SAN DIEGO COMMUNITY COLLEGE DISTRICT
COLLEGE OF CONTINUING EDUCATION
COURSE OUTLINE

SECTION I

SUBJECT AREA AND COURSE NUMBER

CLTX 642

COURSE TITLE

ADVANCED INDUSTRIAL EMBROIDERY AND DIGITIZATION

TYPE COURSE

NON- FEE   VOCATIONAL

CATALOG COURSE DESCRIPTION

This advanced course builds on the basics learned in the Introduction to Embroidery and Digitizing course and provides an in-depth understanding of industrial embroidery machinery, digitizing design software and the production of complex embroidered textiles. Students design and digitize embroidered products for various purposes and applications. (FT)

LECTURE/LABORATORY HOURS

72 - 80

ADVISORIES

Completion of CLTX 641 Introduction to Embroidery and Digitizing with a grade of 'C' or better, or equivalent.

RECOMMENDED SKILL LEVEL

Knowledge of general math and basic computer skills.

INSTITUTIONAL STUDENT LEARNING OUTCOMES

1. Social Responsibility
   SDCCE students demonstrate interpersonal skills by learning and working cooperatively in a diverse environment.
2. Effective Communication
   SDCCE students demonstrate effective communication skills.
3. Critical Thinking
   SDCCE students critically process information, make decisions, and solve problems independently or cooperatively.
4. Personal and Professional Development

SDCCE students pursue short term and life-long learning goals, mastering necessary skills and using resource management and self-advocacy skills to cope with changing situations in their lives.

5. Diversity, Equity, Inclusion, Anti-Racism, and Access
SDCCE students critically and ethically engage with local and global issues using principles of equity, civility, and compassion as they apply their knowledge and skills: exhibiting awareness, appreciation, respect, and advocacy for diverse individuals, groups, and cultures.

COURSE GOALS

1. Gain advanced skills in operating and maintaining industrial embroidery machines.
2. Gain proficiency in using industry-standard digitizing software.
3. Explore advanced embroidery techniques with multi-needle and multi-head embroidery machines.
4. Learn the principles of quality control in embroidery production.
5. Gain an understanding of appropriate fabrics and stabilizers for embroidery projects.
6. Gain an understanding of the entrepreneurial mindset and its importance in the industry.

COURSE OBJECTIVES

Upon successful completion of the course, students will be able to:

1. Demonstrate expertise in troubleshooting, understanding machine settings and optimizing machine performance.
2. Use digitizing software to create intricate and custom embroidery designs.
3. Create unique designs by combining advanced embroidery techniques and using multi-needle and multi-head embroidery machines.
4. Demonstrate techniques of thread color changing, synchronization and precision alignment.
5. Evaluate quality control principles of thread tension, registration and stitching consistency.
6. Use fabric and stabilizer knowledge to select appropriate materials for specific projects.
7. Explain entrepreneurial and soft skills and their application in the industry and workplace.

SECTION II

COURSE CONTENT AND SCOPE

1. Introduction to Advanced Embroidery and Digitization and the Product & Textile Surface Treatments: Embroidery Certificate Program
   1.1. Clothing and Textiles (CLTX) programs and pathways
       1.1.1. San Diego College of Continuing Education (SDCCE) programs and

pathways
  1.1.2. Credit by exam
 1.2. Course learning management system
  1.2.1. Canvas
  1.2.2. Other supporting software used
2. Essential Entrepreneurial and Soft Skills in the Classroom and Work Environments
 2.1. Definition of entrepreneurial and soft skills
 2.2. Examples of entrepreneurial and soft skills
  2.2.1. Communication skills
  2.2.2. Conflict resolution skills
  2.2.3. Problem solving
  2.2.4. Design thinking
  2.2.5. Digital tool skills
3. Industrial Embroidery Machines
 3.1. Multi-needle and multi-head
 3.2. Industrial embroidery machine components
 3.3. Machine attachments for specific applications
 3.4. Machine maintenance
  3.4.1. Daily, weekly, monthly and yearly maintenance
  3.4.2. Needle replacement
  3.4.3. Troubleshooting
  3.4.4. Safety protocols for working with industrial machines
4. Fabric Selection and Stabilizers
 4.1. Textile and product construction concerns
 4.2. Types of stabilizers used in machine embroidery
 4.3. Pairing stabilizers with different fabric types for optimal results
5. Advanced Embroidery Techniques
 5.1. Hooping and hoop alternatives
 5.2. Complex techniques
  5.2.1 Incorporating texture and dimension into embroidery designs
  5.2.2 Specialty threads and embellishments
  5.2.3 Layering and three-dimensional (3D) effects in embroidery
 5.3. Exploring and testing textiles and fibers
 5.4. Advanced design interface
  5.4.1. Lettering
  5.4.2. Existing design modification
6. Digitizing Software
 6.1. Manual digitizing versus auto-digitizing
 6.2. Handling intricate details and small lettering
 6.3. Advanced features and functions of industry-standard digitizing software
 6.4. Customizing complex embroidery designs
7. Quality Control and Production Efficiency
 7.1. Principles of quality control in embroidery production
 7.2. Thread tension

    7.3.   Design registration

    7.4.   Consistency in stitching motif multiples

    7.5.   Consistency in hooping on multiples

    7.6.   Inspection, testing, and correction techniques

    7.7.   Sustainable embroidery practices and materials

    7.8.   Reducing waste and environmental impact

8. Documentation/Portfolios of Skills

    8.1. Portfolio

9. Career Options and Job Opportunities

    9.1.   Payroll employee

    9.2.   Self-employment

    9.3.   Freelancing

    9.4.   Employment resources

        9.4.1.   Online marketplaces and job posting sites

        9.4.2.   Social media

        9.4.3.   Networking

APPROPRIATE READINGS

Reading assignments may include, but are not limited to, subject matter textbooks, workbooks, instructor written handouts, industry-related publications, online help pages, articles posted on the internet, information from web sites, online libraries, resource manuals, videos and tutorials. Topics will be related to embroidery and the cut and sew industry.

WRITING ASSIGNMENTS

Appropriate writing assignments may include, but are not limited to:

1. Maintain a portfolio of class notes, technique samples and completed learning project actualizations.
2. Written plan of embroidered product projects using planning document(s), where the student explains their chosen project theme and visual inspiration, and the production process is listed.
3. Calculate the cost of the finished embroidered product project(s).

OUTSIDE ASSIGNMENTS

Outside assignments may include, but are not limited to:

1. Independent, further exploration of a class topic.
2. Independent research on embroidery developments and new trends in the clothing and textile industry.
3. Practical application of embroidery skills on textile products outside of class assignments.

APPROPRIATE ASSIGNMENTS THAT DEMONSTRATE CRITICAL THINKING

Assignments that demonstrate critical thinking may include, but are not limited to:

1. Digitize an existing design and stitch out the design.
2. Create a unique design to digitize and stitch out.
3. Choose and incorporate one complex embroidery technique in a design. Lay out and stitch out the design on appropriate textile or product.
4. Capstone project - create a unique, complex and market-ready embroidered product.

EVALUATION

A student's grade will be based on multiple measures of performance related to the course objectives. The assessment will measure the development of independent critical thinking skills and the student's ability to perform surface design embroidery skills. Evaluation of the student's ability will be based on, but not limited to, the following criteria:

1. Completion of the capstone project.
2. Completion of a portfolio demonstrating digitizing techniques and complex embroidery techniques.
3. Completion of class participation requirements.

Upon successful completion of all courses included in the program, a Certificate of Program Completion will be issued.

METHOD OF INSTRUCTION

Methods of instruction may include, but are not limited to:

1. Classroom and streamed lectures
2. Demonstrations
3. Journaling
4. Laboratory
5. Classroom, virtual, or online discussions
6. Web-based resources
7. Work based learning opportunities
8. Job shadowing
9. Field trips
10. Guest speakers
11. Audio-Visual resources
12. Video resources
13. Collaborative learning
14. Individual/small group instruction

This course, or sections of this course, may be offered through distance education.

TEXTS AND SUPPLIES

Digitizing Made Easy: Create Custom Embroidery Designs Like A Pro, John Deere, Krause Publications, 2008

Supplies:
Students supply basic sewing supplies and at least a 16GB USB flash drive. Access to computer and internet is needed to complete assignments.
Fabrics, apparel items and/or textile products for the capstone project will be provided by students.

PREPARED BY: Teri Tavares, Becky Wilkins, Shirley Pierson DATE: November. 2023

REVISED BY: _____ DATE _____

Instructors must meet all requirements stated in Policy 5500 (Student Rights, Responsibilities and Administrative Due Process), and the Attendance Policy set forth in the Continuing Education Catalog.

REFERENCES:

San Diego Community College District Policy 5500
California Community Colleges, Title 5, Section 55002
Continuing Education Catalog