COURSE TITLE

Multimedia Production

LENGTH

One Semester
Grades 7-8

DEPARTMENT

Computer Technology
Barbara O'Donnell, Supervisor

SCHOOL

Union Middle School

DATE

September 10, 2018

Initial BOE Approval Date (Born on): 2/13/2017

Multimedia Production

I. Introduction/Overview/Philosophy

In this course, students will learn "how things work" by investigating how software and hardware function. This course is designed to go beyond basic computer application skills. Students will explore intermediate and advanced multimedia topics, including, but not limited to, presentations, animation, movie making, digital image and sound editing, and 3D modeling.

II. Objectives

Course Outline:

A. Hardware and Software basics
    1. Input, output and storage devices
    2. RAM and ROM
    3. Operating system and applications
B. Digital Image Editing
    1. Import and use images from devices
    2. Change image size and resolution
    3. Crop images
    4. Use painting tools
    5. Convert images to various file formats
C. Digital Sound Editing
    1. Capture sounds from devices
    2. Applying changes such as copying/pasting/mixing and effects
    3. Digitally create and edit audio using various tools
D. Digital Video Editing
    1. Create and edit movies and/or video files
    2. Capture/import digital video
    3. Export digital videos/movies
E. Digital Animation
    1. Manipulate text and images to create an animated product
    2. Edit animated products
F. 3D Modeling
    1. Understand how a 3D printer works
    2. Design and create three dimensional models

Student Outcomes:

After successfully completing this course, the student will:

- Use a variety of devices to access, import, store and exchange files
- Design images and vector shapes
- Import, export, edit and convert a variety of file types
- Capture and edit digital audio and video clips
- Create original audio, video, animation and three dimensional products

- Understand the function of computer hardware and software
- Troubleshoot common hardware and software issues

New Jersey Student Learning Standards

CAREER READY PRACTICES

CRP4 Communicate clearly and effectively and with reason.

Career-ready individuals communicate thoughts, ideas, and action plans with clarity, whether using written, verbal, and/or visual methods. They communicate in the workplace with clarity and purpose to make maximum use of their own and others' time. They are excellent writers; they master conventions, word choice, and organization, and use effective tone and presentation skills to articulate ideas. They are skilled at interacting with others; they are active listeners and speak clearly and with purpose. Career-ready individuals think about the audience for their communication and prepare accordingly to ensure the desired outcome.

CRP6 Demonstrate creativity and innovation

Career-ready individuals regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices, and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.

CRP8 Utilize critical thinking to make sense of problems and persevere in solving them

Career-ready individuals readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem; they thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem. Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.

CRP11 Use technology to enhance productivity

Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks-personal and organizational-of technology applications, and they take actions to prevent or mitigate these risks.

CRP12 Work productively in teams while using cultural global competence

Career-ready individuals positively contribute to every team, whether formal or informal. They apply an awareness of cultural difference to avoid barriers to productive and positive interaction. They find ways to increase the engagement and contribution of all team members. They plan and facilitate effective team meetings.

TECHNOLOGY STANDARDS

STANDARD 8.1: EDUCATIONAL TECHNOLOGY: ALL STUDENTS WILL USE DIGITAL TOOLS TO ACCESS, MANAGE, EVALUATE, AND SYNTHESIZE INFORMATION IN ORDER TO SOLVE PROBLEMS INDIVIDUALLY AND COLLABORATE AND TO CREATE AND COMMUNICATE KNOWLEDGE.

8.1.8.D.2 Demonstrate the application of appropriate citations to digital content.
8.1.8.D.3 Demonstrate an understanding of fair use and Creative Commons to intellectual property.

STANDARD 8.2: TECHNOLOGY EDUCATION, ENGINEERING, DESIGN, AND COMPUTATIONAL THINKING – PROGRAMMING: ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE NATURE AND IMPACT OF TECHNOLOGY, ENGINEERING, TECHNOLOGICAL DESIGN, COMPUTATIONAL THINKING, AND THE DESIGNED WORLD AS THEY RELATE TO THE INDIVIDUAL, GLOBAL SOCIETY, AND THE ENVIRONMENT.

8.2.8.E.2 Demonstrate an understanding of the relationship between hardware and software.
8.2.8.E.4 Use appropriate terms in conversation (e.g., programming, language, data, RAM, ROM, Boolean logic terms).

STANDARD 9.2: CAREER AWARENESS, EXPLORATION, AND PREPARATION

9.2.8.B.3 Evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career.
9.2.8.B.4 Evaluate how traditional and nontraditional careers have evolved regionally, nationally, and globally.

STANDARD 9.3: CAREER AND TECHNICAL EDUCATION

PATHWAY: A/V TECHNOLOGY & FILM (AR-AV)

9.3.12.AR-AV.2 Demonstrate the use of basic tools and equipment used in audio, video and film production.
9.3.12.AR-AV.3 Demonstrate technical support skills for audio, video and/or film productions.
9.3.12.AR-AV.4 Design and audio, video and/or film production.

PATHWAY: JOURNALISM & BROADCASTING (AR-JB)

9.3.12.AR-JB.3 Plan and deliver a media production (e.g., broadcast, video, Internet and mobile).

PATHWAY: PRINTING TECHNOLOGY (AR-PRT)

9.3.12.AR-PRT.2 Demonstrate the production of various print, multimedia or digital media products.

PATHWAY: VISUAL ARTS (AR-VIS)

9.3.12.AR-VIS.3 Analyze and create two and three-dimensional visual art forms using various media.

II. Proficiency Levels

This course is open to grades 7 and 8.

III. Methods of Assessment

Student Assessment
The teacher will provide a variety of assessments during the course of the year. Among these are: homework, laboratory exercises, teacher-made tests and quizzes, and long-term projects.

Curriculum/Teacher Assessment
The teacher will provide the subject area supervisor with suggestions for changes on an ongoing basis.

IV. Grouping

This is a middle school elective course offered to students in grade 7 and grade 8.

V. Articulation/Scope & Sequence/Time Frame

Course length is one semester.

VI. Resources

Resources include but are not limited to:

- 3D Modeling
  - https://www.tinkercad.com/
  - http://zspace.com/
- PhotoShop
  - http://lifehacker.com/5758404/learn-the-basics-of-photoshop-the-complete-guide
  - http://www.photoshop.com/learn
  - https://helpx.adobe.com/photoshop/tutorials.html
- Garageband
  - http://www.macworld.com/article/2083402/getting-started-with-garageband.html
  - https://www.atomiclearning.com/garageband
- iMovie
  - https://www.atomiclearning.com/imovie_hd
  - https://vimeo.com/blog/post/video-101-editing-with-imovie

VII. Suggested Activities

Student pre-planning and storyboarding preparation, long-term projects, daily written log entry reflections, active participation in class discussions and activities.

VIII. Methodologies

The following methods of instruction are suggested: lecture, group projects, demonstration, and hands-on applications class presentations.

IX. Interdisciplinary Connections

Infused within this course are connections to mathematics, language arts and technology including the effective use of applications and the exhibit of appropriate digital citizenship by practicing safe, legal, and responsible use of information and technology.

XI. Differentiating Instruction for Students with Special Needs: Students with Disabilities, Students at Risk, English Language Learners, and Gifted & Talented Students

Differentiating instruction is a flexible process that includes the planning and design of instruction, how that instruction is delivered, and how student progress is measured. Teachers recognize that students can learn in multiple ways as they celebrate students' prior knowledge. By providing appropriately challenging learning, teachers can maximize success for all students.

Differentiating in this course includes but is not limited to:

Differentiation for Support (ELL, Special Education, Students at Risk)

- Scale project objectives to less challenging outcomes
- Model skills / techniques to be mastered
- Assist student with long and short term planning of assignments
- Use the design process to self-evaluate
- Restate, reread, and clarify directions/questions
- Peer mentoring (pairing with another student who is working at an advanced level)
- Individual conferring and guiding toward appropriate texts and topics
- Partnering
- Pre-selected sources
- Teacher modeling
- Multimedia approach to accommodating various learning styles
- Scaffolding of materials and assignments
- Differentiated teacher feedback on assignments
- Re-teaching and review

Differentiation for Enrichment

- Flexible grouping
- Use the design process to self-evaluate
- Encourage student to revise and improve assignments
- Encourage self-implementation of presented topics
- Scale project objectives to more challenging outcomes
- Individual conferring and guiding toward more complex texts and topics
- Student mentoring

- Provide student with exemplars of innovative and highly conceptual works that involve greater risk-taking and complexity in their creation

XII. Professional Development

The teacher will continue to improve expertise through participation in a variety of professional development opportunities.

XIII. Curriculum Map/Pacing Guide

Unit Topic	Time Allocated	Differentiating Instruction for Students with Disabilities, Students at Risk of School Failure, English Language Learners, & Gifted & Talented Students	Standards	Assessments
Hardware and Software Basics • Input, output and storage devices • RAM and ROM • Operating system and applications	1 week	*For Support:* • Pre-selected sources • Re-teaching and review *For Enhancement:* • Student mentoring • Provide student with exemplars of innovation and highly conceptual works that involve greater risk-taking and complexity in their creation	*Standards:* CRP11, 8.2.8.E.2, 8.2.8.E.4	*Formative Assessment:* Questioning, exit tickets *Summative Assessment:* Quiz at the conclusion of units in GCFLearnFree.org
Presentations • Worst Presentation Ever • Interview of a Lifetime	2 weeks	*For Support:* • Model skills/techniques to be mastered • Peer mentoring • Partnering • Teacher modeling *For Enhancement:* • Encourage self-implementation of presented topics • Encourage student to revise and improve assignments	*Standards:* CRP4, CRP6, CRP8, CRP11, CRP12, 8.1.8.D.2, 8.1.8.D.3, 9.3.12.AR-PRT.2, 9.3.12.AR-VIS.3	*Formative Assessment:* 3-2-1 Questioning *Summative Assessment:* Hyperdoc questions Presentation with rubric

Unit Topic	Time Allocated	Differentiating Instruction for Students with Disabilities, Students at Risk of School Failure, English Language Learners, & Gifted & Talented Students	Standards	Assessments
Photoshop • What is Photoshop? • Getting to know the Photoshop interface • Basic tasks in Photoshop • Saving images • Understanding layers • Levels, curves, and color • Sharpening and noise reduction • Working with brushes and text	3 weeks	*For Support:* • Peer mentoring • Teacher modeling • Use the design process to self-evaluate *For Enhancement:* • Individual conferring and guiding toward more complex topics • Student mentoring	*Standards:* CRP6, CRP11, 9.3.12.AR-PRT.2, 9.3.12.AR-VIS.3	*Formative Assessment:* Turn and talk to review new skills or to seek support *Summative Assessment:* Quiz provided through GCFLearnFree.org
Digital Sound Editing • Capture sounds from devices • Applying changes such as copying/pasting/mixing and effects • Digitally create and edit audio using various tools	3 weeks	*For Support:* • Multimedia approach to accommodating various learning styles • Scaffolding of materials and assignments *For Enhancement:* • Scale project objectives to more challenging outcomes • Individual conferring and guiding toward more complex texts and topics	*Standards:* CRP4, CRP6, CRP8, CRP11, CRP12, 9.2.8.B.3, 9.2.8.B.4, 9.3.12.AR-AV.2, 9.3.12.AR-AV.3, 9.3.12.AR-AV.4, 9.3.12.AR-JB.3, 9.3.12.AR-PRT.2, 9.3.12.AR-VIS.3	*Formative Assessment:* Hyperdoc Good and Welfare discussions *Summative Assessment:* Pre-written radio commercials produced by students and graded with rubric Student written radio commercials produced by students and graded with a rubric

Unit Topic	Time Allocated	Differentiating Instruction for Students with Disabilities, Students at Risk of School Failure, English Language Learners, & Gifted & Talented Students	Standards	Assessments
Digital Video Editing • Create and edit movies and/or video files • Capture/import digital video • Export digital videos/movies	5 weeks	*For Support:* • Assist student with long and short term planning of assignments • Use the design process to self-evaluate • Individual conferring and guiding toward appropriate text and topics • Partnering • Differentiated teacher feedback on assignments *For Enhancement:* • Flexible grouping • Student mentoring	*Standards:* CRP4, CRP6, CRP8, CRP11, 8.1.8.D.3, 9.3.12.AR-AV.2, 9.3.12.AR-AV.3, 9.3.12.AR-AV.4, 9.3.12.AR-JB.3, 9.3.12.AR-PRT.2	*Formative Assessment:* Teacher observation Teacher/student discussion *Summative Assessment:* Student written and produced final movie project scored with rubric (projects may be, but not limited to: music video, newscast, tribute video, instructional video, etc.)
Digital Animation • Manipulate text and images to create an animated product • Edit animated products	4 weeks	*For Support:* • Restate, reread, and clarify directions/questions • Scale project objectives to less challenging outcomes • Partnering • Teacher modeling • Re-teaching and review *For Enhancement:* • Flexible grouping • Encourage self-implementation of presented topics • Student mentoring	*Standards:* CRP4, CRP6, CRP8, CRP11, CRP12, 8.1.8.D.3, 9.3.12.AR-AV.2, 9.3.12.AR-AV.3, 9.3.12.AR-AV.4, 9.3.12.AR-JB.3 9.3.12.AR-PRT.2	*Formative Assessment:* Teacher observation Mini projects for each sub-unit (animating using Google Slides, Powerpoint and stop-motion animation using iMovie) *Summative Assessment:* Student written and produced "How to" animation project scored with rubric

Unit Topic	Time Allocated	Differentiating Instruction for Students with Disabilities, Students at Risk of School Failure, English Language Learners, & Gifted & Talented Students	Standards	Assessments
3D Modeling • Understand how a 3D printer works • Design and create three dimensional models	2 weeks	*For Support:* • Scale project objectives to less challenging outcomes • Peer mentoring • Individual conferring and guiding toward appropriate texts and topics • Teacher modeling *For Enhancement:* • Encourage the student to revise and improve assignments • Individual conferring and guiding toward more complex topics	*Standards:* CRP6, CRP8, CRP11, 9.3.12.AR-PRT.2, 9.3.12.AR-VIS.3	*Formative Assessment:* Teacher observation, progress monitoring *Summative Assessment:* Final 3D printed objects (key chain, utility object, etc.) Scored with rubric