COURSE OUTLINE OF RECORD

Number: DART G195  TITLE: Introduction to Biotechnology Media Design

ORIGINATOR: Sean Glumace  EFF TERM: Fall 2013
FORMERLY KNOWN AS:  DATE OF OUTLINE/REVIEW: 04-02-2013
CROSS LISTED COURSE:  TOP NO: 0614.00

SEMESTER UNITS: 3.0
HRS LEC: 36.0  HRS LAB: 54.0  HRS OTHER: 0.0
CONTACT HRS TOTAL: 90.0
STUDY NON-CONTACT HRS RECOMMENDED: 72.0

CATALOG DESCRIPTION:
This course emphasizes the foundational digital media skills required to design and create professional media products for the BioTech field. Students will develop conceptual pathways related to interdisciplinary STEAM fields, experiment with mixed digital media, including 3D modeling, and discuss the importance of research, models, and props in the design and execution of the final product. Career options, self-promotion, and practical application of digital media skills will also be discussed.

JUSTIFICATION FOR COURSE:
In order to keep up with demand, companies in LA and Orange County counties are in need of BioTech Digital Media Designers with a combination of human anatomy understanding combined with creative digital media skills.

The principle task of a BioTech Digital Media Designer is to communicate somewhat complex scientific concepts in simple clear, well designed, creative images. These images and 3D multimedia products are designed, then produced for the full spectrum of media distribution in various digital media formats. This course will also blend interdisciplinary curriculum between human anatomy/biology courses and digital media.

PREREQUISITES:

COREQUISITES:

ADVISORIES:
• DART G150: Photoshop, Beginning

ASSIGNED DISCIPLINES:
• Graphic arts (desktop publishing)
• Multimedia

MATERIAL FEE: Yes [ ] No [X] Amount: $0.00

CREDIT STATUS: Noncredit [ ] Credit - Degree Applicable [X]  Credit - Not Degree Applicable [ ]

GRADING POLICY: Pass/No Pass [ ] Standard Letter [X]  Not Graded [ ]  Satisfactory Progress [ ]

OPEN ENTRY/OPEN EXIT: Yes [ ] No [X]

TRANSFER STATUS: CSU Transferable[X]  UC/CSU Transferable[ ]  Not Transferable[ ]

BASIC SKILLS STATUS: Yes [ ] No [X]  LEVELS BELOW TRANSFER: Not Applicable

CALIFORNIA CLASSIFICATION CODES: Y - Not Applicable

NON CREDIT COURSE CATEGORY: Y - Not applicable, Credit Course

OCCUPATIONAL (SAM) CODE: C

REPEATABLE ACCORDING TO STATE GUIDELINES: No [X]  Yes [ ] NUMBER REPEATS:
REQUIRED FOR DEGREE OR CERTIFICATE: No [ ] Yes [X]
BioTech Digital Media Design
Biotechnology Media Design (Certificate of Specialization)

GE AND TRANSFER REQUIREMENTS MET:

COURSE LEVEL STUDENT LEARNING OUTCOME(S) Supported by this course:

1. Demonstrate intermediate digital media arts software knowledge applied to biotechnology subject matter.

2. Demonstrate project based learning of basic cell structure, human anatomy, medical product design in-situ and special projects.

3. Demonstrate knowledge of life science markets, size, location and specialty.

4. Demonstrate teamwork in accomplishing interdisciplinary project based learning.

COURSE OBJECTIVES:
1. Design, create and execute digital images using graphic software of skin, surface, deep and skeletal muscles
2. Design, create and execute a digital file from pencil drawing of the brain
3. Design, create and execute a digital file of particular cell functions.

COURSE CONTENT:

LECTURE CONTENT:

A. Design Process
   A. Concept, production, and publication
   B. Visual research
   C. Thumbnails and comprehensives
   D. Critiques and revision
   E. Software Choices

B. Fundamentals of BioTech Digital Design
   A. Formal elements
   B. Principles of design
   C. Terminology

C. Digital Tools - Illustrator
   A. Vector drawing tools; pen Beziér curves
   B. Gradient/Mesh
   C. Layers

D. Digital Tools - Photoshop
   A. Raster imaging tools; brushes
   B. Line drawings/Tracing
C. Layers

E. Digital Tools - 3D
   A. Animation principles
   B. Lighting techniques
   C. WireFrame Layers

F. Fundamentals of Anatomy - Vector & Raster
   A. Skeletal
   B. Deep Muscle/Surface Muscle
   C. Skin

G. Fundamentals of Biology - Vector & Raster
   A. Cell Structure
   B. Cell Function
   C. Cellular Communication

H. Fundamentals of Physiology - Vector & Raster
   A. Organs/Organ Function
   B. Brain/Electrical System
   C. Mechanical Systems

I. Portfolio Design
   A. Online Portfolios
   B. Career Options/Marketing
   C. Delivery/Distribution Methods

LABORATORY CONTENT:
Design 2D and 3D medical illustrations using digital software. Complete online portfolios.

Design Process
A. Concept, production, and publication
B. Visual research
C. Thumbnails and comprehensives
D. Critiques and revision
E. Software Choices
Fundamentals of BioTech Digital Design
A. Formal elements
B. Principles of design
C. Terminology
Digital Tools - Illustrator
A. Vector drawing tools; pen Beziér curves
   B. Gradient/Mesh
   C. Layers
Digital Tools - Photoshop
A. Raster imaging tools; brushes
   B. Line drawings/Tracing
   C. Layers
Digital Tools - 3D
A. Animation principles
   B. Lighting techniques
   C. WireFrame Layers
Fundamentals of Anatomy - Vector & Raster
A. Skeletal
B. Deep Muscle/Surface Muscle
C. Skin
Fundamentals of Biology - Vector & Raster
A. Cell Structure
B. Cell Function
C. Cellular Communication
Fundamentals of Physiology - Vector & Raster
A. Organs/Organ Function
B. Brain/Electrical System
C. Mechanical Systems
Portfolio Design
A. Online Portfolios
B. Career Options/Marketing
C. Delivery/Distribution Methods

METHODS OF INSTRUCTION:

A. Lecture:
B. Lab:
C. Online:

INSTRUCTIONAL TECHNIQUES:

Learning/teaching strategies will include lecture, demonstration, text readings, exercises, practice, and tutorial instruction. Students will view the demonstrations via video tutorials on a CD or the Internet, then complete the assignments. Students will view examples for the purpose of assessing the effectiveness and functionality of the projects. The students will interact with the instructor via email, voice mail, and the websites they maintain.

Instructional methods will include providing online lecture material (additional information and/or clarification for weekly assignments or readings), monitor online group activities and conduct online class discussions. Student activities will include: viewing/downloading instructor's syllabus, class information, class assignments and calendar, and discussion group instructions. Students will submit assignments via email attachments or course websites.

COURSE ASSIGNMENTS:

Reading Assignments

Using the online library, research career options, salaries, and qualification then create journal of entries.

Out-of-class Assignments

Projects- Weekly projects demonstrating skills acquired and a self-designed project.

Writing Assignments

Reflective logs / Response to weekly topics

METHODS OF STUDENT EVALUATION:

Midterm Exam
Final Exam
Written Assignments
Projects (ind/group)
Problem Solving Exercises

Demonstration of Critical Thinking:

Midterm - Submit & showcase digitally created pieces based on specific elements for skills acquired to date.

Final: Submit a 10 piece professional online portfolio including examples of; raster images, digital drawings, and 3D elements depicting anatomy, biology and physiology topics.
**Required Writing, Problem Solving, Skills Demonstration:**

Maintain reflective logs and respond to the discussion topics weekly.

**TEXTS, READINGS, AND RESOURCES:**

**TextBooks:**

**Software:**
2. Blender, 3D Studio, Maya or other 3D Software. Various, current ed., Various ed.

**LIBRARY:**

Adequate library resources include: Online Materials

**Comments:**

**Attachments:**

[Attached Files]