	1.00 credit	Yearlong
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Did you know that 48% of college students have bounced checks, only 2 out of 5 college students balance their checkbooks monthly, and 67% of college students have credit cards with 71% of those carrying a balance? Why are these statistics important? On average high school graduates may earn more than \$1 million dollars during their adult lives. Your Financial Future is designed to prepare high school students to make wise financial decisions in personal situations. This course helps students realize that they are already making financial decisions and shows them how their decisions affect their future. This elective class may be taken as a yearlong or by terms. In Term I financial planning will be covered, in Term II banking and credit will be explored, and Term III will cover saving and investing. For more details see the individual course descriptions below.

### YOUR FINANCIAL FUTURE (BY TERMS) (#3705, #3707, #3709)

#### FINANCIAL PLANNING - COLLEGE PREP

#3705	Junior, Senior	.33 credit	Term course
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This course introduces students to the concept of financial planning and provides the foundation for using personal financial planning techniques. The course will address the six steps of the financial planning process and the relationship between financial documents and money management strategies. Students will also learn how to prepare a federal tax return and how to select the best tax strategies for current and future financial and personal needs. In addition, they will learn how to create a budget and they will discuss how to protect themselves now and in the future through insurance and retirement planning.

#### BANKING AND CREDIT - COLLEGE PREP

#3707	Junior, Senior	.33 credit	Term course
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This course introduces students to the variety of services available to them through the banking and credit industries along with how these services can help students meet their financial goals. Students will learn how to select and use financial services such as savings and checking accounts. In addition, students will learn the advantages and disadvantages of using consumer credit and how to avoid falling victim to the overwhelming credit crisis that plagues our country. Lastly, students will learn how using credit can help them purchase their own home by informing them of the home buying process.

#### SAVING AND INVESTING - COLLEGE PREP

#3709	Junior, Senior	.33 credit	Term course
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This course introduces students to investing and how it can help them reach their financial goals. Students will learn about various investment alternatives such as stocks, bonds, mutual funds and how to obtain investment information for each. Students will then use this information to help them prepare for a savings or an investment program.

#### INTRO TO MARKETING

#3711	Sophomore, Junior, Senior	.33 credit	Term Course
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This course introduces students to a variety of techniques for promoting, selling, and distributing products and services. Students will explore how brands are created and maintained through research, advertising, distribution, and retailing. The course will also explore the impact of marketing on consumer behavior. Students will use a variety of technologies (computers, iPads, and 3D printers) to produce and promote industrial design group projects.

## ZULAMA ENTERTAINMENT TECHNOLOGY PROGRAM

The Zulama online curriculum was created by educators at Carnegie Mellon University's Entertainment Technology Center. It gives students experience with problem solving and thinking creatively-skills they need in our digital world. These courses are semester long and delivered through an online platform. Students who are interested should go to the Zulama Web site ([www.zulama.com](http://www.zulama.com)) to learn more.

Zulama classes normally cost \$505, but because of a generous alumni donor the cost to MPS students will be significantly discounted at \$250. Payment is due August 18, 2017. Two Zulama courses taken consecutively in the same year constitute a yearlong elective course. The duration of the first course will be from August until midterm of term II; the second course will begin at midterm of term II and conclude at the end of the school year.

Below are the courses that were offered for the 2016-2017 school year. It is possible that Zulama will make changes in course selection. In that event, students will be notified.

### EVOLUTION OF GAMES

#8570 Freshman, Sophomore, Junior, Senior .50 credit Semester course  
Cost: \$250

Today's professional game designers understand and implement dynamics from many different types of games in their blockbuster hits. In this course, you'll explore ancient cultures, their games, and how they designed games using available technology.

### INTRODUCTION TO GAMEMAKER™ PROGRAMMING

#8571-Semester I Sophomore, Junior, Senior 1.00 credit Two-semester course  
#8572-Semester II  
Cost: \$250 each semester

Prerequisite: Evolution of Games

Learn the concepts taught in a college-level "Programming 101" course, but all of the projects are games! You will receive an introduction to basic programming by building two dimensional (2D) games. GameMaker™, the 2D game engine you'll be using, is based on a scripting language that builds techniques that can be transferred to any other programming language such as Python, Java and C++. You will finish complete stand-alone executable games that can be played with friends and added to your digital portfolio

### SCREENWRITING

#8573 Freshman, Sophomore, Junior, Senior .50 credit Semester course  
Cost: \$250

Prerequisite: Evolution of Games

Why do we cry at movies? Or cheer? Why do thrillers put us on the edge of our seats? This course will help you understand, critique, and write dramatic stories for modern media including movies, games, and television. You'll develop skills in creative writing, awareness, provisional acting, collaborative storytelling, and creative self-confidence as you craft your own original story.

### GAME DESIGN

#8574 Freshman, Sophomore, Junior, Senior .50 credit Semester course  
Cost: \$250

Prerequisite: Evolution of Games

"Gaming" doesn't only mean "video games". Gamers also play board games, card games, simulations, and participate in interactive stories. This course breaks down the design process step by step. You will learn the fundamentals through hands-on modding, prototyping, and iteration of a variety of games. Your final project will include building, play testing, and revising your own original game that can be played with friends and added to your game portfolio.

This course needs a minimum of four MPS students to be offered

**3D MODELING**

#8575-Semester I      Sophomore, Junior, Senior      1.00 credit      Two-semester course  
#8576-Semester II  
Cost: \$250 each semester

Prerequisite: Evolution of Games

Learn the 3D modeling techniques used in movies, visual effects, video games, cartoons, commercials, and animation! Using 3DS Max, you will work in this highly skill-based art form to manipulate and sculpt pure imagination into substantial forms. By the end of the course, you will have developed a portfolio of original projects that you can use when applying for an internship, higher education, or a job.

**MOBILE GAME DESIGN**

#8577      Freshman, Sophomore, Junior, Senior      .50 credit      Semester course  
Cost: \$250

Prerequisite: Evolution of Games

It seems as if everyone has an idea for an "app" these days! In this course, you will use professional game design techniques to create playable mobile games that you can add to your game design portfolio. Using GameSalad, you will learn the fundamentals of game design, apply competition and playfulness, implement game design elements by modifying game templates from various video game genres, and debug using iterative game design.

**UNITY 3D PROGRAMMING**

#8578      Junior, Senior      .50 credit      Semester course  
Cost: \$250

Prerequisite: Evolution of Games, GameMaker Programming I, and GameMaker Programming II

Are you ready to take your programming skills into the next dimension? Learn how to create dynamic Unity™ 3D games using the same industry-standard developing engine as professionals. You will create two fully executable games that can be played on many platforms and added to your digital portfolio.

**GAME PRODUCTION AND MARKETING**

#8579      Junior, Senior      .50 credit      Semester course  
Cost: \$250

Prerequisite: Evolution of Games, GameMaker and two skills courses

Find out how the video game industry really works by learning the tools, skills, and methodologies used to create and produce video games. You'll divide into teams to create, market, and sell your game while battling for the title of "Most Games Sold" using a virtual-dollar system. Commercially viable board and card games may result, and recommendations are given at the end of the course for taking them to market.