Course Title: Anatomy and Physiology

Course Description:

Approximate budget request (to include cost of texts and materials):

Texts: 24 etext/hardcopy $5000

Pogil A&P resource text $50

Models for the various systems (human torso $950, brain model $230,

Organs and animals for dissection (rats $200, hearts $300,

National Center for Case Studies in Science membership $25

Cellular and tissue microscope slides $525

Lab equipment, consumables, local purchases, other materials $1000

Total: $8280

REQUIRED COMPONENTS:

1. Rationale

Our life science program has been successful in stimulating the interests of students and leaving them wanting more. A large piece of this interest lies in the realm of human biology. Current NGSS/State Biology curriculum contains much less human biology than past traditional biology courses. While our AP Biology helps to fulfill this for some, many students are left without a second opportunity to explore the field. .

2. Educational Program Goals

The primary goal of this class is to give students an opportunity for a more in-depth experience with the anatomy and physiology of the human body.

3. Target Audience

11th and 12th grade students interested in pursuing elective credits in the life sciences.

4. Prerequisites

Students will have completed Biology I.

5. Course Objectives

Achieve mastery in the following essential questions:

    How are human systems structured to perform specific functions?

    How do human systems help maintain homeostasis and benefit the body as a whole?

    How do disease and age impact the organ systems of the human body?

Essential Learning Tasks and Activities
Unit 1: How Are We Organized?   - Language of Anatomy- Homeostasis and Body System   - Cells & Tissues   - Integumentary System
Unit 2: How Do We Move?   - Skeletal System   - Muscular System
Unit 3: What Controls & Regulates Our Body?

• Nervous System
• Endocrine System (if time permits)
Unit 4: What are the Processes of the Body?
• Blood, Cardiovascular, & Lymphatic Systems Respiratory System
• Digestive System
• Urinary System
• Reproductive Systems

6. Evaluation of Student Success

Assessments will include performance tasks, lab work and practicals, dissections, projects, quizzes, and tests.

Approved by:

Principal

Assistant Superintendent   Superintendent

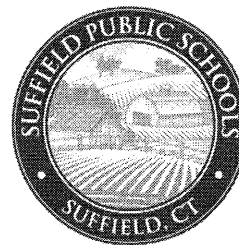Sub-Committee Chairperson   BoE Chairperson

/kmm
TEACHINGLEARNING/Course Proposal

Course Proposal

Course Title: Computer Aided Drafting and Design

Course Description:

This course introduces students to mechanical design and the drafting/design for manufacturing process. Using Computer Aided Drafting (CAD) software students will be introduced to basic layout, isometric and orthographic projections, section views, and dimensioning. Students will learn skills necessary to fully describe designs to create final working drawings to build or manufacture the design. Areas of specialization, related occupations, and postsecondary education within the STEM Career Cluster will be identified and integrated into classroom learning. Students will learn desktop computer literacy skills including, Windows 10 operating system, file hierarchy, mouse gestures, file backups, local and cloud-based file management.

Approximate budget request (to include cost of texts and materials): $___4000

REQUIRED COMPONENTS:

1. **Rationale**
   (Why class is needed)
   Suffield high school currently does not have any type of computer aided design class. This leaves students wishing to enter any engineering/manufacturing program at the secondary level at a disadvantage. Manual board drafting has fallen by the wayside in current years and all new manufacturing/ engineering programs involve some type of digital design software (CAD). This class will fill that knowledge gap, Suffield high school currently has SOLIDWORKS design software which is a one of the most widely used CAD programs, it is powerful and is popular with engineers and designers. Asnuntuck Community college also uses SOILDWORKS software and it is hoped that an articulation agreement could be created in the future to earn student's college credit.

2. **Educational Program Goals**
   (The broad results a student should achieve by the end of this class)
   This class will foster an understanding of computer aided design and the different applications that it can be used for. This class will allow students to understand three-dimensional design and 3D printing. Students will learn how design for a variety of manufacturing methods, multiple drawing conventions and Design for Manufacturing and Assembly. (DFMA) is an engineering methodology that focuses on reducing time-to-market and total production costs by prioritizing both the ease of manufacture for the product's parts and the simplified assembly of those parts into the final product – all during the early design phases of the product lifecycle.

3. **Target Audience**
   (Who the class is designed for)
   Any student who is looking to learn more about manufacturing and computer aided engineering. Any student considering careers utilizing a technical skill , engineering, . Students wishing to learn practical applications of Geometry, Algebra, and trade craft math. This class will also have a 3D printing component to it and well as.

4. Prerequisites
(Student's prior knowledge or courses student must have previously taken

None.

5. Course Objectives
(Knowledge-Skills-Understandings and the match to Connecticut Frameworks; show technology connections; materials)

ESSENTIAL KNOWLEDGE

- Career Pathways within the STEM Cluster
- 21st century skills
- Identify and describe the basic elements used in computer aided drafting and design
- Identify and describe the basic hardware and operating systems used in computer aided drafting and design
- Describe the process of utilizing various hardware and operating systems
- Identify various symbols to interpret and read blueprints
- Describe and demonstrate the process for creating various types of views using a well-organized process
- Create assemblies and views in 3-D format
- Describe and demonstrate the process for converting 2-D drawings to 3-D format as well as the process for creating construction planes
- Role of OSHA
- Impact of and influence of technology on society, culture, and environment
- Resources, processes, concepts and tools of technology

Essential Skills
- 21st century foundation skills and workplace competencies
- Acquire the skills to investigate career pathways in STEM areas and make informed postsecondary/career decisions
- Interpret, analyze and evaluate information
- Use technology tools to organize and analyze information
- Collect, organize, display and compare data
- Solve problems and develop strategies to determine solutions
- Describe physical objects as geometric entities
- Describe and demonstrate the process of using mechanical and electronic measuring devices accurately as required by the design intent
- Describe and demonstrate the use of graphic communication for a given problem
- Express a design of an object as a 3D model
- Export and import images/files in a variety of file formats
- Evaluate choice and placement of dimensions. notes and annotations to clearly communicate design intent
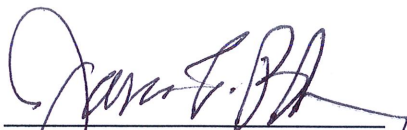- Revise a design and update finished drawings appropriately

- Identify basic geometric elements (e.g.. line, circle, rectangle. sphere. cube)
- Describe and apply the basic geometric concepts to building 3D models (e.g..tangent. parallel concentric. etc.)
- Define and apply computer terminology
- Store. copy, move, and retrieve information to/from various drives
- Interpret basic views and dimensions in a working drawing.
- Identify geometric tolerance symbols
- Interpret drawings, pictures, and symbols
- Describe the process for setting and manipulating drawing elements
- Create and manipulate line types, colors and layers/levels
- Create and edit basic geometry by inputting coordinates
- Insert and manipulate text and fonts
- Insert and manipulate dimensions
- Generate a 2-D multi-view drawing
- Generate a pictorial drawing
- Scale and print hard copy of output device
- Explain the use and need for scaled drawings
- Create a 2-D drawing from a 3-D model
- Create a 3-D model from a 2-D drawing
- Demonstrate positive work attitudes, productive use of time, and the ability to work independently and/or cooperatively
- Manage or allocate time to complete various assignments
- Organize and process data into usable formats
- Research various topics or ideas and summarize findings
- Acquire, analyze, and communicate information
- Conduct thoughtful research
- Select and apply the appropriate application software to common tasks
- Effectively and safely use the resources, concepts and tools of technology

6. **Evaluation of Student Success**
   (Indications of competent student performance in attainment of course objectives, methods, types and frequency of assessment)

- Project-Based Learning Applications
- Final Exam/Project
- Daily Applications
- Individual/Collaborative Applications
- Demonstration of Skills
- Observations
- Tests and Quizzes
- Rubrics
- Student/Peer Reflection
- Student/Teacher Feedback

Approved by:

_____

Principal

_____

Assistant Superintendent
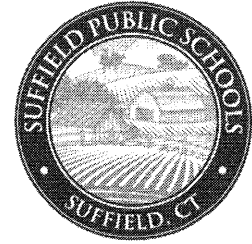
_____

Superintendent

_____

Sub-Committee Chairperson

_____

BoE Chairperson

/kmm
TEACHINGLEARNING/Course Proposal

Course Proposal

Course Title: ___ **ECE Popular Music and Diversity in American Society** ___

Course Description: This course falls within both Content Area 1 (Arts and Humanities) and Content Area 4 (Diversity and Multiculturalism) of the General Education curriculum at the University of Connecticut (more information on the goals of these content areas is provided below). It will encourage students to think critically and creatively about popular music and its social and historical meanings and contexts, particularly in relation to issues of diversity. The focus is on American popular music of the last one hundred years or so, and particularly the last fifty. The students will study significant styles of American popular music in chronological order, and will explore several recurring themes throughout the course:

the role of popular music as a symbol of identity (race, class, gender, generation)
the interaction of European American, African American, and Latin American traditions
the influence of mass media and technology (printing, recording, radio, video, internet)

Approximate budget request (to include cost of texts and materials): **$1,300 (two books per student for an estimated 10 students)**

REQUIRED COMPONENTS:

1. Rationale
(Why class is needed)

Music education prepares students for a lifetime of active, satisfying involvement with music in a variety of forms. This course is for any student who wishes to further their understanding of popular music in the context of American culture and history.

2. Educational Program Goals
(The broad results a student should achieve by the end of this class)
-Musical understanding in the context of American history and culture
-Continued musical education
-Up to date experiences in music technology
-A deep and lasting appreciation of music
-Fostering varied cultural and societal understanding

3. Target Audience
(Who the class is designed for)
Anyone in grades 10-12 who would like to learn about popular music history and culture and are able to handle mature content.

4. Prerequisites
(Student's prior knowledge or courses student must have previously taken
None. All students regardless of prior skill should have a chance to learn this material.

5. Course Objectives
(Knowledge-Skills-Understandings and the match to Connecticut Frameworks; show technology
connections; materials)

1) Acquired knowledge about the rich variety of popular musics in the United States from cultural, historical, and structural/stylistic perspectives
2) Gained understanding of the ways in which these musics have expressed and continue to express the responses of diverse groups to their position and status in regional and national culture, including resistance to hegemonic interpretation and appropriation
3) Become sensitive to a variety of ways in which music may encode and actualize social power relationships, and how this is reflected in music to which they choose to listen or to which they are exposed in advertising, shopping malls, movies etc.
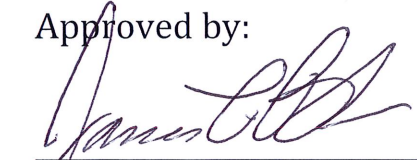
6. Evaluation of Student Success
(Indications of competent student performance in attainment of course objectives, methods, types and
frequency of assessment)

-Discussion groups: SLD, Class and small group
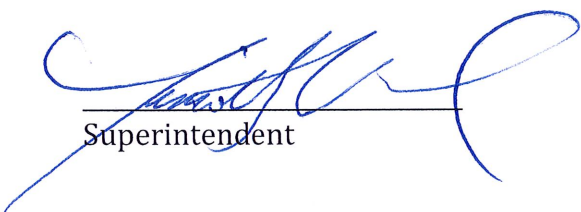-Critical reading and analysis of a textbook survey and primary sources representing diverse experiences

-Critical listening and analysis to audio and video recordings, and live performances
-Research on American culture and history, including a scholarly research paper.
-Quizzes
-Unit tests
-Composition of original music in response to studied music using the music technology lab

Approved by:

_____
Principal

_____
Assistant Superintendent

_____
Superintendent

_____
Sub-Committee Chairperson

_____
BoE Chairperson