

SAN DIEGO COMMUNITY COLLEGE DISTRICT
COLLEGE OF CONTINUING EDUCATION
COURSE OUTLINE

SECTION I

SUBJECT AREA AND COURSE NUMBER

CLTX 541

COURSE TITLE

INDUSTRIAL SEWING FUNDAMENTALS

TYPE COURSE

NON-FEE

VOCATIONAL

CATALOG COURSE DESCRIPTION

This course prepares the student for a career in the sewn product trades. Training includes basic industrial sewing techniques, terminology, pattern interpretation, textile characteristics, machine operation, safety, and maintenance for employment in sewn product trades, such as apparel, upholstery, interiors, outdoor gear, military gear, boat canvas and interiors, awning and exterior textile products. Hands-on learning is enriched with industry interactions, ethical sustainable practices, and digital technologies. Skills are evidenced through projects and the skills portfolio. (FT)

LECTURE/LABORATORY HOURS

100 - 108

ADVISORIES

none

RECOMMENDED SKILL LEVEL

Basic computer literacy and knowledge of general math. Sewing experience is helpful but not required.

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. Learn basic industrial sewing construction techniques.
2. Gain an understanding of industrial sewing terminology used in manufacturing to confidently communicate within the industry.
3. Gain experience in using sewing construction tools.
4. Learn to interpret and use industrial production patterns.
5. Learn the basic textile fibers, their construction and expected characteristics when sewn.
6. Learn to identify the primary industrial sewing machines used in the trade, including machine parts.
7. Learn to operate the primary industrial sewing equipment used in the trade, i.e., lockstitch, overlock, coverstitch and walking foot.
8. Gain experience in the basic maintenance of the primary industrial sewing equipment used in the trade.
9. Gain an understanding of safety measures and proper ergonomics for industrial sewing and equipment use.
10. Engage in ethical and sustainable sewn product manufacturing practices.
11. Explore the various career options and diverse job opportunities in the industry.
12. Gain an understanding of employability skills and soft skills and their importance in the workplace.

COURSE OBJECTIVES

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

1. Demonstrate the basic sewing techniques used in industrial sewing.
2. Exhibit knowledge of sewing manufacturing terminology when writing order of operations, specification documents, and in verbal communications with others.
3. Use sewing construction tools correctly to construct a sewn product.
4. Construct a sewn product from an industrial sewing pattern.
5. Identify, select, and work with textiles appropriate to the product being sewn.
6. Identify the primary industrial machines used in the sewing trades, and their parts.
7. Operate the primary industrial sewing machines, i.e., lockstitch, overlock, coverstitch, and walking foot.
8. Perform basic maintenance on the primary industrial sewing equipment used in the trade.

9. Organize an ergonomically correct and safe workspace.
10. Explain and demonstrate ethical and sustainable sewn product manufacturing practices.
11. Identify and discuss employment possibilities for sewers in different facets of a variety of sewn product manufacturing enterprises.
12. Identify, define, and illustrate employability skills and soft skills needed for employment in the industrial sewn product workplace.

SECTION II

COURSE CONTENT AND SCOPE

1. Introduction to Industrial Sewing Fundamentals & The Industrial Sewing and Manufacturing Program
 - 1.1. Clothing and Textile (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. Manufacturing Sewn Products
 - 2.1. Survey of manufacturing history
 - 2.2. Current manufacturing
 - 2.3. Forecasted trends
3. Overview of Industrial Sewing Production
 - 3.1. Pre-production process
 - 3.1.1. Design and production development
 - 3.1.2. Sampling
 - 3.1.3. Marketing
 - 3.1.4. Merchandising
 - 3.2. Production processes
 - 3.3. Manufacturing spaces
 - 3.4. Overview of manufacturing machinery
 - 3.5. Jobs and opportunities in sewn trades
4. Industrial Sewing Equipment
 - 4.1. Types and uses of primary machines
 - 4.1.1. Lockstitch machines
 - 4.1.2. Overlock machines
 - 4.1.3. Coverstitch machines
 - 4.1.4. Walking foot - even feed machines
 - 4.2. Other industrial sewing machines and their uses
 - 4.2.1. Flatlock machine
 - 4.2.2. Zig zag stitch machine
 - 4.2.3. Post bed machine
 - 4.2.4. Blind stitch machine
 - 4.2.5. Double needle machine
 - 4.2.6. Bar-tack machine
 - 4.2.7. Buttonhole machine

- 4.2.8. Other specialized machines
 - 4.3. Industrial pressing equipment
 - 4.4. Industrial cutting equipment
 - 4.5. Digital manufacturing technologies for sewn products
 - 4.6. Emerging technologies
- 5. Basic Machine Skills for Primary Industrial Machines
 - 5.1. Identifying the parts of the machine and their function
 - 5.2. Threading
 - 5.3. Bobbin winding
 - 5.4. Setting and changing needles
 - 5.5. Adjusting stitch length regulators
 - 5.6. Measuring and changing the pressure foot
 - 5.7. Tensions and tension adjustments
 - 5.8. Power machine operation and control
- 6. Basic Maintenance of Primary Industrial Machines
 - 6.1. Cleaning the machine
 - 6.2. Oiling the machine
 - 6.3. Troubleshooting
 - 6.4. Machine safety precautions and rules
- 7. Industrial Sewing Terminology
 - 7.1. Pattern terminology
 - 7.2. Construction terminology
- 8. Industrial Sewing Tools, Accessories, and Supplies
 - 8.1. Measuring tools
 - 8.2. Cutting tools
 - 8.3. Marking tools
 - 8.4. Straight pins, fabric weights, and tacking sprays
 - 8.5. Machine maintenance tools
 - 8.6. Needles
 - 8.6.1. Machine
 - 8.6.2. Hand sewing
 - 8.7. Thread types and selection
 - 8.8. Machine threading tools
 - 8.9. Specialized machine feet
 - 8.10. Industrial sewing thread
 - 8.11. Stabilizers
- 9. Industrial Sewing Textiles
 - 9.1. Fibers and Yarns
 - 9.1.1. Content
 - 9.1.2. Structure
 - 9.1.3. Qualities
 - 9.2. Fabrics
 - 9.2.1. Woven
 - 9.2.1.1. Basic weave structures
 - 9.2.1.2. Characteristics and performance
 - 9.2.1.3. Parts of a woven fabric
 - 9.2.1.3.1. Warp and weft

- 9.2.1.3.2. Grainlines
 - 9.2.1.3.3. Selvages
 - 9.2.2. Knit
 - 9.2.2.1. Basic knit structures
 - 9.2.2.2. Characteristics and performance
 - 9.2.2.3. Parts of a knitted fabric
 - 9.2.2.3.1. Wales/ribs and courses
 - 9.2.3. Non-Woven fabrics and materials
 - 9.2.4. New fibers, fabrics, and technologies emerging in the industry
 - 9.3. Selecting fabrics
 - 9.4. Measuring
- 10. Working Industrial Sewing Patterns
 - 10.1. Symbols
 - 10.2. Markings
 - 10.3. Pattern reading
 - 10.4. Seam types and classifications symbol system
- 11. Basic Industrial Sewing Construction Techniques
 - 11.1. Basic stitching skills
 - 11.1.1. Guiding the fabric
 - 11.1.2. Back tacks and spot tacks
 - 11.1.3. Seaming
 - 11.1.3.1. Seam types
 - 11.1.3.1.1. Plain seams
 - 11.1.3.1.2. Enclosed seams
 - 11.1.3.1.3. Contour seams
 - 11.1.3.1.4. Seams with fullness
 - 11.1.3.2. Classifications
 - 11.1.3.3. Seam finishes
 - 11.1.4. Darts
 - 11.1.5. Facings
 - 11.1.6. Bindings
 - 11.1.7. Bias and bias applications
 - 11.1.8. Supporting and stabilizing
 - 11.1.9. Pockets
 - 11.1.10. Zippers
 - 11.1.11. Closures and fasteners
 - 11.1.12. Hemming
 - 11.1.13. Edge finishes
 - 11.1.14. Linings and backings
 - 11.1.15. Garment particulars
 - 11.1.15.1. Sleeves
 - 11.1.15.2. Collars
 - 11.1.15.3. Bands
 - 11.1.15.4. Plackets
 - 11.1.16. Basic hand sewing
- 12. Safety Precautions and Rules for Industrial Sewing
 - 12.1. Machine operation safety precautions and rules

- 12.2. Floor safety procedures
- 12.3. Ergonomic practices
- 12.4. Organize a workspace
- 13. Employability Skills and Soft Skills
 - 13.1. Communication
 - 13.2. Teamwork
 - 13.3. Critical thinking
 - 13.4. Ethics
 - 13.5. Computer skills
 - 13.6. Soft skills
 - 13.6.1. Flexibility
 - 13.6.2. Life skills
 - 13.6.3. Motivation
 - 13.6.4. Organization
 - 13.6.5. Ability to learn new skills
 - 13.6.6. Client relations
 - 13.6.7. Presentation skills

APPROPRIATE READINGS

Appropriate readings may include but are not limited to, textbooks, equipment manuals, workbooks, instructor-written handouts, trade publications, internet articles, resource manuals, videos, and tutorials related to the industrial sewing trades.

WRITING ASSIGNMENTS

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

1. Maintaining a portfolio of class notes, technique samples, and assignments
2. Create an order of operation sheet to complete a sewn product project correctly and efficiently.
3. Completion of record keeping forms used during the sewn product construction process.
4. Industry reports.

OUTSIDE ASSIGNMENTS

Outside assignments may include, but are not limited to:

1. Internet research, watching audio-visual materials, reading articles, and referenced resources in further exploration of a class topic.
2. Independent research and observation on industry developments, emerging technologies and new trends in industrial sewing trades and manufacturing concepts.

APPROPRIATE ASSIGNMENTS THAT DEMONSTRATE CRITICAL THINKING

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

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1. Student self-evaluation of completed sewing samples and completed product or projects.
2. Creating and utilizing an order of operation sheet to correctly and efficiently complete sewn product projects.
3. Mathematical calculations are performed during the construction process.
4. Selecting appropriate materials, equipment, and tools to sew a successful product meeting quality standard for its intended use.

EVALUATION

A student's competency will be based on multiple measures of performance. Evaluation of the student's ability will be based on, but not limited to, the following criteria:

1. Perform in a variety of activities and assignments.
2. Complete written and practical examinations and projects.
3. Student/Teacher critiques of student projects.
4. Creation of a skills portfolio.
5. Contribute to class and group discussions.
6. Maintain attendance and punctuality per current policy.
7. Demonstrate ability to work independently and as a team member.

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. Laboratory
4. Classroom or online discussions
5. Web-based resources
6. Work-based learning opportunities
7. Job shadowing
8. Field trips
9. Guest speakers
10. Audio and Visual resources
11. Collaborative learning
12. Individual/small group instruction

TEXTS AND SUPPLIES

1. Sewing for the Apparel Industry, Claire Shaeffer, Pearson, 2nd Edition (December 31, 2011)
2. Joining Textiles: Principles and Applications, Ian Jones, Woodhead Publishing; 1st Edition (February 7, 2013)

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3. The Entrepreneur's Guide to Sewn Product Manufacturing, Kathleen Fasanella, Apparel Technical Services Inc. (January 1998)
4. Apparel Manufacturing: Sewn Product Analysis, Grace Kunz and Ruth Glock, Pearson; 4th Edition (June 28, 2004)
5. Apparel Manufacturing Technology, T. Karthik, P. Ganesan, D. Gopalakrishnan, CRC Press; 1st Edition (January 12, 2017)
6. Apparel Production Terms and Processes, Janace E. Bubonia, Fairchild Books; 2nd Edition (January 12, 2017)

Supplies:

Students will need computer and internet access for use outside of the campus classroom and lab.

PREPARED BY: Shirley Pierson MFA. DATE: November 2023

DATA 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