

NEW MILFORD PUBLIC SCHOOLS



ARCHITECTURAL DRAFTING I

JUNE 2016

Approved by BOE December 2016

New Milford Board of Education

David A. Lawson, Chairperson
Bill Dahl, Vice Chairperson
Wendy Faulenbach, Secretary
Tammy McInerney, Assistant Secretary
Angela C. Chastain
Robert Coppola
David Littlefield
Brian McCauley
J.T. Schemm

Superintendent of Schools

Joshua D. Smith

Acting Assistant Superintendent

Ms. Alisha DiCorpo

New Milford High School Principal

Greg P. Shugrue

Author of Course Guide

Joe Neff

New Milford's Mission Statement

The mission of the New Milford Public Schools, a collaborative partnership of students, educators, family and community, is to prepare each and every student to compete and excel in an every-changing world, embrace challenges with vigor, respect and appreciate the worth of every human being, and contribute to society by providing instruction and dynamic curriculum, offering a wide range of valuable experiences, and inspiring students to pursue their dreams and aspirations.

Architectural Drafting I

This is a beginning course in drafting as it relates to residential architecture. Basic principles of drafting will be studied including proper use of instruments, templates, lines lettering, and dimensions. The construction of residential buildings is studied in detail from excavations to finishing materials. Principles of good house design are included. Each student will plan and draw a set of blueprints for a house, complete with specifications. Introduction to the basic functions of CAD (Computer-Aided Drafting) will also be explored. CAD applications and operational skills are developed across a variety of technical areas with emphasis on residential construction.

Common Core State Standard Key

Connecticut Technology Education Standards Revised June, 2016

EKS.03.04	Knowledge and Skills	Arch.03	Architecture Technology
Arch.06.02	Architecture Technology	Arch.05	Architecture Technology
Arch.07.02	Architecture Technology	Arch.05.03	Architecture Technology
EKS.05	Knowledge and Skills	Arch.08.02	Architecture Technology
Arch.06.01	Architecture Technology	Arch.05.02	Architecture Technology
Arch.07	Architecture Technology	Arch.08.01	Architecture Technology
Arch.08.01	Architecture Technology	Arch.03.01	Architecture Technology
EKS.05.04	Knowledge and Skills	CADD.02	Knowledge and Skills
CADD.05.04	Knowledge and Skills	CADD.04	Knowledge and Skills
CADD.05.08	Knowledge and Skills	CADD.09	Knowledge and Skills
CADD.09	Knowledge and Skills	CADD.09.04	Knowledge and Skills
EKS.03.02	Knowledge and Skills	EKS.03.03	Knowledge and Skills
CADD.04.07	Knowledge and Skills	CADD.02.08	Knowledge and Skills
CADD.05.16	Knowledge and Skills	CADD.05.01	Knowledge and Skills
CADD.05.03	Knowledge and Skills	Arch.07.02	Knowledge and Skills
Eks.08.02	Knowledge and Skills	EKS.07	Knowledge and Skills
EKS.08	Knowledge and Skills	CADD.02.10	Knowledge and Skills
Arch.07.02	Knowledge and Skills		

Pacing Guide

UNIT #	TITLE	WEEKS	PAGES
1	Architectural Drafting Fundamentals	1 week	8 - 10
2	Indoor Living Areas	1 week	11 - 13
3	Outdoor Living Area	1 week	14 - 16
4	Traffic Areas and Patterns	1 week	17 - 19
5	Kitchens	1 week	20 - 22
6	General Service Areas	1 week	23 – 25
7	Sleeping Areas	1 week	26 - 28
8	Designing Floor Plans	3 weeks	29 - 31
9	Drawing Floor Plans	10 weeks	32 - 34

END of FIRST SEMESTER

START OF SECOND SEMESTER

UNIT #	TITLE	WEEKS	PAGES
10	Groundwork – AutoCAD	2 weeks	35 - 38
11	Drawing Aids and Controls	2 weeks	39 - 41
12	Drawing and Editing	2 weeks	42 – 45
13	Text and Tables	1 week	46 - 48
14	Preparing and Printing a Drawing	1 week	49 - 51
15	Basic Dimensioning	2 weeks	52 - 54
16	Floor Plan – Window & Door	2 weeks	55 - 57
17	Floor Plan - Furniture	2 weeks	58 - 60
18	Floor Plan - Electrical	2 weeks	61 - 63
19	Foundation Plan	2 weeks	64 – 66
20	Plot Plan	2 weeks	67 - 69

New Milford Public Schools

Committee Member(s): Joe Neff Unit 1: Architectural Drafting Fundamentals	Course/Subject: Architectural Drafting I Grade Level: 9-12 # of Weeks: 1 week
Identify Desired Results	
Common Core State Standards	
<ul style="list-style-type: none"> • Apply data and measurements to solve problems. EKS.03.04 • Draw and sketch by hand to communicate ideas effectively. Arch.06.02 • Create effective working drawings, and presentation drawings. Arch.07.02 	
Enduring Understandings Generalizations of desired understanding via essential questions (Students will understand that ...)	Essential Questions Inquiry used to explore generalizations
<ul style="list-style-type: none"> • Students will understand how to: <ul style="list-style-type: none"> ○ Measure and prepare drawings with different scales. ○ Draw with drafting instruments. ○ Select and use appropriate types of paper and other drafting supplies. ○ Use time saving devices. 	<ul style="list-style-type: none"> • Why do we have different scales that we use in drawing plans? • Why are there two types of triangles? • Why do you use an erasing shield? • Why do we have both a t-square and triangles? • Why do we need templates?
Expected Performances What students should know and be able to do	
<p>Students will know the following:</p> <ul style="list-style-type: none"> • How to use the different types of scales • How to use guides for drawing straight lines • How to use instruments for curved lines • How to use drafting and lettering tools • Understand the different types of papers and drawing surfaces • How to use correction equipment • How to use timesaving aids and devices for drafting <p>Students will be able to do the following:</p> <ul style="list-style-type: none"> • Use an Architect's, Civil Engineer's, and Metric scales • Use a t-square, parallel slide, triangles, and a protractor • Use a compass and dividers • Use a French curve • Be able to select the proper drafting pencil • Use an erasing shield and brush 	

<ul style="list-style-type: none"> • Use a template, tapes, and overlays • Select the proper paper (type and size) • 	
Character Attribute(s)	
<ul style="list-style-type: none"> • Perseverance • Cooperation 	
Technology Competencies	
<ul style="list-style-type: none"> • Acquire employability skills, including academic and technical skills, demonstrate positive attitudes toward work, including acceptance of the necessity of making a living and an appreciation of the social value and dignity of work. 	
Develop Teaching and Learning Plan	
Teaching Strategies: <ul style="list-style-type: none"> • Teacher will lecture on the proper use of equipment. • Teacher will lecture on the proper care of drafting equipment. • Teacher will lecture on the proper technique used for lettering. • Students will complete a handout on measuring. • Students will complete a handout on using the equipment. • Students will complete a handout on lettering. 	Learning Activities: <ul style="list-style-type: none"> • Draw the following four lines using a scale of $\frac{1}{4}'' = 1'-0''$ <ul style="list-style-type: none"> ○ 5'-0" ○ 7'-6" ○ 9'-10" ○ 11'-3" • Convert the following dimensions to millimeters: 5'-6", 6'-8", 12'-2", 25'-11". • Practice drawing lines using all pencil grades on tracing paper and paper. • Handout on the use of different scales. • Handout on the proper use of drafting equipment. • Handout on the proper technique for lettering.

Assessments	
Performance Task(s)	Other Evidence
Authentic application to evaluate student achievement of desired results designed according to GRASPS (one per marking period)	Application that is functional in a classroom context to evaluate student achievement of desired results
Goal: Use an assortment of instruments and supplies to create a drawing. Role: Instructor/Teacher Audience: Students in Architectural Drafting I classes	<ul style="list-style-type: none"> • Completion of work sheets (measuring, equipment, and lettering). • Unit quiz. • Successful completion of the exercise on using the equipment (handout #1) • Successful completion of the exercise

<p>Situation: Students are given handouts to complete on use of equipment, measuring and proper lettering to show the teacher that they understand.</p> <p>Product or Performance: Completion of handouts and worksheets</p> <p>Standards for Success: Completion of worksheets and handouts.</p>	<p>on the proper technique of lettering.</p> <ul style="list-style-type: none"> • Observation of student work (handout #2).
---	--

Suggested Resources

- Helper, Dana, Helper, Donald, Wallach, Paul. Architecture Drafting and Design. Peoria, IL: Glencoe/McGraw-Hill, 1998.
- Various handouts
- Student worksheets

New Milford Public Schools

Committee Member(s): Joe Neff Unit 2: Indoor Living Areas	Course/Subject: Architectural Drafting I Grade Level: 9-12 # of Weeks: 1 week
Identify Desired Results	
Common Core State Standards	
<ul style="list-style-type: none"> • Employ critical thinking skills independently and in teams to solve problems and make decisions. EKS.05 • Identify, research, develop and explain architectural and construction plans, drawings, diagrams, and specifications. Arch.06.01 	
Enduring Understandings	Essential Questions
Generalizations of desired understanding via essential questions (Students will understand that ...)	Inquiry used to explore generalizations
<ul style="list-style-type: none"> • Students will understand how to: <ul style="list-style-type: none"> ○ Identify the functions of indoor living areas ○ Design the location, décor, size and shape of indoor living areas. ○ How a room's orientation, walls, floors, windows, ceilings, lighting, and furniture can contribute to room function. ○ Design and draw indoor living area and work them into a FLOOR PLAN. 	<ul style="list-style-type: none"> • List the functions you want in a living room for yourself and why? • List the functions you want in a dining room for yourself and why? • List the functions you want in a family room for yourself and why? • List the functions you want in a recreation room for yourself and why? • List the functions you want in a special purpose room for yourself and why?
Expected Performances	
What students should know and be able to do	
Students will know the following: <ul style="list-style-type: none"> • How to draw living area plans <ul style="list-style-type: none"> ○ Using an Open Plan ○ Using a Closed Plan ○ Using a Combined Plans • Living Rooms <ul style="list-style-type: none"> ○ What its function ○ Where is it located ○ How to orient it to the rest of the house ○ What type of décor ○ Its size and shape 	

- Dining Room
 - What its function
 - Where is it located
 - How to orient it to the rest of the house
 - What type of décor
 - Its size and shape
- Family Room
 - What its function
 - Where is it Located
 - How to orient it to the rest of the house
 - What type of décor
 - Its size and shape
- Recreation Rooms
 - What its function
 - Where its location
 - How to orient it to the rest of the house
 - What type of décor
 - Its size and shape
- Special Purpose Rooms
 - What its function
 - Where is it located
 - What type of décor
 - Its size and shape

Students will be able to do the following:

- Understand, design and draw a living area.
- Draw a living room
- Draw a dining room
- Draw a family room
- Draw a recreation room
- Draw a special purpose room
- Complete a floor plan of a house.

Character Attribute(s)

- Courage
- Honesty

Technology Competencies

- Students will demonstrate technical knowledge and skills, including planning, designing, organizing, coordinating, and constructing.
- Use basic drafting tools.

Develop Teaching and Learning Plan

Teaching Strategies:

- Teacher will lecture on the proper features of an indoor living area.
- Students will design a living area

Learning Activities:

- Students will draw:
 - Draw a simple sketch of a living room

<p>using graph paper for a rough draft.</p> <ul style="list-style-type: none"> • Teacher will hand out different home plans books for students to get ideas. • Teacher will check their rough drafts and meet with each student to discuss their living area. 	<ul style="list-style-type: none"> ○ Draw a simple sketch of a dining room ○ Draw a simple sketch of a family room ○ Draw a simple sketch of a recreation room ○ Draw a simple sketch of a special purpose room.
---	--

Assessments	
Performance Task(s)	Other Evidence
<p>Authentic application to evaluate student achievement of desired results designed according to GRASPS (one per marking period)</p>	<p>Application that is functional in a classroom context to evaluate student achievement of desired results</p>
<p>Goal: Understand how to design a living area for a residential home.</p> <p>Role: Instructor/Teacher</p> <p>Audience: Students in Arch I classes</p> <p>Situation: Using graph paper, students are to complete a rough draft of a living area they have designed. The teacher will discuss with each student their design</p> <p>Product or Performance: Handouts, graph paper, worksheet and home plan books.</p> <p>Standards for Success: Completion of rough draft of a living area</p>	<ul style="list-style-type: none"> • Sketches of various living area rooms to be turned in and graded: <ul style="list-style-type: none"> ○ Living room ○ Dining room ○ Family room ○ Recreation room ○ Special purpose • Unit quiz • Completion of a FLOOR PLAN (rough draft)

Suggested Resources
<ul style="list-style-type: none"> • Helper, Dana, Helper, Donald, Wallach, Paul. <u>Architecture Drafting and Design</u>. Peoria, IL: Glencoe/McGraw-Hill, 1998. • <u>Affordable Home Plans</u>. Tucson, Arizona: Home Planners, 1997 • <u>New England Sampler</u>. Tucson, Arizona: Home Planners, 1997 • <u>One-Story Homes</u>. Tucson, Arizona: Home Planners, 1997 • <u>Southern Home Plans</u>. Tucson, Arizona: Home Planners, 1997 • <u>Traditional Homes</u>. Tucson, Arizona: Home Planners, 1997 • <u>Vacation and Second Homes</u>. Tucson, Arizona: Home Planners, 1997 • <u>Western Home Plans</u>. Tucson, Arizona: Home Planners, 1997 • <u>200 Budget-Smart Home Plans</u>. Tucson, Arizona: Home Planners, 1997 • <u>200 Move-Up Home Plans</u>. Tucson, Arizona: Home Planners, 1997

- 200 Small House Plans. Tucson, Arizona: Home Planners, 1997
- Various handouts
- Student worksheets

New Milford Public Schools

Committee Member(s): Joe Neff Unit 3: Outdoor Living Areas	Course/Subject: Architectural Drafting I Grade Level: 9-12 # of Weeks: 1 week
Identify Desired Results	
Common Core State Standards	
<ul style="list-style-type: none"> • Employ appropriate media to communicate concepts and designs. Arch.07 • Research and collect data that relates to architectural drafting and design. Arch.08.01 	
Enduring Understandings Generalizations of desired understanding via essential questions (Students will understand that ...)	Essential Questions Inquiry used to explore generalizations
<ul style="list-style-type: none"> • Students will understand how to: <ul style="list-style-type: none"> ○ Design and sketch a porch, patio, and lanai ○ Design and sketch a swimming pool ○ Calculate the area and volume of swimming pools 	<ul style="list-style-type: none"> • What is the function of porches and why do we need one? • What is the difference between a porch, patio and a lanai? • How do you calculate the area and volume of a 28' round pool?
Expected Performances What students should know and be able to do	
<p>Students will know the following:</p> <ul style="list-style-type: none"> • Porches <ul style="list-style-type: none"> ○ Its function and types ○ Where it is located ○ What its décor ○ Its size and shape • Patios <ul style="list-style-type: none"> ○ Its function and type ○ Where is it located ○ What its décor ○ Its size and shape • Lanais <ul style="list-style-type: none"> ○ Its function ○ Where its located ○ What is décor ○ Its size and shape • Swimming pools <ul style="list-style-type: none"> ○ Its function 	

<ul style="list-style-type: none"> ○ Its location and orientation to the house and compass direction ○ How its constructed ○ Be able to calculate its sizes ○ Its safety devices ○ Proper pool equipment <p>Students will be able to do the following:</p> <ul style="list-style-type: none"> ● Understand, design and draw outdoor living areas ● Complete a floor plan of a living area and the outdoor living area.

Character Attribute(s)
<ul style="list-style-type: none"> ● Respect ● Responsibility

Technology Competencies
<ul style="list-style-type: none"> ● Evaluate ideas, proposals, and solutions to problems ● Identify, use and maintain measuring layouts and measuring tools

Develop Teaching and Learning Plan

<p>Teaching Strategies:</p> <ul style="list-style-type: none"> ● Teacher will lecture on the proper functions of the outdoor living area. ● Teacher will handout house plan books for students to get ideas of different outdoor living areas. ● Using graph paper and their rough draft of their living area, complete an outdoor living area. ● Teacher will meet with each student and discuss their outdoor living area. 	<p>Learning Activities:</p> <ul style="list-style-type: none"> ● From catalogs, newspapers and magazines, cut out pictures of porch furniture that you particularly like. ● Plan a porch and/or patio from a house of your own design. Sketch the basic outline and the facilities ● Draw a simple sketch of a porch ● Draw a simple sketch of a patio ● Draw a simple sketch of a lanais ● Design and draw a swimming pool ● Complete a rough draft of an outdoor living area
--	---

Assessments

Performance Task(s)	Other Evidence
<p>Authentic application to evaluate student achievement of desired results designed according to GRASPS (one per marking period)</p>	<p>Application that is functional in a classroom context to evaluate student achievement of desired results</p>
<p>Goal: Understand how to design an outdoor living area for a residential home.</p> <p>Role: Instructor/Teacher</p>	<ul style="list-style-type: none"> ● Sketches of various outdoor living areas with swimming pool to be turned in and graded. (5 different sketches) ● Unit quiz ● Completion of floor plan (rough draft)

<p>Audience: Students in Arch I classes</p> <p>Situation: Using graph paper, students are to complete a rough draft of an outdoor living area they have designed. The teacher will discuss with each student their design.</p> <p>Product or Performance: Handouts, graph paper, worksheet, and home plan books.</p> <p>Standards for Success: Completion of rough draft of an outdoor living area</p>	
--	--

Suggested Resources

- Helper, Dana, Helper, Donald, Wallach, Paul. Architecture Drafting and Design. Peoria, IL: Glencoe/McGraw-Hill, 1998.
- Affordable Home Plans. Tucson, Arizona: Home Planners, 1997
- New England Sampler. Tucson, Arizona: Home Planners, 1997
- One-Story Homes. Tucson, Arizona: Home Planners, 1997
- Southern Home Plans. Tucson, Arizona: Home Planners, 1997
- Traditional Homes. Tucson, Arizona: Home Planners, 1997
- Vacation and Second Homes. Tucson, Arizona: Home Planners, 1997
- Western Home Plans. Tucson, Arizona: Home Planners, 1997
- 200 Budget-Smart Home Plans. Tucson, Arizona: Home Planners, 1997
- 200 Move-Up Home Plans. Tucson, Arizona: Home Planners, 1997
- 200 Small House Plans. Tucson, Arizona: Home Planners, 1997
- Various handouts
- Student worksheets

New Milford Public Schools

Committee Member(s): Joe Neff Unit 4: Traffic Areas and Patterns	Course/Subject: Architectural Drafting I Grade Level: 9-12 # of Weeks: 1 week
Identify Desired Results	
Common Core State Standards	
<ul style="list-style-type: none"> • Create ideas, proposals, and solutions to problems. EKS.05.04 • Demonstrate an understanding of regulations in architectural design. Arch.03 	
Enduring Understandings Generalizations of desired understanding via essential questions (Students will understand that ...)	Essential Questions Inquiry used to explore generalizations
<ul style="list-style-type: none"> • Students will understand : <ul style="list-style-type: none"> ○ How to determine the effectiveness of a traffic pattern in a house ○ How to plan hallways that function efficiently. ○ Guidelines for designing stairs. ○ How to calculate the correct space needed for stairways and stairwells ○ The kinds and functions of entrances. ○ Guidelines for entrance design. ○ How to design a foyer and entry. 	<ul style="list-style-type: none"> • Why do we need a smooth traffic pattern? • What is function of a hallway and how do we calculate how much we need? • Why do we need different types of stairs? • Why is an entrance area important to a good house design? • What factor do we need to take into consideration when designing an efficient foyer and entry hall?
Expected Performances What students should know and be able to do	
Students will know the following: <ul style="list-style-type: none"> • What are traffic patterns and how they are used • What are the purpose of halls and where they should go • Different types of stairs <ul style="list-style-type: none"> ○ Materials and lighting used for stairs ○ Shapes and size of stairs • Different types of entrances <ul style="list-style-type: none"> ○ What is its function and different types ○ Where it should be located 	

- What type of décor
- Its size and shape

Students will be able to do the following:

- Understand, design and draw traffic areas and patterns.
- Draw a rough sketch of a hallway for their floor plan
- Draw a rough sketch of the type and style of stairs they are going to use
- Draw a rough sketch of the entrance
- Add these traffic patterns to their rough draft of the floor plan.
- Complete a floor plan of a house.

Character Attribute(s)

- Honesty
- Perseverance

Technology Competencies

- Employ critical thinking skills independently and in teams to solve problems and make decisions
- Guide individuals through the process of recognizing concerns and making informed decisions

Develop Teaching and Learning Plan

Teaching Strategies:

- Teacher will lecture on the proper functions of the traffic patterns needed for a home.
- Teacher will handout house plan books for students to get ideas of different traffic patterns, hallways, stairs and entrances.
- Using graph paper and their rough draft of their floor plan, complete the traffic areas needed for their home.
- Teacher will meet with each student and discuss their traffic patterns.

Learning Activities:

- Sketch the floor plan of a home of your design. Plan the most efficient traffic pattern by tracing the route of your daily routine.
- Sketch a plan view of a stair system.
- Why do we need different types of stairs?
- Draw a foyer to the plan of a house you are designing.
- Draw a simple sketch of hallway.
- Draw a simple sketch of a stairwell.
- Draw a simple sketch of an entrance.
- Add all of these traffic patterns to their floor plan.

Assessments

Performance Task(s)	Other Evidence
Authentic application to evaluate student achievement of desired results designed according to GRASPS (one per marking period)	Application that is functional in a classroom context to evaluate student achievement of desired results
	<ul style="list-style-type: none"> ● Sketches of various traffic patterns to

<p>Goal: Understand how to design traffic areas and patterns for a residential home.</p> <p>Role: Instructor/Teacher</p> <p>Audience: Students in Arch I classes</p> <p>Situation: Using graph paper, students are to complete a rough draft of traffic areas and patterns they have designed. The teacher will discuss with each student their design</p> <p>Product or Performance: Handouts, graph paper, worksheet and home plan books.</p> <p>Standards for Success: Completion of rough draft of traffic areas and patterns added to their floor plan.</p>	<p>be turned in and graded (5 sketches of traffic patterns).</p> <ul style="list-style-type: none"> • Unit quiz • Completion of a FLOOR PLAN (rough draft)
--	--

Suggested Resources

- Helper, Dana, Helper, Donald, Wallach, Paul. Architecture Drafting and Design. Peoria, IL: Glencoe/McGraw-Hill, 1998.
- Affordable Home Plans. Tucson, Arizona: Home Planners, 1997
- New England Sampler. Tucson, Arizona: Home Planners, 1997
- One-Story Homes. Tucson, Arizona: Home Planners, 1997
- Southern Home Plans. Tucson, Arizona: Home Planners, 1997
- Traditional Homes. Tucson, Arizona: Home Planners, 1997
- Vacation and Second Homes. Tucson, Arizona: Home Planners, 1997
- Western Home Plans. Tucson, Arizona: Home Planners, 1997
- 200 Budget-Smart Home Plans. Tucson, Arizona: Home Planners, 1997
- 200 Move-Up Home Plans. Tucson, Arizona: Home Planners, 1997
- 200 Small House Plans. Tucson, Arizona: Home Planners, 1997
- Various handouts
- Student worksheets

New Milford Public Schools

Committee Member(s): Joe Neff Unit 5: Kitchens	Course/Subject: Architectural Drafting I Grade Level: 9-12 # of Weeks: 1 week
Identify Desired Results	
Common Core State Standards	
<ul style="list-style-type: none"> • Research, plan, and design functional structure. Arch.05 • Utilize commercial and residential suggestions and specifications to create functional floor plans. Arch.05.03 	
Enduring Understandings Generalizations of desired understanding via essential questions (Students will understand that ...)	Essential Questions Inquiry used to explore generalizations
<ul style="list-style-type: none"> • Students will be able to: <ul style="list-style-type: none"> ○ Apply guidelines to efficient kitchen design ○ Determine the best shape, size, and location for the kitchen. ○ Plan and draw a work triangle for a kitchen ○ Sketch small and large kitchens of some basic kitchen shapes 	<ul style="list-style-type: none"> • List the six types of kitchen shapes and give at least one advantage and one disadvantage of each. • Why do we need to design an efficient kitchen style? • What is a work triangle? • Name the major appliances in the kitchen?
Expected Performances What students should know and be able to do	
<p>Students will know the following:</p> <ul style="list-style-type: none"> • Kitchen Design and Considerations <ul style="list-style-type: none"> ○ What is its function ○ Name the various styles and types of kitchens ○ What type of décor ○ Its size and shape • Proper kitchen planning guidelines <p>Students will be able to do the following:</p> <ul style="list-style-type: none"> • Understand, design and draw a kitchen. • Know what are the advantages and disadvantages of each kitchen style. • Complete a floor plan of a house. 	
Character Attribute(s)	
<ul style="list-style-type: none"> • Cooperation • Responsibility 	

Technology Competencies	
<ul style="list-style-type: none"> • Students will demonstrate technical knowledge and skills, including planning, designing, organizing, coordinating, and drawing. • Will assure that the student accept personal responsibility for production and quality. 	
Develop Teaching and Learning Plan	
<p>Teaching Strategies:</p> <ul style="list-style-type: none"> • Teacher will lecture on the different types of kitchens and the pros and cons of each. • Teacher will handout house plan books for students to get ideas of different styles of kitchens. • Using graph paper and their rough draft of their floor plan, complete the kitchen needed for their home. • Teacher will meet with each student and discuss their kitchen plan. 	<p>Learning Activities:</p> <ul style="list-style-type: none"> • Sketch a family kitchen using any of the six kitchen types. • Sketch a floor plan of the kitchen in your own home. • Draw simple sketches of the six different kitchen styles. • Decide which kitchen design best fits your house plan. • Add the kitchen plan you have chosen to your rough draft of your floor plan

Assessments	
Performance Task(s)	Other Evidence
Authentic application to evaluate student achievement of desired results designed according to GRASPS (one per marking period)	Application that is functional in a classroom context to evaluate student achievement of desired results
<p>Goal: Understand the different styles of kitchens.</p> <p>Role: Instructor/Teacher</p> <p>Audience: Students in Arch I classes</p> <p>Situation: Using graph paper, students are to complete a rough draft of the kitchen style they have designed. The teacher will discuss with each student their design.</p> <p>Product or Performance: Handouts, graph paper, worksheet and home plan books.</p> <p>Standards for Success: Completion of rough draft of a kitchen and add to their</p>	<ul style="list-style-type: none"> • Sketches of the six different layouts for a kitchen to be turned in and graded. • Completion of a FLOOR PLAN (rough draft)

floor plan.

Suggested Resources

- Helper, Dana, Helper, Donald, Wallach, Paul. Architecture Drafting and Design. Peoria, IL: Glencoe/McGraw-Hill, 1998.
- Affordable Home Plans. Tucson, Arizona: Home Planners, 1997
- New England Sampler. Tucson, Arizona: Home Planners, 1997
- One-Story Homes. Tucson, Arizona: Home Planners, 1997
- Southern Home Plans. Tucson, Arizona: Home Planners, 1997
- Traditional Homes. Tucson, Arizona: Home Planners, 1997
- Vacation and Second Homes. Tucson, Arizona: Home Planners, 1997
- Western Home Plans. Tucson, Arizona: Home Planners, 1997
- 200 Budget-Smart Home Plans. Tucson, Arizona: Home Planners, 1997
- 200 Move-Up Home Plans. Tucson, Arizona: Home Planners, 1997
- 200 Small House Plans. Tucson, Arizona: Home Planners, 1997
- Various handouts
- Student worksheets

New Milford Public Schools

Committee Member(s): Joe Neff Unit 6: General Service Areas	Course/Subject: Architectural Drafting I Grade Level: 9-12 # of Weeks: 1 week
Identify Desired Results	
Common Core State Standards	
<ul style="list-style-type: none"> • Select and organize appropriate examples that demonstrate knowledge, skills and experience. Arch.08.02 • Produce preliminary designs, final sketches and presentation drawings. Arch.05.02 	
<p style="text-align: center;">Enduring Understandings</p> <p style="text-align: center;">Generalizations of desired understanding via essential questions (Students will understand that ...)</p>	<p style="text-align: center;">Essential Questions</p> <p style="text-align: center;">Inquiry used to explore generalizations</p>
<ul style="list-style-type: none"> • Students will understand how to: <ul style="list-style-type: none"> ○ Determine what kinds of equipment are included in a utility room ○ Evaluate the best location for a utility room ○ Sketch a garage and a carport ○ Design storage facilities for a garage ○ Design a sketch storage facilities 	<ul style="list-style-type: none"> • What is the function of a utility room? • Why is a garage important to good house design? • Explain the proper layout for a storage area. • How much storage space is needed in a home?
Expected Performances What students should know and be able to do	
<p>Students will know the following:</p> <ul style="list-style-type: none"> • What are utility rooms <ul style="list-style-type: none"> ○ What is the function ○ Where it should be located ○ Its style and décor ○ Its size and shape • What is the function of garages and carports <ul style="list-style-type: none"> ○ What is the function ○ Where should it be located ○ Its size and décor • What are driveways and why do we need one. • What are workshops 	

- What is the function
- Where are they located
- Its size and decor
- What are storage areas
 - What is the function and types
 - Where are they located

Students will be able to do the following:

- Understand, design and draw general service areas
 - Draw a rough draft of a utility room
 - Draw a rough draft of a garage /carport
 - Draw a rough draft of a driveway
 - Draw a rough draft workshop
 - Draw a rough draft of a storage area
- Add the general service area to the rough draft of their FLOOR PLAN.

Character Attribute(s)

- Integrity
- Perseverance

Technology Competencies

- Students will demonstrate appropriate employability traits and skills, including team work, custom service, responsibility, adaptability and persistence.

Develop Teaching and Learning Plan

Teaching Strategies:

- Teacher will lecture on the different types of general service areas and the pros and cons of each.
- Teacher will handout house plan books for students to get ideas of different types of general service areas.
- Using graph paper and their rough draft of their floor plan, complete the general service areas needed for their home.
- Teacher will meet with each student and discuss their general service areas.

Learning Activities:

- Design a utility room including a complete laundry facility
- Design a full double garage and driveway for the house your designed
- Design a work area for the house you are planning.
- Add storage facilities to your house
- Draw a simple sketch of a utility room
- Draw a simple sketch of a garage and a carport
- Draw a simple sketch of a driveway
- Draw a simple sketch of a workshop and a storage area.

Assessments

Performance Task(s)	Other Evidence
Authentic application to evaluate student achievement of	Application that is functional in a classroom context to

desired results designed according to GRASPS (one per marking period)	evaluate student achievement of desired results
<p>. Goal: Understand the different styles of general service areas.</p> <p>Role: Instructor/Teacher</p> <p>Audience: Students in Arch I classes</p> <p>Situation: Using graph paper, students are to complete a rough draft of the general service areas. The teacher will discuss with each student their design.</p> <p>Product or Performance: Handouts, graph paper, worksheet and home plan books.</p> <p>Standards for Success: Completion of rough draft of general service areas and add to their floor plan.</p>	<ul style="list-style-type: none"> • Sketches of a utility room, garage and a carport, driveway, workshop and a storage area to be turned in and graded (2 of each area). • Completion of a FLOOR PLAN (rough draft)
Suggested Resources	
<ul style="list-style-type: none"> • Helper, Dana, Helper, Donald, Wallach, Paul. <u>Architecture Drafting and Design</u>. Peoria, IL: Glencoe/McGraw-Hill, 1998. • <u>Affordable Home Plans</u>. Tucson, Arizona: Home Planners, 1997 • <u>New England Sampler</u>. Tucson, Arizona: Home Planners, 1997 • <u>One-Story Homes</u>. Tucson, Arizona: Home Planners, 1997 • <u>Southern Home Plans</u>. Tucson, Arizona: Home Planners, 1997 • <u>Traditional Homes</u>. Tucson, Arizona: Home Planners, 1997 • <u>Vacation and Second Homes</u>. Tucson, Arizona: Home Planners, 1997 • <u>Western Home Plans</u>. Tucson, Arizona: Home Planners, 1997 • <u>200 Budget-Smart Home Plans</u>. Tucson, Arizona: Home Planners, 1997 • <u>200 Move-Up Home Plans</u>. Tucson, Arizona: Home Planners, 1997 • <u>200 Small House Plans</u>. Tucson, Arizona: Home Planners, 1997 • Various handouts • Student worksheets 	

New Milford Public Schools

Committee Member(s): Joe Neff Unit 7: Sleeping Areas	Course/Subject: Architectural Drafting I Grade Level: 9-12 # of Weeks: 1 week
Identify Desired Results	
Common Core State Standards	
<ul style="list-style-type: none"> • Research and collect data that relates to architectural drafting and design. Arch.08.01 • Research, plan and design functional structure. Arch.05 	
Enduring Understandings Generalizations of desired understanding via essential questions (Students will understand that ...)	Essential Questions Inquiry used to explore generalizations
<ul style="list-style-type: none"> • Students will understand how to: <ul style="list-style-type: none"> ○ Plan and draw bedrooms for a sleeping area ○ Plan and draw baths appropriate to the size and arrangement of the floor plan ○ Design an efficient bath 	<ul style="list-style-type: none"> • Why are bedrooms important in a home? • What determines how many bedrooms are in a house? • Why does the master bedroom have an adjacent bathroom? • How do you determine how many bathrooms are in a home? • How would you decide what is an efficient bathroom?
Expected Performances	
What students should know and be able to do	
<p>Students will know the following:</p> <ul style="list-style-type: none"> • What are bedrooms <ul style="list-style-type: none"> ○ What is the function ○ Where they are located ○ What type of décor ○ Its size and shape • What are baths <ul style="list-style-type: none"> ○ What is the function ○ Where are they located ○ Its décor ○ Its size And shape <p>Students will be able to do the following:</p> <ul style="list-style-type: none"> • Understand, design and draw sleeping areas with baths • Complete a floor plan of a house 	

Character Attribute(s)	
<ul style="list-style-type: none"> • Honesty • Courage 	
Technology Competencies	
<ul style="list-style-type: none"> • Demonstrate attitudes and habits, including pride in good workmanship, dependability and regular attendance, that are valued in the workplace • Explore career and postsecondary educational opportunities through performance-based learning experiences 	
Develop Teaching and Learning Plan	
<p>Teaching Strategies:</p> <ul style="list-style-type: none"> • Teacher will lecture on the different types of sleeping areas and the pros and cons of each. • Teacher will handout house plan books for students to get ideas of different types of sleeping areas. • Using graph paper and their rough draft of their floor plan, complete the sleeping areas needed for their home. • Teacher will meet with each student and discuss their sleeping areas. 	<p>Learning Activities:</p> <ul style="list-style-type: none"> • Design a bedroom, 100 sq.ft. in size, for a six-year-old child. • Design a master bedroom with an adjoining bath • Plan the bedroom areas for the home you are designing • Draw a plan with a master bath and a central bath • Draw a simple sketch of a master bedroom and bath • Draw a simple sketch of a bedroom • Draw a simple sketch of a central bath

Assessments	
Performance Task(s)	Other Evidence
Authentic application to evaluate student achievement of desired results designed according to GRASPS (one per marking period)	Application that is functional in a classroom context to evaluate student achievement of desired results
<p>. Goal: Understand the different styles of sleeping areas.</p> <p>Role: Instructor/Teacher</p> <p>Audience: Students in Arch I classes</p> <p>Situation: Using graph paper, students are to complete a rough draft of the sleeping areas. The teacher will discuss with each student their design.</p>	<ul style="list-style-type: none"> • Sketches of sleeping areas to be turned in and graded (5 different sleeping areas) • Sketches of variuos types of baths, both master and centrally located to be turned in and graded. (3 sketches) • Completion of a FLOOR PLAN (rough draft)

Product or Performance: Handouts, graph paper, worksheet and home plan books.

Standards for Success: Completion of rough draft of sleeping areas and add to their floor plan.

Suggested Resources

- Helper, Dana, Helper, Donald, Wallach, Paul. Architecture Drafting and Design. Peoria, IL: Glencoe/McGraw-Hill, 1998.
- Affordable Home Plans. Tucson, Arizona: Home Planners, 1997
- New England Sampler. Tucson, Arizona: Home Planners, 1997
- One-Story Homes. Tucson, Arizona: Home Planners, 1997
- Southern Home Plans. Tucson, Arizona: Home Planners, 1997
- Traditional Homes. Tucson, Arizona: Home Planners, 1997
- Vacation and Second Homes. Tucson, Arizona: Home Planners, 1997
- Western Home Plans. Tucson, Arizona: Home Planners, 1997
- 200 Budget-Smart Home Plans. Tucson, Arizona: Home Planners, 1997
- 200 Move-Up Home Plans. Tucson, Arizona: Home Planners, 1997
- 200 Small House Plans. Tucson, Arizona: Home Planners, 1997
- Various handouts
- Student worksheets

New Milford Public Schools

Committee Member(s): Joe Neff Unit 8: Designing Floor Plans	Course/Subject: Architectural Drafting I Grade Level: 9-12 # of Weeks: 2 weeks
Identify Desired Results	
Common Core State Standards	
<ul style="list-style-type: none"> • Demonstrate an understanding of regulations in architectural design. Arch.03 • Research and identify regulations and codes that are needed to establish a legal and safe design. Arch.03.01 	
<p style="text-align: center;">Enduring Understandings</p> <p style="text-align: center;">Generalizations of desired understanding via essential questions (Students will understand that ...)</p>	<p style="text-align: center;">Essential Questions</p> <p style="text-align: center;">Inquiry used to explore generalizations</p>
<ul style="list-style-type: none"> • Students will understand and be able to: <ul style="list-style-type: none"> ○ Gather information from a client (teacher) that is needed to design a set of house plans ○ Analyze a building site ○ Draw floor plans 	<ul style="list-style-type: none"> • List the steps necessary to design a residence. • Prepare a situations statement and set goals and objectives for the house you are designing. • Explain the proper building site for your house.
Expected Performances What students should know and be able to do	
<p>Students will know the following:</p> <ul style="list-style-type: none"> • Understand proper floor plan development • Know the proper design process <ul style="list-style-type: none"> ○ Be able to define the project ○ Be able to develop a conceptual design ○ Be able to evaluating the design ○ Understand design development • Understand proper functional space planning <ul style="list-style-type: none"> ○ Be able to plan space for rooms and areas ○ Be able to draw floor plan drawings • Be able to develop plans to accommodate special needs <p>Students will be able to do the following:</p> <ul style="list-style-type: none"> • Develop basic floor plans • Begin to draw the final set of house plans 	

Character Attribute(s)	
<ul style="list-style-type: none"> • Perseverance • Integrity 	
Technology Competencies	
<ul style="list-style-type: none"> • Students will demonstrate technical knowledge and skills, including planning, designing, organizing, coordinating, constructing and maintaining Construction Technologies and Design 	
Develop Teaching and Learning Plan	
<p>Teaching Strategies:</p> <ul style="list-style-type: none"> • Teacher will lecture on the proper way to begin drawing floor plans. Explain how to put together all of their rough drafts to complete a final floor plan. • Teacher will explain the basic requirements needed for the house they are designing. • Using drafting paper and their rough draft of their floor plan, begin to organize plans. • Teacher will meet with each student and discuss their overall plans. 	<p>Learning Activities:</p> <ul style="list-style-type: none"> • Organize all of the rough drafts and put into a basic set of house plans: <ul style="list-style-type: none"> ○ Rough draft – Window/Door plan ○ Rough draft – Electrical plan ○ Rough draft – Furniture plan ○ Rough draft – Foundation plan ○ Rough draft – Plot plan ○ Rough draft – Schedule sheet ○ Rough draft – Wall Section ○ Rough draft – Cover sheet • Begin to develop floor plans

Assessments	
Performance Task(s)	Other Evidence
<p>Authentic application to evaluate student achievement of desired results designed according to GRASPS (one per marking period)</p>	<p>Application that is functional in a classroom context to evaluate student achievement of desired results</p>
<p>Goal: Completion of a set of house plans.</p> <p>Role: Instructor/Teacher</p> <p>Audience: Students in Arch I classes</p> <p>Situation: Using all of their rough drafts, the students are to begin to organize their plans. Teacher will meet to discuss their final rough draft of their floor plan.</p> <p>Product or Performance: Handouts, graph paper, worksheet and home plan books.</p> <p>Standards for Success: Organization of their final set of floor plans.</p>	<ul style="list-style-type: none"> • Begin to complete of a set of house plans. • Organize the rough drafts.

Suggested Resources	
<ul style="list-style-type: none">• Helper, Dana, Helper, Donald, Wallach, Paul. <u>Architecture Drafting and Design</u>. Peoria, IL: Glencoe/McGraw-Hill, 1998.• <u>Affordable Home Plans</u>. Tucson, Arizona: Home Planners, 1997• <u>New England Sampler</u>. Tucson, Arizona: Home Planners, 1997• <u>One-Story Homes</u>. Tucson, Arizona: Home Planners, 1997• <u>Southern Home Plans</u>. Tucson, Arizona: Home Planners, 1997• <u>Traditional Homes</u>. Tucson, Arizona: Home Planners, 1997• <u>Vacation and Second Homes</u>. Tucson, Arizona: Home Planners, 1997• <u>Western Home Plans</u>. Tucson, Arizona: Home Planners, 1997• <u>200 Budget-Smart Home Plans</u>. Tucson, Arizona: Home Planners, 1997• <u>200 Move-Up Home Plans</u>. Tucson, Arizona: Home Planners, 1997• <u>200 Small House Plans</u>. Tucson, Arizona: Home Planners, 1997• Various handouts• Student worksheets	

New Milford Public Schools

Committee Member(s): Joe Neff Unit 9: Drawing Floor Plans	Course/Subject: Architectural Drafting I Grade Level: 9-12 # of Weeks: 10 weeks
Identify Desired Results	
Common Core State Standards	
<ul style="list-style-type: none"> • Develop technical drawings drafted by hand and computer-aided drafting and design. Arch.06 • Convey information using multi-dimensional drawings. Arch.07.01 	
Enduring Understandings Generalizations of desired understanding via essential questions (Students will understand that ...)	Essential Questions Inquiry used to explore generalizations
<ul style="list-style-type: none"> • Students will be able to: <ul style="list-style-type: none"> ○ Use the information obtained to draw a complete set of house plans ○ Use graphic symbols to communicate information on a floor plan ○ Draw a floor plan according to a sequence of steps 	<ul style="list-style-type: none"> • What is the proper sequence for drawing floor plans and why do we have one? • Why are we drawing a set of house plan? <ul style="list-style-type: none"> ○ Window/Door floor plan ○ Electrical plan ○ Furniture plan ○ Foundation plan ○ Plot plan ○ Wall section ○ Cover sheet ○ Schedules
Expected Performances	
What students should know and be able to do	
Students will know the following: <ul style="list-style-type: none"> • Different types of floor plans • Understand the different types of floor plan symbols • Know the steps in drawing floor plans • Know how to complete the following floor plans <ul style="list-style-type: none"> ○ Window/Door floor plan ○ Electrical floor plan ○ Furniture plan ○ Foundation plan ○ Plot plan ○ Wall section ○ Cover sheet 	

<ul style="list-style-type: none"> ○ Schedules <p>Students will be able to do the following:</p> <ul style="list-style-type: none"> ● Draw a FLOOR PLAN ● Draw a FOUNDATION PLAN ● Draw an ELECTRICAL PLAN ● Draw a FURNTIURE PLAN ● Draw a PLOT PLAN ● Draw a WALL SECTION ● Draw a COVER SHEET ● Draw a SCHEDULE SHEET 	
Character Attribute(s)	
<ul style="list-style-type: none"> ● Respect ● Integrity 	
Technology Competencies	
<ul style="list-style-type: none"> ● Employ critical thinking skills to solve problems and make decisions ● Evaluate alternatives using a variety of problem-solving and critical thinking skills 	
Develop Teaching and Learning Plan	
<p>Teaching Strategies:</p> <ul style="list-style-type: none"> ● Teacher will lecture on the proper way to draw floor plans. Explain how to put together all of their rough drafts to complete a final floor plan. ● Teacher will explain the proper size paper and scale used for each drawing. ● Using drafting paper and their rough draft of their floor plan, begin to draw a full set of house plans. ● Teacher will meet with each student and discuss their overall plans and make sure that they understand the assignment. 	<p>Learning Activities:</p> <ul style="list-style-type: none"> ● Draw a complete set of house plans <ul style="list-style-type: none"> ○ Window/Door floor plan ○ Electrical plan ○ Furniture plan ○ Foundation plan ○ Plot plan ○ Wall section ○ Cover sheet ○ Schedules
Assessments	
Performance Task(s)	Other Evidence
Authentic application to evaluate student achievement of desired results designed according to GRASPS (one per marking period)	Application that is functional in a classroom context to evaluate student achievement of desired results
<p>Goal: Completion of a set of house plans.</p> <p>Role: Instructor/Teacher</p> <p>Audience: Students in Arch I classes</p>	<ul style="list-style-type: none"> ● Completion of a set of house plans

<p>Situation: Using all of their rough drafts, the students are to begin to draw their plans. Teacher will meet to discuss their final rough draft of their floor plan and make sure they understand the assignment.</p> <p>Product or Performance: Handouts, graph paper, worksheet and home plan books.</p> <p>Standards for Success: Completion of their final set of floor plans.</p>	
Suggested Resources	
<ul style="list-style-type: none"> • Helper, Dana, Helper, Donald, Wallach, Paul. <u>Architecture Drafting and Design</u>. Peoria, IL: Glencoe/McGraw-Hill, 1998. • <u>Affordable Home Plans</u>. Tucson, Arizona: Home Planners, 1997 • <u>New England Sampler</u>. Tucson, Arizona: Home Planners, 1997 • <u>One-Story Homes</u>. Tucson, Arizona: Home Planners, 1997 • <u>Southern Home Plans</u>. Tucson, Arizona: Home Planners, 1997 • <u>Traditional Homes</u>. Tucson, Arizona: Home Planners, 1997 • <u>Vacation and Second Homes</u>. Tucson, Arizona: Home Planners, 1997 • <u>Western Home Plans</u>. Tucson, Arizona: Home Planners, 1997 • <u>200 Budget-Smart Home Plans</u>. Tucson, Arizona: Home Planners, 1997 • <u>200 Move-Up Home Plans</u>. Tucson, Arizona: Home Planners, 1997 • <u>200 Small House Plans</u>. Tucson, Arizona: Home Planners, 1997 • Various handouts • Student worksheets 	

END of FIRST SEMESTER

START OF SECOND SEMESTER

New Milford Public Schools

Committee Member(s): Joe Neff Unit 10: Groundwork – AutoCAD	Course/Subject: Architectural Drafting I Grade Level: 9-12 # of Weeks: 2 weeks
Identify Desired Results	
Common Core State Standards	
<ul style="list-style-type: none"> • Analyze the use of current CADD design technology. CADD.02 • Identify basic geometric elements (e.g., line, circle, rectangle, sphere and cube). CADD.04 	
Enduring Understandings Generalizations of desired understanding via essential questions (Students will understand that ...)	Essential Questions Inquiry used to explore generalizations
<ul style="list-style-type: none"> • Exploring AutoCAD by understanding the following commands: <ul style="list-style-type: none"> ○ How to start AutoCAD ○ Be able to view details ○ Be able to exiting AutoCAD • Be able to use the user interface <ul style="list-style-type: none"> ○ Be able to use Pull-Down Menus ○ Be able to use the Toolbars ○ Be able to use the Tools palettes • Understand the Command Entry <ul style="list-style-type: none"> ○ Be able to create and save a Drawing File ○ Be able to opening a drawing • Understand the basic objects <ul style="list-style-type: none"> ○ Be able to create circles ○ Be able to create arcs ○ Draw ellipses ○ Draw donuts ○ Be able to draw rectangles ○ Be able to draw polygons 	<ul style="list-style-type: none"> • How do you start AutoCAD? • How do you exit AutoCAD? • How do you move a toolbar? • What is a cascading menu? • What appears when you rest the pointer on a button contained in a toolbar? • Explain the purpose of the DONUT command?
Expected Performances	

What students should know and be able to do

Students will know the following:

- How to start AutoCAD
- How to preview drawing files
- Exit AutoCAD
- Be able to navigate AutoCAD's pull-down menus
- Be able to display and reorganize docked and floating toolbars
- Be able to describe the functions of the Tools Palette
- Create, save and open an AutoCAD drawing file
- Be able to enter commands using the keyboards and toolbars
- Be able to reenter commands
- Create curved objects such as circles, arcs, ellipses, and donuts
- Create rectangles and other types of regular polygons

Students will be able to do the following:

- Start AutoCAD
- Open a drawing file
- Exit AutoCAD
- Use the pull-down menus
- Know the difference between floating and docked toolbars
- Use the tools palette
- Be able to create and save a drawing file
- Be able to open a drawing file
- Be Able to enter a command
- Understand the pick buttons on a toolbar
- Reenter the last command

Character Attribute(s)

- Perseverance
- Cooperation

Technology Competencies

- Identify, describe, and utilize the basic hardware and operating systems used in CADD

Develop Teaching and Learning Plan

Teaching Strategies:

- Teacher lectures on the proper commands needed to create a simple drawing
- Teacher uses the data projector to show the students the various commands needed to draw a simple drawing
- Teacher uses active learning to help the students complete their assignments. Using the computer and by listening to the lecture,

Learning Activities:

- Students will practice commands using the keyboard.
- Students will practice using their pointing device.
- Students will use the Select File Dialog
- Using the Coordinate display to locate the position of various (X, Y) points in the drawing.
- Completion of drawings #1 - #5

<p>students begin work on completing their drawings.</p> <ul style="list-style-type: none"> • Problem-Based Learning is a method that challenges students to “learn to learn” by working in groups to seek solutions to problems. The students will work in groups to complete the drawings assigned. (#1 - #5) • Teacher will hand out drawing #1 to the group. When the drawing is finished, the teacher will check the drawing and then the students can move onto the next drawing. 	
---	--

Assessments	
<p style="text-align: center;">Performance Task(s)</p> <p>Authentic application to evaluate student achievement of desired results designed according to GRASPS (one per marking period)</p>	<p style="text-align: center;">Other Evidence</p> <p>Application that is functional in a classroom context to evaluate student achievement of desired results</p>
<p>Goal: Enable students to create a basic 2D drawing in AutoCAD</p> <p>Role: Instructor/Teacher</p> <p>Audience: Students in Basic AutoCAD classes</p> <p>Situation: Students are given drawings to complete that show the teacher they understand the basic command needed to complete the drawing.</p> <p>Product: Correct completion of 2D and 3D drawings (#1 - #40-1/2 semester)</p> <p>Standards for Success: Completion of drawings #1-#40 (1/2 semester) using departmental rubrics.</p>	<ul style="list-style-type: none"> • Students will learn how to start AutoCAD by completing drawing #1. • Students will learn the basic layout of the AutoCAD screen by completing handout #1. • Students will learn how to use the command line and keyboard with AutoCAD by completing drawing #2. • Students will learn how to use your pointing device in AutoCAD by completing drawing #2. • Students will learn how to open an existing drawing by successfully opening drawing #1 or drawing #2. • Students will learn about AutoCAD’s Cartesian workspace by completing drawing #3 • Students will be able to draw lines, rectangles, and circles by completing drawing #4. • Students will be able erase objects by completing drawing #5 • Students will be able save their work by saving drawing #5

	<p>successfully.</p> <ul style="list-style-type: none">• Students will be able exit AutoCAD by shutting down the program.• Self Check: Getting Started with AutoCAD (7 questions)• Completion of drawings #1 - #5• Observation of student work• Unit quiz
--	---

Suggested Resources

- AutoCAD software
- Wohlers, Terry. Applying AutoCAD. Woodlands Hills, CA: Glencoe/McGraw Hill Company, 2008.
- Student worksheets
- Handouts

New Milford Public Schools

Committee Member(s): Joe Neff Unit 11: Drawing Aids and Controls	Course/Subject: Architectural Drafting I Grade Level: 9-12 # of Weeks: 2 weeks
Identify Desired Results	
Common Core State Standards	
<ul style="list-style-type: none"> • Utilize measurement and annotation systems as they apply to CADD technology design. CADD.03 • Describe the process for setting and manipulating drawing elements. CADD.05.08 	
<p style="text-align: center;">Enduring Understandings</p> <p style="text-align: center;">Generalizations of desired understanding via essential questions (Students will understand that ...)</p>	<p style="text-align: center;">Essential Questions</p> <p style="text-align: center;">Inquiry used to explore generalizations</p>
<ul style="list-style-type: none"> • Students will understand how to use Object Snap <ul style="list-style-type: none"> ○ Use running Object Snaps ○ Be able to specify Object Snaps ○ Know the Object Snap Settings • Be able to use the helpful drawing features <ul style="list-style-type: none"> ○ Use the Coordinate Display ○ Know how to use the Ortho Mode ○ Be able to track time • Be able to use the construction aids <ul style="list-style-type: none"> ○ Be able to use Snap Grid ○ Draw construction lines ○ Draw rays • Use the Zoom command <ul style="list-style-type: none"> ○ Use to take a Closer Look 	<ul style="list-style-type: none"> • Why do we need to know the Coordinate Display? • Explain how the Zoom command works? • Explain the purpose of the Object Snap command? • Why is the coordinate display so important?
Expected Performances	
What students should know and be able to do	
Students will know the following: <ul style="list-style-type: none"> • How to set and use running object snap modes • Be able to apply object snaps that are not currently turned on • Be able to change object snap setting to increase productivity • Be able to use the QUICK SETUP wizard • Be able to use and change the display of coordinate information 	

- Be able to set and use AutoCAD's visual grid system
- Be able to zoom in on portions of a drawing to view or add details

Students will be able to do the following:

- Use the alignment grid and Snap grid
- Draw Construction lines and Rays
- Understand Orthographic Projection
- Methods of Zooming

Character Attribute(s)

- Respect
- Integrity

Technology Competencies

- Explore career and postsecondary educational opportunities through performance-based learning experiences
- Operate a personal computer using the AutoCAD software

Develop Teaching and Learning Plan

Teaching Strategies:

- Teacher lectures on the proper commands needed to create a simple drawing
- Teacher uses the data projector to show the students the various commands needed to draw a simple drawing
- Teacher uses active learning to help the students complete their assignments. Using the computer and by listening to the lecture, students begin work on completing their drawings.
- Problem-Based Learning is a method that challenges students to "learn to learn" by working in groups to seek solutions to problems. The students will work in groups to complete the drawings assigned. (#6 - #9)
- Teacher will hand out drawing #6 to the students, then the teacher will check the drawing and the students can move onto the next drawing.

Learning Activities:

- Completion of drawings #6 - #9
- Students will be able draw with GRID, and SNAP
- Students will be able view a drawing with Zoom and PAN
- Students will be able undo commands
- Students will be able save your work
- Students will be able exit AutoCAD
- Self Check: Drawing Aides with AutoCAD (10 questions)

Assessments

Performance Task(s) Authentic application to evaluate student achievement of desired results designed according to GRASPS (one per marking period)	Other Evidence Application that is functional in a classroom context to evaluate student achievement of desired results
<p>Goal: Enable students to create a basic 2D drawing in AutoCAD</p> <p>Role: Instructor/Teacher</p> <p>Audience: Students in Basic AutoCAD classes</p> <p>Situation: Students are given drawings to complete that show the teacher they understand the basic command needed to complete the drawing by using the proper commands.</p> <p>Product: Correct completion of 2D drawings (#6 - #9)</p> <p>Standards for Success: Completion of drawings #6-#9 using departmental rubrics.</p>	<ul style="list-style-type: none"> • Students will be able draw with GRID, and SNAP by completing drawing #6. • Students will be able view a drawing with Zoom and PAN by completing drawing #7 • Students will be able undo commands by completing drawing #8 • Students will be able save your work by drawing and saving drawing #9 • Students will be able exit AutoCAD • Self Check: Drawing Aides with AutoCAD (10 questions) • Completion of drawings #6 - #9 • Observation of student work • Unit quiz
Suggested Resources	
<ul style="list-style-type: none"> • AutoCAD software • Wohlers, Terry. <u>Applying AutoCAD</u>. Woodlands Hills, CA: Glencoe/McGraw Hill Company, 2008. • Student worksheets • Handouts 	

New Milford Public Schools

Committee Member(s): Joe Neff Unit 12: Drawing and Editing	Course/Subject: Architectural Drafting I Grade Level: 9-12 # of Weeks: 2 weeks
Identify Desired Results	
Common Core State Standards	
<ul style="list-style-type: none"> • Utilize measurement and annotation systems as they apply to CADD technology design. CADD.03 • Use the concepts of geometric construction in the development of design drawings. CADD.05.04 	
Enduring Understandings Generalizations of desired understanding via essential questions (Students will understand that ...)	Essential Questions Inquiry used to explore generalizations
<ul style="list-style-type: none"> • Students will understand how to: <ul style="list-style-type: none"> ○ Draw solid and curved objects ○ Draw solid shapes ○ Draw polylines ○ Draw spline curves • Will be able to add and alter objects <ul style="list-style-type: none"> ○ Be able to create chamfers ○ Be able to breaking objects ○ Be able to create fillets and rounds ○ Be able to offset objects • Be able to moving and duplicate objects <ul style="list-style-type: none"> ○ Be able to changing object properties ○ Be able to move objects ○ Be able to copying objects ○ Be able to mirror objects • Be able to modify and maneuver objects <ul style="list-style-type: none"> ○ Be able to stretch objects ○ Be able to scaling objects ○ Be able to rotate objects ○ Be able to trim objects ○ Be able to extending objects • Be able to Hatch and Sketch <ul style="list-style-type: none"> ○ Be able to use the hatch command 	<ul style="list-style-type: none"> • What is the purpose of FILL, and how is it used? • Explain a polyline? • What is the function of the CHAMFER command? • How do you set the fillet radius? • What is the purpose of the PROPERTIES palette? • Name two types of arrays? • Explain the purpose of the STRECH command? • Explain the purpose of the TRIM command? • Explain why hatch patterns are important?

<ul style="list-style-type: none"> ○ Be able to edit a hatch 	
Expected Performances What students should know and be able to do	
<p>Students will know the following:</p> <ul style="list-style-type: none"> ● Produce solid-filled objects ● Create and edit polylines ● Create chamfer corners ● Offset lines and circles ● Create and edit multilines ● Change an object's properties ● Move and Copy objects ● Mirror objects and parts around an axis ● Produce rectangular and polar arrays ● Stretch objects to change their overall shape ● Rotate objects to exact angles ● Trim and extend multilines ● Hatch objects <p>Students will be able to do the following:</p> <ul style="list-style-type: none"> ● Draw solid objects and polylines ● Draw spline curves ● Create chamfers and fillets ● Break and offset objects ● Change object's properties ● Copy, rotate, mirror and move objects ● Create polar and rectangular arrays ● Scale, stretch, trim and extend lines ● Hatch objects ● Edit a hatch 	
Character Attribute(s)	
<ul style="list-style-type: none"> ● Perseverance ● Cooperation 	
Technology Competencies	
<ul style="list-style-type: none"> ● Accept personal responsibility for production and quality ● Respond constructively to constructive criticism 	
Develop Teaching and Learning Plan	
<p>Teaching Strategies:</p> <ul style="list-style-type: none"> ● Teacher lectures on the proper commands needed to create a simple drawing ● Teacher uses the data projector to show the students the various 	<p>Learning Activities:</p> <ul style="list-style-type: none"> ● Completion of drawings #10 - #13 ● Students will be able draw solid, curved, polylines and splines. ● Students will be able to add and alter drawings.

<p>commands needed to draw a simple drawing</p> <ul style="list-style-type: none"> • Teacher uses active learning to help the students complete their assignments. Using the computer and by listening to the lecture, students begin work on completing their drawings. • Problem-Based Learning is a method that challenges students to “learn to learn” by working in groups to seek solutions to problems. The students will work in groups to complete the drawings assigned. (#10 - #13) • Teacher will hand out drawing #10 to the students, then the teacher will check the drawing and the students can move onto the next drawing. 	<ul style="list-style-type: none"> • Students will be able move, offset, mirror, and stretch, rotate and trim objects. • Students will be able hatch. • Self Check: Drawing and Editing with AutoCAD (12 questions) <p>Completion of drawings #10 - #13</p>
---	--

Assessments	
Performance Task(s) Authentic application to evaluate student achievement of desired results designed according to GRASPS (one per marking period)	Other Evidence Application that is functional in a classroom context to evaluate student achievement of desired results
<p>Goal: Enable students to create a basic 2D drawing in AutoCAD</p> <p>Role: Instructor/Teacher</p> <p>Audience: Students in Basic AutoCAD classes</p> <p>Situation: Students are given drawings to complete that show the teacher they understand the basic command needed to complete the drawing using the proper drawing and editing commands.</p> <p>Product: Correct completion of 2D drawings (#10 - #13)</p> <p>Standards for Success: Completion of drawings #10-#13 using departmental</p>	<ul style="list-style-type: none"> • Completion of drawings #10 - #13 • Students will be able draw solid, curved, polylines and splines by completing drawing #10 • Students will be able to add and alter drawings by completing drawing #11. • Students will be able move, offset, mirror, stretch, rotate and trim objects by completing drawing #12. • Students will be able hatch by completing drawing #13. • Self Check: Drawing and Editing with AutoCAD (12 questions) • Observation of student work • Unit quiz

rubrics.

Suggested Resources

- AutoCAD software
- Wohlers, Terry. Applying AutoCAD. Woodlands Hills, CA: Glencoe/McGraw Hill Company, 2008.
- Student worksheets
- Handouts

New Milford Public Schools

Committee Member(s): Joe Neff Unit 13: Text and Tables	Course/Subject: Architectural Drafting I Grade Level: 9-12 # of Weeks: 1 week
Identify Desired Results	
Common Core State Standards	
<ul style="list-style-type: none"> • Identify various symbols to interpret and read technical drawings. CADD.09 • Interpret drawings, pictures, and symbols. CADD.09.03 	
Enduring Understandings Generalizations of desired understanding via essential questions (Students will understand that ...)	Essential Questions Inquiry used to explore generalizations
<ul style="list-style-type: none"> • Students will understand how to: • Use notes and specifications <ul style="list-style-type: none"> ○ Understand different types of text ○ Understand how to import text ○ format text ○ Use different text styles and fonts • Text edit and use spell check <ul style="list-style-type: none"> ○ Be able to edit text ○ Create special characters • Use tables <ul style="list-style-type: none"> ○ Be able to create tables ○ Edit tables 	<ul style="list-style-type: none"> • What might be benefit of using the MTEXT command? • What is the purpose of a title block? • Why might a character map be helpful? • What is a table in AutoCAD? • What command do you enter to create a new text style?
Expected Performances	
What students should know and be able to do	
<p>Students will know the following:</p> <ul style="list-style-type: none"> • Be able to create and edit text • Be able to specify the position of text • Be able to create and use new text styles • Be able to edit text • Be able to create special characters • Be able to find and replace text • Use AutoCAD's spell checker • Be able to create a table • Be able to apply styles to tables • Edit tables <p>Students will be able to do the following:</p> <ul style="list-style-type: none"> • Use different types of text • Import text in a drawing 	

<ul style="list-style-type: none"> • Format text • Apply text in drawings • Edit text • Create special characters • Find and replace text • Use AutoCAD's spell checker 	
Character Attribute(s)	
<ul style="list-style-type: none"> • Compassion • Honesty 	
Technology Competencies	
<ul style="list-style-type: none"> • Explore career and postsecondary educational opportunities through performance-based learning experience • Identify resources to complete a job task 	
Develop Teaching and Learning Plan	
<p>Teaching Strategies:</p> <ul style="list-style-type: none"> • Teacher lectures on the proper commands needed to create a simple drawing • Teacher uses the data projector to show the students the various commands needed to draw a simple drawing • Teacher uses active learning to help the students complete their assignments. Using the computer and by listening to the lecture, students begin work on completing their drawings. • Problem-Based Learning is a method that challenges students to "learn to learn" by working in groups to seek solutions to problems. The students will work in groups to complete the drawings assigned. (#14 - #18) • Teacher will hand out drawing #14 to the students, then the teacher will check the drawing and the students can move onto the next drawing. 	<p>Learning Activities:</p> <ul style="list-style-type: none"> • Completion of drawings #14 - #18 • Students will be able insert different types of text. • Students will be able to format text. • Students will be able apply text to drawings. • Students will be able to edit text • Students will be Able to use spellchecker. • Self Check: Text and Tables (15 questions)

Assessments	
Performance Task(s)	Other Evidence
Authentic application to evaluate student achievement of desired results designed according to GRASPS	Application that is functional in a classroom context to evaluate student achievement of desired results

(one per marking period)	
<p>Goal: Enable students to create a basic 2D drawing in AutoCAD</p> <p>Role: Instructor/Teacher</p> <p>Audience: Students in Basic AutoCAD classes</p> <p>Situation: Students are given drawings to complete that show the teacher they understand the basic command needed to complete the drawing using Texts and Tables.</p> <p>Product: Correct completion of 2D drawings (#14 - #18)</p> <p>Standards for Success: Completion of drawings #14 - #18 using departmental rubrics.</p>	<ul style="list-style-type: none"> • Completion of drawings #14 - #18 • Students will be able insert different types of text by completing drawing #14. • Students will be able to format text by completing drawing #14. • Students will be able apply text to drawings by completing drawing #15. • Students will be able to edit text by completing drawing #16 • Students will be able to use spellchecker by completing drawing #18. • Self Check: Text and Tables (15 questions) • Observation of student work • Unit quiz
Suggested Resources	
<ul style="list-style-type: none"> • AutoCAD software • Wohlers, Terry. <u>Applying AutoCAD</u>. Woodlands Hills, CA: Glencoe/McGraw Hill Company, 2008. • Student worksheets • Handouts 	

Committee Member(s): Joe Neff Unit 14: Preparing to Print a Drawing	Course/Subject: Architectural Drafting I Grade Level: 9-12 # of Weeks: 1 week
Identify Desired Results	
Common Core State Standards	
<ul style="list-style-type: none"> • Identify the hardware requirements of a given CADD software package. CADD.04.07 • Export and import images/files in a variety of file formats. CADD.02.08 • Scale and print hard copy of output device. CADD.05.16 	
Enduring Understandings Generalizations of desired understanding via essential questions (Students will understand that ...)	Essential Questions Inquiry used to explore generalizations
<ul style="list-style-type: none"> • Students will understand how to: • Set up a drawing <ul style="list-style-type: none"> ○ Use a template file ○ Use an initial template setup • Use layers and linetypes <ul style="list-style-type: none"> ○ Be able to create new layers ○ Be able to working with layers ○ Be able to working with objects • Plot and Print <ul style="list-style-type: none"> ○ Be able to previewing a plot ○ Plot a Drawing 	<ul style="list-style-type: none"> • Explain the purpose and value of template files? • Why do we need different types of layers? • What is the purpose of locking a layer? • Explain why a plot preview is useful?
Expected Performances What students should know and be able to do	
<p>Students will know the following:</p> <ul style="list-style-type: none"> • Explain the purpose of a template file and list settings that are commonly included • Choose the appropriate unit of measurement for a drawing • Determine the appropriate sheet size and drawing scale • Be able to create new layers • Use layers to control the appearance of objects • Change an object's properties • Preview a plot • Adjust plotter settings • Plot an AutoCAD drawing to scale <p>Students will be able to do the following:</p> <ul style="list-style-type: none"> • Use template files • Initial template setup • Create new layers • Assign colors • Assign linetypes 	

<ul style="list-style-type: none"> • Work with layers • Lock layers • Preview a plot • Plot a drawing 	
Character Attribute(s)	
<ul style="list-style-type: none"> • Cooperation • Honesty 	
Technology Competencies	
<ul style="list-style-type: none"> • Demonstrate attitudes toward work, including acceptance of the necessity of making a living and an appreciation of the social value and dignity of work 	
Develop Teaching and Learning Plan	
<p>Teaching Strategies:</p> <ul style="list-style-type: none"> • Teacher lectures on the proper commands needed to create a simple drawing • Teacher uses the data projector to show the students the various commands needed to draw a simple drawing • Teacher uses active learning to help the students complete their assignments. Using the computer and by listening to the lecture, students begin work on completing their drawings. • Problem-Based Learning is a method that challenges students to “learn to learn” by working in groups to seek solutions to problems. The students will work in groups to complete the drawings assigned. (#19 - #22) • Teacher will hand out drawing #22 to the students, then the teacher will check the drawing and the students can move onto the next drawing. 	<p>Learning Activities:</p> <ul style="list-style-type: none"> • Completion of drawings #19 - #22 • Students will be able insert different types of templates. • Students will be able to create new layers. • Students will be able add colors and change linetypes. • Students will be able to preview a plot. • Students will be able to plot a drawing. • Self Check: Preparing to print a drawing. (12 questions)

Assessments	
Performance Task(s)	Other Evidence
Authentic application to evaluate student achievement of desired results designed according to GRASPS (one per marking period)	Application that is functional in a classroom context to evaluate student achievement of desired results
Goal: Enable students to create a basic 2D	<ul style="list-style-type: none"> • Students will be able insert different types of templates by completing drawing #19.

<p>drawing in AutoCAD</p> <p>Role: Instructor/Teacher</p> <p>Audience: Students in Basic AutoCAD classes</p> <p>Situation: Students are given drawings to complete that show the teacher they understand the basic command needed to complete the drawing and plot it correctly.</p> <p>Product: Correct completion of 2D drawings (#19 - #22)</p> <p>Standards for Success: Completion of drawings #19-#22 using departmental rubrics.</p>	<ul style="list-style-type: none"> • Students will be able to create new layers by completing drawing #20. • Students will be able add colors and change linetypes by completing drawing #21. • Students will be able to preview a plot by completing drawing #22. • Students will be able to plot a drawing by plotting drawing #22. • Self Check: Preparing to print a drawing (12 questions). • Completion of drawings #19 - #22 • Observation of student work • Unit quiz
---	---

Suggested Resources

<ul style="list-style-type: none"> • AutoCAD software • Wohlers, Terry. <u>Applying AutoCAD</u>. Woodlands Hills, CA: Glencoe/McGraw Hill Company, 2008. • Student worksheets • Handouts
--

New Milford Public Schools

<p>Committee Member(s): Joe Neff Unit 15: Basic Dimensioning</p>	<p>Course/Subject: Architectural Drafting I Grade Level: 9-12 # of Weeks: 2 weeks</p>
--	---

Identify Desired Results

Common Core State Standards	
<ul style="list-style-type: none"> Understand the commands and concepts necessary for producing drawings through traditional or computer-aided means. CADD.05.01 Differentiate the various techniques for viewing objects. CADD.05.03 	
Enduring Understandings Generalizations of desired understanding via essential questions (Students will understand that ...)	Essential Questions Inquiry used to explore generalizations
<ul style="list-style-type: none"> Students will understand how to: Use basic dimensioning <ul style="list-style-type: none"> Set the dimension text style Dimension linear dimensions Dimension round features Dimension angles Dimension arcs Use other types of dimensioning 	<ul style="list-style-type: none"> How do you specify a text style for dimension text? Which dimension button do you use to dimension fillets, rounds, and holes? Explain when you would use each button. What does a jog on a radius dimension represent?
Expected Performances What students should know and be able to do	
<p>Students will know the following:</p> <ul style="list-style-type: none"> How to set up a text style for dimensions How to produce linear dimensions using dimensioning commands and shortcuts How to dimension round shapes, curves, and holes How to dimension angles How to determine the need for and use baseline and ordinate dimensioning when appropriate <p>Students will be able to do the following:</p> <ul style="list-style-type: none"> Set the dimension text style Create linear dimensions Dimension round features Dimension angles Dimension arcs Use other types of dimensioning 	
Character Attribute(s)	
<ul style="list-style-type: none"> Integrity respect 	
Technology Competencies	
<ul style="list-style-type: none"> Explore career and postsecondary educational opportunities through performance-based learning experiences Manage data and utilize problem-solving skills to make reasoned decisions about employment, societal, political and economic issues 	
Develop Teaching and Learning Plan	
Teaching Strategies:	Learning Activities:

<ul style="list-style-type: none"> • Teacher lectures on the proper commands needed to create a simple drawing • Teacher uses the data projector to show the students the various commands needed to draw a simple drawing • Teacher uses active learning to help the students complete their assignments. Using the computer and by listening to the lecture, students begin work on completing their drawings. • Problem-Based Learning is a method that challenges students to “learn to learn” by working in groups to seek solutions to problems. The students will work in groups to complete the drawings assigned. (#20 - #24) <p>Teacher will hand out drawing #20 to the students, then the teacher will check the drawing and the students can move onto the next drawing.</p>	<ul style="list-style-type: none"> • Completion of drawings #20 - #24 • Students will be able to dimension text. • Students will be able to create linear dimensions. • Students will be able to dimension round features. • Students will be able to dimension angles. • Students will be able to dimension arcs • Self Check: Basic Dimensioning. (15 questions)
---	---

Assessments	
Performance Task(s) Authentic application to evaluate student achievement of desired results designed according to GRASPS (one per marking period)	Other Evidence Application that is functional in a classroom context to evaluate student achievement of desired results
<p>Goal: Enable students to create a basic 2D drawing in AutoCAD</p> <p>Role: Instructor/Teacher</p> <p>Audience: Students in Basic AutoCAD classes</p> <p>Situation: Students are given drawings to complete that show the teacher they understand the basic command needed to complete the drawing using basic dimensioning.</p>	<ul style="list-style-type: none"> • Completion of drawings #20 - #24 • Students will be able to dimension text by completing drawing #20. • Students will be able to create linear dimensions by completing drawing #21. • Students will be able to dimension round features by completing drawing #22. • Students will be able to dimension angles by completing drawing #23. • Students will be able to dimension arcs by completing drawing #24 • Self Check: Basic Dimensioning. (15 questions) • Observation of student work

<p>Product: Correct completion of 2D drawings (#20 - #24)</p> <p>Standards for Success: Completion of drawings #20-#24 using departmental rubrics.</p>	<ul style="list-style-type: none"> • Unit quiz
Suggested Resources	
<ul style="list-style-type: none"> • AutoCAD software • Wohlers, Terry. <u>Applying AutoCAD</u>. Woodlands Hills, CA: Glencoe/McGraw Hill Company, 2008. • Student worksheets • Handouts 	

New Milford Public Schools

<p>Committee Member(s): Joe Neff</p> <p>Unit 16: Drawing – Floor Plan Win/Door</p>	<p>Course/Subject: Architectural Drafting I</p> <p>Grade Level: 9-12</p> <p># of Weeks: 2 weeks</p>
Identify Desired Results	
Common Core State Standards	
<ul style="list-style-type: none"> • Identify various symbols to interpret and read technical drawings. CADD.09 • Demonstrate knowledge of basic arithmetic operations such as: addition, subtraction, multiplication, and division. EKS.03.02 	

<p style="text-align: center;">Enduring Understandings</p> <p>Generalizations of desired understanding via essential questions (Students will understand that ...)</p>	<p style="text-align: center;">Essential Questions</p> <p>Inquiry used to explore generalizations</p>
<p>Students will understand how to:</p> <ul style="list-style-type: none"> • Insert groups (win/door) into a drawing <ul style="list-style-type: none"> ○ Be able to create a group ○ Be able to change a group property ○ Be able to tags win/doors • Insert blocks (win/door) into a drawing <ul style="list-style-type: none"> ○ Be able to work with Blocks ○ Be able to use the Design Center and Tools Paletts ○ Insert blocks into a Drawing File • Use the Symbol Library • Be able to create a Library • Be able to TAG all win/doors • Be able to create a win/door schedule • Plot the drawing 	<ul style="list-style-type: none"> • What is the primary purpose of creating a library of symbols and details for the Win/Door plan? • When you create a library, on what layer should you create and store the blocks? Why? • What types of content does Design Center display? • What is the purpose of a window & door schedule?
<p>Expected Performances</p> <p>What students should know and be able to do</p>	
<p>Students will know the following:</p> <ul style="list-style-type: none"> • Be able to create a library of symbols and details for win/door plan • Be able to insert symbols and details using a symbol library • Insert layers, dimension styles, and other content from drawings using Design Center • Tag all windows & doors. • Create a window & door schedule • Plot their drawing <p>Students will be able to do the following:</p> <ul style="list-style-type: none"> • Create a library using win/doors • Use the symbol library • Insert Blocks • Tag all windows & doors • Create a window & door schedule • Plot their drawing 	
<p>Character Attribute(s)</p>	
<ul style="list-style-type: none"> • Perseverance • Responsibility 	
<p>Technology Competencies</p>	
<ul style="list-style-type: none"> • Embrace work and career as part of their future 	

- Explore a range of careers and acquire specific knowledge or experience in the field of CADD

Develop Teaching and Learning Plan

<p>Teaching Strategies:</p> <ul style="list-style-type: none"> • Teacher lectures on the proper commands needed to create their Win/Door plan • Teacher uses the data projector to show the students the various commands needed to draw a simple drawing • Teacher uses active learning to help the students complete their assignments. Using the computer and by listening to the lecture, students begin work on completing their drawing Win/Door. • Problem-Based Learning is a method that challenges students to “learn to learn” by working in groups to seek solutions to problems. The students will work in groups to complete the drawing Win/Door • Students will use their Win/Door drawing to create the same drawing using AutoCAD. When the drawing is finished, the teacher will check the drawing and then the students can move onto the next drawing. 	<p>Learning Activities:</p> <ul style="list-style-type: none"> • Completion of drawing Win/Door • Using the Symbol Library, insert blocks into the drawing. • Using Design Center, insert various symbols (win/doors) into the drawing. • Students will be able to create their own symbol library. • Tag all windows & doors • Create a window & door schedule. • Self Check: Groups and Details. (12 questions)
---	---

Assessments

Performance Task(s)	Other Evidence
Authentic application to evaluate student achievement of desired results designed according to GRASPS (one per marking period)	Application that is functional in a classroom context to evaluate student achievement of desired results
<p>Goal: Enable students to create a basic 2D drawing in AutoCAD (Win/Door Plan)</p> <p>Role: Instructor/Teacher</p> <p>Audience: Students in Architectural Drafting I classes</p>	<ul style="list-style-type: none"> • Completion of drawing Win/Door • Using the Symbol Library, insert blocks into the drawing by completing drawing Win/Door. • Using Design Center, insert various symbols into the drawing by completing drawing. • Students will be able to create their

<p>Situation: Students will use their drawings from first semester to complete the Win/Door to show the teacher they understand the basic command needed to complete the drawing using Groups and Details.</p> <p>Product: Correct completion of 2D drawing Win/Door</p> <p>Standards for Success: Completion of drawing Win/Door using departmental rubrics.</p>	<p>own symbol library by completing their window & door drawing</p> <ul style="list-style-type: none"> • Create a window & door schedule.. • Self Check: Groups and Details. (12 questions) • Observation of student work • Unit quiz
---	---

Suggested Resources

- AutoCAD software
- Wohlers, Terry. Applying AutoCAD. Woodlands Hills, CA: Glencoe/McGraw Hill Company, 2008.
- Student worksheets and hand draw drawing from first semester
- Handouts

New Milford Public Schools

<p>Committee Member(s): Joe Neff Unit 17: Drawing a Furniture Plan</p>	<p>Course/Subject: Architectural Drafting I Grade Level: 9-12 # of Weeks: 2 weeks</p>
--	---

Identify Desired Results

- Common Core State Standards**
- Demonstrate flexibility and willingness to learn new knowledge and skills.
EKS.08.02

- Construct charts/tables/graphs from functions and data. **EKS.03.06**

Enduring Understandings Generalizations of desired understanding via essential questions (Students will understand that ...)	Essential Questions Inquiry used to explore generalizations
Students will understand how to: <ul style="list-style-type: none"> • Draw an Furniture Plan using AutoCAD software <ul style="list-style-type: none"> ○ Set up a Furniture Plan ○ Insert Furniture ○ Be able Create a Furniture Tags ○ Be able to load Furniture Schedule 	<ul style="list-style-type: none"> • What is the advantage of having a furniture plan in your set of house plans? • What steps are needed to be able to tag your furniture? • Explain how to fill out your furniture schedule?
Expected Performances What students should know and be able to do	
Students will know the following: <ul style="list-style-type: none"> • To be able to set up a drawing Furniture Plan • To be able to create furniture • To be able to use Design center to load furniture • To be able to tag furniture • To be able to load furniture schedule • To be able to plot the drawing Students will be able to do the following: <ul style="list-style-type: none"> • Draw a Furniture Plan • Properly tag all furniture • Create a furniture schedule. • Create a basic 2D drawing using their hand draw furniture planl 	
Character Attribute(s)	
<ul style="list-style-type: none"> • Courage • Compassion 	
Technology Competencies	
<ul style="list-style-type: none"> • Students will demonstrate technical knowledge and skills, including planning, designing, organizing, coordinating, constructing and maintaining in the construction technologies and design 	
Develop Teaching and Learning Plan	
Teaching Strategies: <ul style="list-style-type: none"> • Teacher lectures on the proper commands needed to create a furniture plan. • Teacher uses the data projector to show the students the various commands needed to draw a 	Learning Activities: <ul style="list-style-type: none"> • Create a furniture plan using the computer. • Be able to create furniture using blocks. • Tag all furniture • Create a furniture schedule.

<p>simple drawing</p> <ul style="list-style-type: none"> • Teacher uses active learning to help the students complete their assignments. Using the computer and by listening to the lecture, students begin work on completing their furniture plan. • Problem-Based Learning is a method that challenges students to “learn to learn” by working in groups to seek solutions to problems. The students will use their first semester drawings to complete their furniture plan using the computer. 	<ul style="list-style-type: none"> • Draw 2D view of their furniture plan • Completion of furniture plan.

Assessments	
<p style="text-align: center;">Performance Task(s)</p> <p>Authentic application to evaluate student achievement of desired results designed according to GRASPS (one per marking period)</p>	<p style="text-align: center;">Other Evidence</p> <p>Application that is functional in a classroom context to evaluate student achievement of desired results</p>
<p>Goal: Enable students to create a furniture plan using the computer and AutoCAD</p> <p>Role: Instructor/Teacher</p> <p>Audience: Students in Architectural Drafting I classes</p> <p>Situation: Students are to complete a furniture plan using the computer and the furniture plan they did first semester</p> <p>Product: Correct completion of 2D furniture plan.</p> <p>Standards for Success: Completion of furniture plan using departmental rubrics.</p>	<ul style="list-style-type: none"> • Set up a furniture plan using their plan from first semester. • Create and block tags for all furniture. • Create furniture using Design Center • Create a furniture schedule • Completion of furniture plan. • Observation of student work. • Unit quiz
Suggested Resources	
<ul style="list-style-type: none"> • AutoCAD software • Wohlers, Terry. <u>Applying AutoCAD</u>. Woodlands Hills, CA: Glencoe/McGraw Hill 	

Company, 2008.

- Student worksheets and first semester drawing
- Handouts

New Milford Public Schools

Committee Member(s): Joe Neff Unit 18: Drawing an Electrical Plan	Course/Subject: Architectural Drafting I Grade Level: 9-12 # of Weeks: 2 weeks
Identify Desired Results	
Common Core State Standards	
<ul style="list-style-type: none">• Employ leadership skills to accomplish organizational goals and objectives. EKS.07	

<ul style="list-style-type: none"> Identify and demonstrate positive work behaviors and personal qualities needed to be employable. EKS.08 	
Enduring Understandings Generalizations of desired understanding via essential questions (Students will understand that ...)	Essential Questions Inquiry used to explore generalizations
<ul style="list-style-type: none"> Students will understand how to: Draw Electrical Plan using the AutoCAD software <ul style="list-style-type: none"> Create an electrical plan Insert electrical symbols from Design Center Set up Blocks for electrical symbols Use Spline command Change the size of your symbols Change the linetype Change the color 	<ul style="list-style-type: none"> Explain the steps used to insert electrical symbols into your drawing. What is a spline? How do you change the color of an object? How do you create electrical blocks? Describe the steps needed to change a linetype.
Expected Performances What students should know and be able to do	
Students will know the following: <ul style="list-style-type: none"> Be able to draw an Electrical Plan Be able to insert electrical symbols Use Design Center to upload electrical symbols Change the linetype Change the color of objects Change the sizes of objects Students will be able to do the following: <ul style="list-style-type: none"> Draw an electrical plan Insert electrical symbols using Design Center Change a linetype Change the color of an object Change the size of objects Be able to plot the drawing 	
Character Attribute(s)	
<ul style="list-style-type: none"> Cooperation Integrity 	
Technology Competencies	
<ul style="list-style-type: none"> Explore career and postsecondary educational opportunities through performance-based learning experiences Respond constructively to constructive criticism 	
Develop Teaching and Learning Plan	
Teaching Strategies: <ul style="list-style-type: none"> Teacher lectures on the proper 	Learning Activities: <ul style="list-style-type: none"> Create an Electrical Plan

<p>commands needed to create an Electrical Plan</p> <ul style="list-style-type: none"> • Teacher uses the data projector to show the students the various commands needed to draw an Electrical Plan • Teacher uses active learning to help the students complete their assignments. Using the computer and by listening to the lecture, students begin work on completing their drawings. • Students will complete their electrical plan using their electrical plan from first semester. 	<ul style="list-style-type: none"> ○ Create Blocks for electrical symbols ○ Create a new linetype ○ Create a new color • Completion of Electrical Plan

Assessments	
Performance Task(s) Authentic application to evaluate student achievement of desired results designed according to GRASPS (one per marking period)	Other Evidence Application that is functional in a classroom context to evaluate student achievement of desired results
<p>Goal: Enable students to create an electrical plan in 2D using AutoCAD</p> <p>Role: Instructor/Teacher</p> <p>Audience: Students in Architectural Drafting I classes</p> <p>Situation: Students are given drawings to complete that show the teacher they understand the basic command needed to complete the drawing</p> <p>Product: Correct completion of Electrical Plan matching the one they did during first semester.</p> <p>Standards for Success: Completion of drawings using departmental rubrics.</p>	<ul style="list-style-type: none"> • Create an Electrical plan using the computer and their drawing from first semester. • Create electrical Blocks using Design Center. • Completion of an Electrical Plan. • Unit quiz
Suggested Resources	
<ul style="list-style-type: none"> • AutoCAD software • Wohlers, Terry. <u>Applying AutoCAD</u>. Woodlands Hills, CA: Glencoe/McGraw Hill Company, 2008. 	

- Student worksheets and drawing from first semester
- Handouts

New Milford Public Schools

Committee Member(s): Joe Neff Unit 19: Drawing a Foundation Plan	Course/Subject: Architectural Drafting I Grade Level: 9-12 # of Weeks: 2 weeks
Identify Desired Results	
Common Core State Standards	
<ul style="list-style-type: none"> • Create effective working drawings, and presentation drawings. Arch.07.02 • Revise a design and update finished drawings appropriately. CADD.02.10 	

Enduring Understandings Generalizations of desired understanding via essential questions (Students will understand that ...)	Essential Questions Inquiry used to explore generalizations
<ul style="list-style-type: none"> • Students will understand how to: Draw Foundation Plan using the AutoCAD software <ul style="list-style-type: none"> ○ Create a Foundation plan ○ Create foundation walls and footers ○ Determine the location of the girder ○ Locate lally columns ○ Locations of concrete slabs ○ Label features properly using a spline. 	<ul style="list-style-type: none"> • Why do we need to draw a foundation plan?. • What is a spline? • What is the difference between a footer and a foundation wall? • Explain how to locate the position of the girder/lally columns? • Describe the steps needed to label your drawing.
Expected Performances What students should know and be able to do	
<p>Students will know the following:</p> <ul style="list-style-type: none"> • Be able to draw a Foundation Plan • Be able to draw footers/foundation walls. • Use Design Center to upload symbols. • Determine the location of girder and lally columns. • Locate the position of concrete slabs. • Be able to use the spline command <p>Students will be able to do the following:</p> <ul style="list-style-type: none"> • Draw a foundation plan • Draw footers and foundation walls. • Upload foundation symbols • Locate girder and lally columns • Use the spline command • Be able to plot the drawing 	
Character Attribute(s)	
<ul style="list-style-type: none"> • Courage • Responsibility 	
Technology Competencies	
<ul style="list-style-type: none"> • Manage the use of technology in the classroom for learning. • Use technologies to support student centered learning strategies for all students 	
Develop Teaching and Learning Plan	
<p>Teaching Strategies:</p> <ul style="list-style-type: none"> • Teacher lectures on the proper commands needed to create a Foundation Plan • Teacher uses the data projector to show the students the various commands needed to draw a 	<p>Learning Activities:</p> <ul style="list-style-type: none"> • Create a Foundation Plan • Proper location of footers and foundation walls • Locate girder and lally columns • Upload foundation symbols • Use the spline command

<p>Foundation Plan</p> <ul style="list-style-type: none"> • Teacher uses active learning to help the students complete their assignments. Using the computer and by listening to the lecture, students begin work on completing their drawings. • Students will complete their foundation plan using their foundation plan from first semester. 	<ul style="list-style-type: none"> • Locate concrete slabs and thickness • Be able to plot a foundation plan

Assessments	
Performance Task(s) Authentic application to evaluate student achievement of desired results designed according to GRASPS (one per marking period)	Other Evidence Application that is functional in a classroom context to evaluate student achievement of desired results
<p>Goal: Enable students to create a foundation plan in 2D using AutoCAD</p> <p>Role: Instructor/Teacher</p> <p>Audience: Students in Architectural Drafting I classes</p> <p>Situation: Students are given drawings to complete that show the teacher they understand the basic command needed to complete the drawing</p> <p>Product: Correct completion of Foundation Plan matching the one they did during first semester.</p> <p>Standards for Success: Completion of drawings using departmental rubrics.</p>	<ul style="list-style-type: none"> • Create a Foundation plan using the computer and their drawing from first semester. • Create foundation Blocks using Design Center. • Completion of an Foundation Plan. • Unit quiz
Suggested Resources	
<ul style="list-style-type: none"> • AutoCAD software • Wohlers, Terry. <u>Applying AutoCAD</u>. Woodlands Hills, CA: Glencoe/McGraw Hill Company, 2008. • Student worksheets and drawing from first semester • Handouts 	

New Milford Public Schools

Committee Member(s): Joe Neff Unit 20: Drawing a Plot Plan	Course/Subject: Architectural Drafting I Grade Level: 9-12 # of Weeks: 2 weeks
Identify Desired Results	
Common Core State Standards	
<ul style="list-style-type: none"> • Utilize CADD software to produce technical drawings and architectural proposals. Arch.06.03 • Employ appropriate media to communicate concepts and designs. Arch.07 	
<p style="text-align: center;">Enduring Understandings</p> Generalizations of desired understanding via essential questions (Students will understand that ...)	<p style="text-align: center;">Essential Questions</p> Inquiry used to explore generalizations

<ul style="list-style-type: none"> • Students will understand how to: Draw a Plot Plan using the AutoCAD software • Draw the size of the house • Determine setbacks depending upon size of property • Locate all structures • Show driveways and walkways • Appropriate surface materials • Label street • Location of trees, shrubs, and other permanent structures • Develop a planting key. 	<ul style="list-style-type: none"> • Why do we need to draw a plot plan?. • Why do we have different setback measurements? Explain. • How do we determine the size of our plot? • Explain how to locate the position of driveways, walkways and sheds? • Describe the steps needed to label your drawing. • What is the importance of a planting key?
---	---

Expected Performances
What students should know and be able to do

<p>Students will know the following:</p> <ul style="list-style-type: none"> • Be able to draw a plot Plan • Be able to draw the size of your house (hatched). • Use Design Center to upload symbols. • Determine the location of your house and the different setbacks • Locate all structures from the property line. • Be able to label structures • Develop a planting key <p>Students will be able to do the following:</p> <ul style="list-style-type: none"> • Draw a Plot plan • Draw the size of your house (hatched). • Upload Design Center symbols for a plot plan. • Locate all structures. • Locate location of driveways and walkways. • Develop a planting key. • Label all structures • Be able to plot the drawing
--

Character Attribute(s)

<ul style="list-style-type: none"> • Cooperation • Honesty
--

Technology Competencies

<ul style="list-style-type: none"> • Manage the use of technology in the classroom for learning. • Apply problem solving strategies to issues involving teaching and learning with technology.
--

Develop Teaching and Learning Plan

<p>Teaching Strategies:</p> <ul style="list-style-type: none"> • Teacher lectures on the proper commands needed to create a Plot Plan • Teacher uses the data projector to show the students the various 	<p>Learning Activities:</p> <ul style="list-style-type: none"> • Create a Plot Plan • Proper location of house, permanent structures and other features • Locate driveways, walkways and
--	---

<p>commands needed to draw a Plot Plan</p> <ul style="list-style-type: none"> • Teacher uses active learning to help the students complete their assignments. Using the computer and by listening to the lecture, students begin work on completing their drawings. • Students will complete their Plot Plan using their foundation plan from first semester. 	<p>patios.</p> <ul style="list-style-type: none"> • Upload plot plan symbols • Develop a planting key • Locate trees, shrubs, sheds and pools • Be able to plot a Plot Plan

Assessments	
Performance Task(s)	Other Evidence
<p>Authentic application to evaluate student achievement of desired results designed according to GRASPS (one per marking period)</p>	<p>Application that is functional in a classroom context to evaluate student achievement of desired results</p>
<p>Goal: Enable students to create a plot plan in 2D using AutoCAD</p> <p>Role: Instructor/Teacher</p> <p>Audience: Students in Architectural Drafting I classes</p> <p>Situation: Students are given drawings to complete that show the teacher they understand the basic command needed to complete the drawing</p> <p>Product: Correct completion of Plot Plan matching the one they did during first semester.</p> <p>Standards for Success: Completion of drawings using departmental rubrics.</p>	<ul style="list-style-type: none"> • Create a Plot plan using the computer and their drawing from first semester. • Create Plot plan Blocks using Design Center. • Completion of a Plot Plan. • Unit quiz
Suggested Resources	
<ul style="list-style-type: none"> • AutoCAD software • Wohlers, Terry. <u>Applying AutoCAD</u>. Woodlands Hills, CA: Glencoe/McGraw Hill Company, 2008. • Student worksheets and drawing from first semester • Handouts 	

