Industry and Technology
Institutional (ILO), Program (PLO), and Course (SLO) Alignment

Use the checklists provided to evaluate your SLO statements. Please add or revise PLO and SLO statements directly on this form.
Or, if you prefer to make changes on the electronic version contact your Facilitators (Pati Fairchild or Sue Ellen Warren) or your Division Administrative Assistant (Denise Spurlock) to have the grid emailed to you.
When SLO, PLO and ILO alignment changes are made, please make changes in red.
Return the completed grid to your Facilitator by Friday, Nov 8th

Program: Computer Aided Design/Drafting	**Number of Courses: 9**	**Date Updated:**	**Submitted by:** Doug Glenn Ext. 3264

ILO Rating Rubric

4 - A major focus of the course. Direct instruction is provided. Students are evaluated multiple times (and possibly in various ways) throughout the course.
3 - An important part of the course. Some direct instruction is provided and students are evaluated on the concepts once or twice within the course.
2- Only a minor focus of the course. Some instruction is given in the area but students are not formally evaluated on the concepts.
1- May be tangentially part of the class, but is not directly taught or evaluated or is not part of the course at all.

Institutional Learning Outcomes (ILOs)	I. Content Knowledge	II. Critical, Creative, and Analytical Thinking	III. Communication and Comprehension	IV. Professional and Personal Growth	V. Community and Collaboration	VI. Information and Technology Literacy
Overall Rating Rate each from 1-4 based on above rubric	4	3	2	3	2	2

Program Level SLOs A minimum of 3 and maximum of 6 PLOS. There are, however, exceptions. For example, if department faculty have developed one or two comprehensive PLO statements that reflect the program mission and covers the major components and the overarching goals of the program, they may present them to their Dean and Facilitator for approval as is. In cases where the facilitator or dean or faculty disagree with the rigor of the statements, the PLO statement will be forwarded to the Assessment of Learning Committee (ALC) for review and recommendations. *Include PLO #, Short Title, and PLO statement. Example: PLO #2 Ethics and Professionalism*	**ILOs to PLO Alignment** (Rate each 1-4)					
	I	II	III	IV	V	VI
	4	3	2	2	2	2
PLO # 1 Creating and Interpreting Engineering Drawings. Upon completion of this discipline's course of study, the student will be able to utilize CADD software to ~~create 3D CADD models of various manufactured products and their components~~ to create and interpret engineering drawings at an industry entry skill level.						
PLO #2 Creating and Interpreting 3D CADD Models. Upon completion of this discipline's course of study, the student will be able to utilize CADD software to create 3D CADD models of detail parts and assemblies of various manufactured products and their components at an industry entry skill level.						
PLO #3 Product Development. Upon Completion of this discipline's course of study, the student will be able to function as a member of a product development team.						

Course Level SLOs A minimum of 3 and maximum of 6 SLOs. There are, however, exceptions. For example, if department faculty have developed one or two comprehensive SLO statements that cover the major components and the overarching goals of the course, they may present them to their Dean and Facilitator for approval as is. In cases where the facilitator or dean or faculty disagree with the rigor of the statements, the SLO statement will be forwarded to the Assessment of Learning Committee (ALC) for review and recommendations. *Include SLO #, Short Title, and SLO Statement Example: Math 170 SLO #3 Vectors and Complex Numbers.*	**Course to PLO Alignment** *Mark with an X if you will use the course when assessing your PLO.*			**ILOs to Course Alignment** (Rate each 1-4)					
	P1	P2	P3	I	II	III	IV	V	VI
CADD 5 Introduction to Mechanical Drafting SL0 #1 **Creating Dimensioned Orthographic Drawings:** Given sufficient product definition information of a simple machined part, the student will be able to utilize the AutoCad software to produce a dimensioned orthographic drawing of the item.	X			4	3	2	2	2	2
CADD 5 Introduction to Mechanical Drafting SL0 #2 **Creating Missing Orthographic Views:** Given an incomplete engineering drawing of a simple machined part, the student will be able to utilize the AutoCAD software to produce the missing views in standard 3rd angle orthographic projection.	X			4	3	2	2	2	2
CADD 5 Introduction to Mechanical Drafting SL0 #3 **Working From Isometric Views:** Given an isometric drawing of a simple machined part, the student will be able to utilize the AutoCAD software to produce front, top and right side views in standard 3rd angle orthographic projection.	X			4	3	2	2	2	2
CADD 7 Wireframe with Surfaces Solid Modeling and Assemblies SL0 #1 **Creating Simple Machined Part-3D Solid Model:** Given sufficient product definition information of a simple machined part, the student will be able to utilize the AutoCad software to produce a 3D solid model of the item.	~~X~~	X		4	3	2	2	2	2
CADD 7 Wireframe with Surfaces Solid Modeling and Assemblies SL0 #2 **Modifying Simple Machined Part-3D Solid Model:** Given a 3D solid model of a simple machined part and a dimensioned drawing defining necessary changes, the student will be able to utilize the AutoCad software to modify the 3D solid model to conform to the new requirements.		X		4	3	2	2	2	2
CADD 7 Wireframe with Surfaces Solid Modeling and Assemblies SL0 #3 **Creating Assembly Models:** Given sufficient product definition information of a mechanical assembly and its components, the student will be able to utilize the AutoCad software to create 3D solid models of the individual components and bring them together into an assembly model.		X		4	3	2	2	2	2

Course Level SLOs Minimum of 3 and maximum of 6 SLOs. *Include SLO #, Short Title, and SLO Statement* *Example: Math 170 SLO #3 Vectors and Complex Numbers*	**Course to PLO Alignment** *Mark with an X if you will use the course when assessing your PLO.*			**ILOs to Course Alignment** (Rate each 1-4)					
	P1	P2	P3	I	II	III	IV	V	VI
CADD 28 Parametric Solid Modeling and Assemblies SL0 #1 **Multi-view Drawing - 3D Solid Model:** Given a fully dimensioned multi-view engineering drawing of a machined part, the student will be able to utilize the appropriate functions within the Inventor software to construct a 3Dsolid model of the part.	~~X~~	X		4	3	2	2	2	2
CADD 28 Parametric Solid Modeling and Assemblies SL0 #2 **3D Solid Model - Multi-view Drawing:** Given a 3D solid model of a simple machined part, the student will be able to utilize the appropriate functions within the Inventor software to create a fully dimensioned multi-view engineering drawing of the part.		X		4	3	2	2	2	2
CADD 28 Parametric Solid Modeling and Assemblies SL0 #3 **Animating Assemblies:** Given a 3D solid model of a simple mechanism, the student will be able to utilize the appropriate functions within the Inventor software an animated simulation of the mechanism's function.		X		4	3	2	2	2	2
CADD 31 Orientation to CATIA SL0 #1 **Creating CATIA V5 Simple 3D Solid Models:** Given a fully dimensioned multi-view engineering drawing of a machined part, the student will be able to utilize the appropriate functions within the CATIA V5 software to construct a 3D solid model of the part.	X			4	3	2	2	2	2
CADD 31 Orientation to CATIA SL0 #2 **Creating CATIA V5 Simple Engineering Drawings:** Given a 3D solid model of a simple machined part, the student will be able to utilize the appropriate functions within the CATIA software to create a fully dimensioned multi-view engineering drawing of the part.	X			4	3	2	2	2	2
CADD 31 Orientation to CATIA SL0 #3 **Creating CATIA V5 Simple Assembly Models:** Given a set of 3D solid model s of the component parts of a simple assembly, the student will be able to utilize the appropriate functions within the CATIA software to create a fully constrained assembly model.	X			4	3	2	2	2	2
CADD 32 Product Modeling with CATIA SL0 #1 **Creating CATIA V5 Complex 3D Solid Models:** Given a fully dimensioned multi-view engineering drawing of a complex machined part, the student will	X			4	3	2	2	2	1

be able to utilize the appropriate functions within the CATIA V5 software to construct a 3D solid model of the part.									
CADD 32 Product Modeling with CATIA SL0 #2 **Creating CATIA V5 Complex Engineering Drawings:** Given a 3D solid model of a complex machined part, the student will be able to utilize the appropriate functions within the CATIA software to create a fully dimensioned multi-view engineering drawing of the part.	X			4	3	2	2	2	2
CADD 32 Product Modeling with CATIA SL0 #3 **Creating CATIA V5 Complex Assembly Models:** Given a set of 3D solid model s of the component parts of a complex assembly, the student will be able to utilize the appropriate functions within the CATIA software to create a fully constrained assembly model.	X			4	3	2	2	2	2

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	P1	P2	P3	I	II	III	IV	V	VI
CADD 33 Analyses and Simulations with CATIA SL0 #1 **Knowledgeware and Generative Sheet Metal Functions :** Given sufficient product definition information, the student will be able to create tabulated models and flat pattern models utilizing the Knowledgeware and Generative Sheet Metal functions within the CATIA V5 software.	X			4	3	2	2	2	2
CADD 33 Analyses and Simulations with CATIA SL0 #2 **Kinematic Simulations:** Given a CATIA Product model of a simple mechanism, the student will be able to create kinematic simulations utilizing the Kinematics Simulation function within the CATIA V5 software.	X			4	3	2	2	2	2
CADD 33 Analyses and Simulations with CATIA SL0 #3 **Stress Analysis:** Given a CATIA Product model of a simple mechanism, the student will be able to perform stress analyses utilizing Stress Analysis functions within the CATIA V5 software.	X			4	3	2	2	2	2
CADD 37 Advanced CATIA Functions SL0 #1 **3D Wireframe Modeling:** Given a fully dimensioned multi-view engineering drawing of a machined part, the student will be able to utilize the appropriate functions within the CATIA V5 software to construct a 3D wireframe model of the part.	X			4	3	2	2	2	2
CADD 37 Advanced CATIA Functions SL0 #2 **Utilizing Surfacing Functions:** Given a fully dimensioned multi-view engineering drawing of a complex molded part, the student will be able to utilize the appropriate functions within the CATIA V5 software to construct a 3D surface model of the part.	X			4	3	2	2	2	2
CADD 37 Advanced CATIA Functions SL0 #3 **Joining Surfaces:** Given a 3D surface model of two separate surfaces of a complex molded part, the student will be able to utilize the appropriate functions within the CATIA V5 software to construct a third surface blending the original two. The new surface will be tangent continuous with both of the original surfaces.	X			4	3	2	2	2	2
CADD 43 Design Process and Concepts: SL0 #1 **Design Process:** Given a problem statement and set of design constraints, the student will be able to describe and implement the steps of the design process from conceptual design to final production drawing**s.**	X			4	3	2	2	2	2

CADD 43 Design Process and Concepts: SL0 #2 **Product Definition Packages:** Given sufficient design requirement definition, the student will be able to plan, sketch and create complete two dimensional engineering drawing packages of sample products.	X			4	3	2	2	2	2
CADD 43 Design Process and Concepts: SL0 #3 **Design Team:** Given sufficient task definition, the student will be able to function as a member of a design team charged with planning and creating a complete two dimensional engineering drawing package of a simple product.	X			4	3	2	2	4	2

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	P1	P2	P3	I	II	III	IV	V	VI
CADD 45 Geometrical Dimensioning and Tolerencing: SL0 #1 **Detecting Errors and Ommissions:** Given sample engineering drawing whose dimensioning and tolerancing is done with Geometric Dimensioning and Tolerancing, the student will be able to point out errors and omissions in the application of dimensions and tolerances.	X			4	3	2	2	2	2
CADD 45 Geometrical Dimensioning and Tolerencing: SL0 #2 **Revising Incomplete Drawings:** Given an incomplete sample engineering drawing, the student will be able to revise the drawing to completely specify desired geometry and permissible variation of geometric characteristics utilizing appropriate symbology per the ASME Y14.5 Standard.	X			4	3	2	2	2	2
CADD 45 Geometrical Dimensioning and Tolerencing: SL0 #3 **Applying Geometric Controls:** Given a sample engineering drawing of a machined part without dimensioning and tolerancing and a description of the part's function, the student will be able to correctly apply dimensions, tolerances and datum identifiers.	X			4	3	2	2	2	2