ATD421 -- COMPUTER PATTERNMAKING

Instructor:	e-mail:
	Term:
Voice mail:	Total class hours: 36
Office hours:	Class meets:

Course description: Learn CAD (computer-aided design) to create, manipulate and grade patterns. Use input (scan & digitize) and output (plotter & cutter) devices. Students digitize patterns, modify them, check and correct notches, armholes, necklines and seamlines, create variations and seam allowances. Students use Optitex 12 -- the same software used by Nike and many designers -- and an Algotex digitizer.

Course objectives: Upon completion of the class, students will be able to:
- Create, copy and correct patterns digitally.
- Compare and critique different patterns.
- Build patterns from spec sheets and measurements.
- Add details and annotation.
- Grade, create grade rules and markers.
- Arrange for plots and file transfer to other formats.

Competencies assessed:
- Apply computer skills to improve fabric usage saving money and environmental impact.
- Make use of CAD software to most efficiently create, grade and mark patterns.
- Compare patterns generated by different sources, spot errors and make corrections.

Recommended **Prerequisite**: Grading & Marking (ATD414)

Class format: Class time is divided between demo and supervised workshop time.

Required text: *Optitex Handbook*; Blair, Sharon. Recommended text: *Concepts of Pattern Grading & Marking: Techniques for Manual and Computer*; Moore, Carolyn L., Kathy K. Mullet, Margaret B. Prevatt Young, 2014, Fairchild.

Required supplemental materials:
- Tag slopers.
- USB device (2 GB recommended)
- Notebook or laptop/tablet for taking notes

Standards of conduct: Complete and on-time attendance is mandatory.
− **No student can miss three or more classes and expect to pass this class.**
− Attendance is at the beginning of each class period. If you are late, you will lose half the attendance points for the day. If you arrive late, it is your responsibility to make sure you have been counted present. If you arrive more than 15 minutes after the beginning of a part of the class period, you will be counted absent for that part of the period.
− If you are absent, you lose the attendance points for that day. If you know ahead of time that you will not be in class, make arrangement with the instructor the night *before* class (by 10 p.m. and by telephone).
− It is the student's responsibility to keep track of assignments and turn them in on time should the students miss the class or arrive late.

– Professionalism means: Turn off your cell phone. Attend the full class. Focus and follow-through during classroom work. Have respect and work well with classmates. Use the same behavior in the classroom as you would on the job in the apparel industry.
– Late work will result in a one letter grade deduction.

Labeling Policy: All student work must be turned in with the following information: Name, Course Name/Number, Instructor, Term/Date, Project/Assignment, Contact Info (phone or e-mail).   Work may not be accepted for full credit without the required information. PFI cannot guarantee the return of student work that is not labeled with the required information.

Incomplete: A student who, due to medical or other exceptional causes, cannot complete the required class work must document his/her situation and submit a written request for an incomplete grade to be entered. The instructor, the academic advisor and director must approve the grade and assign a time line for the work to be completed. Incompletes must be requested and approved no later than the end of the quarter for which the incomplete is requested. To remove an incomplete, a student must complete the required course work before the next quarter commences. If a student does not comply within the time line or does not complete the work, an "F" grade, or the grade calculated by the instructor on the incomplete form, will be entered to replace the incomplete. To initiate a request for an incomplete grade, the student must fill out an incomplete form and submit it to his/her instructor. The instructor will obtain the required signatures and submit the completed form with final grades.

Withdrawal: The student who withdraws from a course or from the program during the first six weeks of the quarter will be assigned a "W" code for each course. The "W" code is not used in computation of the student's grade point average; however, "W" credits are counted toward total credits attempted. The student who withdraws from a course or from the program after the ninth week of the quarter will be assigned a "WF" code for each course. The "WF" code is the equivalent of a grade of "F" and is used in computing the student's grade point average. Students wishing to withdraw from PFI must file an official status change form with the Academic Advisor. Last day to withdraw from the class is 48 hours before class starts.

Lab Policies: Leave food and drink outside the classroom. Disciplinary action will be taken toward any student found using the equipment in an inappropriate manner. Disruptive, disrespectful, rude behavior is not tolerated.

Plagiarism: Presenting the writings, images or paraphrased ideas of another as one's own, is strictly prohibited. Properly documented excerpts from other's works, when they are limited to an appropriate amount of the total length of a student's paper, are permissible when used to support a researched argument.

Attendance Policy: Students who are absent from all scheduled classes over a 14-day period (2 weeks) are subject to automatic attendance suspension—from PFI, not just from this course. This means the student is administratively withdrawn from all courses and cannot attend classes or continue in the current quarter unless he/she successfully appeals for reinstatement. Students who anticipate violating the attendance policy should contact the academic advisor immediately to discuss options such as withdrawing from PFI or navigating the appeals process.

Picking up Work: Please pick up your work no later than the first Friday of the following quarter. If you cannot retrieve your work by this date please make arrangements with me. All work not picked up by this date will be recycled.

Students with Disabilities: It is PFI policy not to discriminate against qualified students with a documented disability in its educational programs, activities or services. If you have a disability-related need for adjustments contact the academic advisor.

Evaluation:

Attendance/Professionalism/Participation	10 %	
Digital Pattern	65 %	
Measured Pattern	15 %	
Projects turned in on time	10%	
TOTAL	**100 %**	

Grade Scale

Letter	Number	Rating
A	95-100	Excellent
A-	90-94	
B+	87-89	Good
B	83-86	
B-	80-82	
C+	77-79	Satisfactory
C	73-76	Fair
C-	70-72	
D+	67-69	Marginal
D	62-66	
F	<62	Failure

COURSE CALENDAR. Each class: LECTURE (1.3 hrs) & LAB (1.7 hrs)
This syllabus is subject to change at the instructor's discretion.

WEEK/DATE	TOPIC	ACTIVITY	ASSIGNMENTS
1/	Introductions. Terminology. Process. Goals and Objectives. Overview of tools & techniques	***Bring supplies to every class.*** **LECTURE:** Orientation to the working area / Learning the screen (Interface) **CLASSWORK:** Main Menu / Icon Toolbars / Pieces Window / Working Area / Rulers and Guide Lines / Navigation / The Toolbox / Status Bar / Preferences / Side Tabs / Moving and Docking Windows and Toolbars	Read Chapter #1
2/	Digitize pattern #1	**LECTURE:** Opening a Pattern **CLASSWORK:** Drafting A New Pattern / Digitizing A Paper Pattern / Select A Preexisting OptiTex Pattern / Opening A Style Created Using A Different Pattern Drafting ProgramTable / Moving pieces from piece window to the working area; arranging	Read Chapter #2
3/	Tools to name, clean, match	**LECTURE:** Contour and piece **CLASSWORK:** Track lines / Align	Read Chapter #3

		Smooth Walk Notching Halves and mirrors	
4/	Tools to name, cont. Tools to edit	**LECTURE:** Corrections **CLASSWORK:** Move and clean up points Trim Folding Corners and curves Rotate and flip Baselines	Read Chapter #4
5/	Tools to edit, cont. Tools to create	**LECTURE:** Modifying **CLASSWORK:** Creating parallels Building a piece Adding fullness; darts Tracing and copying Buttons and buttonholes Pleats Copying and swapping segments	Read Chapter #5 **Prep for midterm quiz**
6/	Tools to create, cont. Tools to annotate	**LECTURE:** Annotating **CLASSWORK:** Text and text direction Internals: Creating, moving, copying, joining Seams: Basic, variable, removing **MIDTERM QUIZ**	Read Chapter #6
7/	Create pattern from measurements	**LECTURE:** Orientation to spec packages Creating and joining pieces Drafting **CLASSWORK:** Assignment #1: Build a t-shirt Assignment #2: Build an a-line skirt Assignment #3: Build a pair of shorts	Read Chapter #7
8/	Using tools to edit created patterns	**LECTURE:** Review of tools Cutting order Fabric & stripes/plaids **CLASSWORK:** Finish assignments #1, 2, 3 Set Stripes Group Stripes Ungroup Fabric Pattern Relate Piece to Stripes Spread Pieces Gather Pieces	Read Chapter #8
9/	Grading	**LECTURE:** Grading basics review **CLASSWORK:** Table of Sizes Grading options: Proportional, parallel, stack, nest, scale Paste & Flip Break Size Create Piece for Selected Size Sizes Tree Measuring and comparing lengths	Read Chapter #9
10/	Grade rules	**LECTURE:** Orientation to grade rules **CLASSWORK:**	Read Chapter #10

		Creating, applying and editing Rules Library Update Rules Rules Library Sizes Load Sizes Rules Sort Library Creating size charts in Excel	
11/	Setting up plots, plotting	**LECTURE:** Plotting out the graded pattern **CLASSWORK:** Arrange for Plot Plotter Select Plotter Setup General Plotter Attributes Test Alternative Start Points Plot Working Area Table Batching Exporting/Importing CAD/CAM files	Plot finished and graded pattern Save pattern as .ai on USB for display Organize notebook **Prep for final quiz**
12/	Prepping for CMT	**PRESENTATIONS:** Final plot .ai pattern on display size chart in excel **FINAL QUIZ**	**Notebooks, report, plot, .ai version due** at end of class