SAN DIEGO COMMUNITY COLLEGE DISTRICT
COLLEGE OF CONTINUING EDUCATION
COURSE OUTLINE

SECTION I

SUBJECT AREA AND COURSE NUMBER

CLTX 662

COURSE TITLE

2D DIGITAL PATTERNMAKING

TYPE COURSE

NON-FEE VOCATIONAL

CATALOG COURSE DESCRIPTION

This course is designed to equip students with patternmaking skills using two-dimensional (2D) computer-aided drafting (CAD) software. These CAD tools streamline the critical process of patternmaking in product development. Students learn pattern drafting, manipulation, and grading within the digital realm. Students create a variety of product patterns, developing the ability to produce accurate, professional patterns to industry standards. (FT)

LECTURE/LABORATORY HOURS

72 - 80

ADVISORIES

Completion of CLTX 661 Patternmaking Fundamentals with a grade of ‘C’ or better, or equivalent

RECOMMENDED SKILL LEVEL

Basic math skills
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 proficiency in using 2D CAD software for patternmaking and fitting modifications.
2. Gain understanding of computer terminology used in CAD patternmaking.
3. Acquire knowledge of and skills in CAD for scalability of sizes and variations for consistency.
4. Learn about the process of preparing technical packages (tech-packs) in apparel production.
5. Explore the various career options and diverse patternmaking job opportunities that exist in the industry.
6. Discuss the ecological impact of digital patternmaking and digital sampling in cut and sew industries.
7. Develop an understanding of the importance of employability skills and the entrepreneurial mindset in the digital transformation of the cut and sew industry workplace.

COURSE OBJECTIVES

1. Produce a variety of digital patterns with fitting modifications.
2. Define terminology for computer-aided drafting and software.
3. Create patterns of different sizes ensuring accuracy of design and style.
4. Complete the pattern specifications and pattern flats for a Tech-Pack.
5. Describe patternmaking career options.
6. Explain how making changes to a pattern in 2D CAD impacts ecology.
7. List the patternmaking skills employers are looking for in a digital patternmaker.

SECTION II

COURSE CONTENT AND SCOPE

1. Introduction to 2D Patternmaking with Digital Software and the Patternmaking for Product Development Certificate Program
    1.1. Clothing and Textiles (CLTX) programs and pathways
        1.1.1. San Deigo 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. Historical Survey of 2-D Computer Pattern Making
    3.1. Evolution of patternmaking to digital processes
    3.2. Systems for product development
4. 2-D Computer Pattern Making Tools, Supplies, Equipment and Workspace
    4.1. Computer
        4.1.1. System requirements
        4.1.2. Software
        4.1.3. Accessories
    4.2. Pattern files
        4.2.1. Formats
    4.3. Measuring, marking and cutting tools
    4.4. Printers and plotters
    4.5. Physical three-dimensional (3D) form
    4.6. Ergonomic principles of a workspace
5. 2-D Computer Patternmaking Software
    5.1. Methods
    5.2. Choice of software
    5.3. Determine scope of task
    5.4. Techniques
        5.4.1. Customize user interface
        5.4.2. Utilize layers
        5.4.3. Use auto save
6. 2-D Computer Aided Grading and Markers, Methods and Techniques
    6.1. Use grading rules
    6.2. Adjust measurements
        6.2.1. One size at a time

6.2.2. In a consistent order
7. Technical Packages (Tech-Packs)
   Technical Drawings for the package
   Creating computer generated product flats
   Points of measure and size specifications
   Grading specifications, rules, and tolerances
8. Documentation/Portfolio of Skills
   8.1. Portfolio
9. Application of Sustainable Principles in the Context of Patternmaking
   9.1. Definition
   9.2. Impact of industry on environment
   9.3. Zero waste
10. Career Exploration in Computer Patternmaking
   10.1. Payroll employee
   10.2. Self-employment
   10.3. Freelancing
   10.4. Employment resources
      10.4.1. Online marketplaces
      10.4.2. Social media

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 digital patternmaking and the cut and sew industry.

WRITING ASSIGNMENTS

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

1. Maintaining a portfolio of class notes, skill samples, testing samples and completed learning project actualizations.
2. Written analysis of a tech pack.
3. Written order of the processes in digital pattern product development.

OUTSIDE ASSIGNMENTS

Outside assignments may include, but are not limited to:

1. Independent, further exploration of a class topic.
2. Independent research on patternmaking developments and new trends in the clothing and textile industry.
3. Practical application of digital 2D patternmaking skills on textile products outside of course projects.
4. Practical application of sustainable best practices learned in class.

APPROPRIATE ASSIGNMENTS THAT DEMONSTRATE CRITICAL THINKING

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

1. Student self-evaluation of the completed 2D digital patternmaking projects using designated rubrics.
2. Applying computer patternmaking solutions to resolve fit issues.
3. Prepare pattern files according to the required specifications of the project.

EVALUATION

A student's competency will be based on multiple measures of performance. Assessment will measure development of independent critical thinking and 2D patternmaking skills. Evaluation of the student's ability will be based on, but not limited to, the following criteria:

1. Completion of the course 2D digital patternmaking projects.
2. Completion of a 2D digital patternmaking skills portfolio/workbook demonstrating competence of course content.
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 lectures
2. Demonstrations
3. Laboratory
4. Classroom discussions
5. Project based learning opportunities
6. Work based learning opportunities
7. Web-based resources
8. Field trips
9. Guest speakers
10. Video resources
11. Collaborative learning
12. Individual/small group instruction

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

TEXTS AND SUPPLIES

Digital Flat Pattern: The Apparel Designer's Handbook, Lisa A. Christman, Ph.D., Published by Wild Ginger Software, Inc., current edition
Integrating Draping, Drafting and Drawing, Abling, Bina; Maggio, Kathleen, Bloomsbury, current edition
Computer-Aided Pattern Design and Product Development, Alison Beazley and Terry Bond, Wiley-Blackwell, current edition.

Supplies:
Patternmaking rulers and pattern drafting tools, at least 32GB USB flash drive dedicated to the patternmaking program, requisite sewing and project supplies as requested by instructor in syllabus, access to a sewing machine, access to computer and internet to complete assignments.

PREPARED BY: Kenneth Lord-Imazumi, 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