

PROPOSED REGULATION OF THE STATE BOARD OF EDUCATION

LCB File No. R064-11

Explanation: Matter in *italics* or underlined is new; matter in brackets ~~[]~~ or ~~stricken~~ is material to be omitted.

AUTHORITY: NRS 385.080 & (if necessary, provide other statutory authority)

Section 1. NAC~~389~~ is hereby amended as follows:

NAC 389.602 ~~[Drafting]~~*Mechanical drafting and design.* (NRS 385.080, 385.110) A course of study in ~~[drafting must include instruction designed to teach the pupil to do the following]~~*mechanical drafting and design must be designed so that pupils meet the following performance standards as measured by the performance indicators in the approved state standards by the completion of an advanced program of instruction.*

1. ~~[Sketch by freehand.]~~*For the area of fundamental drafting skills, understand fundamental drafting skills, as demonstrated by the pupil's ability to perform:*
 - (a) *Create geometric constructions;*
 - (b) *Demonstrate measuring and scaling techniques;*
 - (c) *Demonstrate conventional drafting practices.*
 - (d) *Create multi-view drawings using orthographic projections;*
 - (e) *Apply dimensions and annotations;*
 - (f) *Create pictorial drawings; and*
 - (g) *Demonstrate sketching techniques.*
2. ~~[Identify, define, draw and construct geometric shapes and designs.]~~*For the area of fundamental CADD skills, understand computer-aided drafting and design processes, as demonstrated by the pupil's ability to:*
 - (a) *Utilize basic computer and IT skills;*
 - (b) *Set up a drawing environment;*
 - (c) *Utilize the Cartesian Coordinate System to create geometry;*
 - (d) *Create and modify geometry utilizing CADD commands;*
 - (e) *Create and modify annotations; and*
 - (f) *Utilize basic output methods.*
3. ~~[Complete a set of architectural, mechanical and electrical drawings.]~~*For the area of advanced CADD skills and techniques, understand advanced computer-aided drafting and design processes, as demonstrated by the pupil's ability to:*
 - (a) *Utilize templates, symbols, and libraries;*
 - (b) *Develop and display three-dimensional models; and*
 - (c) *Utilize advanced output methods.*
4. ~~[Construct an orthographic drawing.]~~*For the area of mechanical drafting and design, understand mechanical drafting and design processes, as demonstrated by the pupil's ability to:*
 - (a) *Apply drafting concepts related to basic manufacturing processes;*

- (b) *Apply geometric dimensioning and tolerancing (GD&T) standards; and*
 - (c) *Apply drafting concepts related to basic pattern development.*
- ~~[5. Complete a set of specifications.]~~
- ~~[6. Draw a topographical map.]~~

NAC 389.603 ~~[Computer-aided]~~ **Architectural drafting and design.** (NRS 385.080, 385.110)

A course of study in ~~[computer-aided drafting and design, or CADD,]~~ **architectural drafting and design** must be designed so that pupils *meet the following performance standards as measured by the performance indicators in the approved state standards by the completion of an advanced program of instruction:*

1. For the area of fundamental drafting skills, understand fundamental drafting skills, as demonstrated by the pupil's ability to:
 - (a) Create ~~[various]~~ geometric constructions;
 - (b) ~~[Use appropriate]~~ **Demonstrate** measuring and scaling techniques;
 - (c) ~~[Use]~~ **Demonstrate** conventional drafting practices;
 - (d) Create ~~[multiview]~~ **multi-view** drawings using orthographic projections;
 - (e) Apply dimensions and annotations;
 - (f) Create pictorial drawings; and
 - (g) ~~[Create development drawings and models.]~~ **Demonstrate sketching techniques.**
2. For the area of fundamental ~~[computer]~~ **CADD** skills, understand computer-aided drafting and design processes, as demonstrated by the pupil's ability to:
 - ~~[(a) Determine fundamental safety and ergonomic factors in the computer-aided drafting and design work environment;~~
 - ~~(b) Maintain, operate and adjust computer hardware; and~~
 - ~~(c) Demonstrate proficiency in common operating systems and software.]~~
 - (a) **Utilize basic computer and IT skills;**
 - (b) **Set up a drawing environment;**
 - (c) **Utilize the Cartesian Coordinate System to create geometry;**
 - (d) **Create and modify geometry utilizing CADD commands;**
 - (e) **Create and modify annotations; and**
 - (f) **Utilize basic output methods.**
3. For the area of ~~[fundamental computer-aided drafting and design]~~ **advanced CADD** skills, understand **advanced** computer-aided drafting and design processes, as demonstrated by the pupil's ability to:
 - ~~[(a) Perform drawing set up and layout;~~
 - ~~(b) Create, apply and modify annotations;~~
 - ~~(c) Construct and manipulate problems using the Cartesian Coordinate System;~~
 - ~~(d) Create and modify geometric entities using command sequences; and~~
 - ~~(e) Use media output.]~~
 - (a) **Utilize templates, symbols, and libraries;**
 - (b) **Develop and display three-dimensional models; and**
 - (c) **Utilize advanced output methods.**
4. For the area of ~~[advanced computer-aided drafting and design skills]~~ **architectural drafting and design**, understand ~~[computer-aided]~~ **architectural** drafting and design processes, as demonstrated by the pupil's ability to:
 - ~~[(a) Develop symbols, attributes and libraries;~~

- ~~(b) Apply appropriate geometric dimensioning and tolerancing standards;~~
 - ~~(c) Output drawings;~~
 - ~~(d) Develop and display three dimensional models;~~
 - ~~(e) Develop and construct presentation drawings; and~~
 - ~~(f) Customize a computer aided drafting and design working environment.]~~
 - (a) Identify architectural drafting related to architectural design;*
 - (b) Prepare architectural drafting related to design criteria;*
 - (c) Create architectural drafting views and details related to design criteria; and*
 - (d) Define and apply civil site drafting concepts related to civil engineering.*
5. ~~[For the area of related disciplines, understand computer aided drafting and design principles as demonstrated by the pupil's ability to apply drafting concepts related to:~~
- ~~(a) Basic manufacturing processes;~~
 - ~~(b) Basic architectural design;~~
 - ~~(c) Basic geographic information systems and civil engineering; and~~
 - ~~(d) Basic electronics.~~
6. ~~For the area of skills necessary to obtain employment, demonstrate:~~
- ~~(a) Skills necessary for solving problems;~~
 - ~~(b) Skills of critical thinking;~~
 - ~~(c) The ability to speak, write and listen effectively;~~
 - ~~(d) The ability to select, apply and maintain appropriate technology necessary for a career;~~
 - ~~(e) Skills of leadership and teamwork;~~
 - ~~(f) An awareness of the ethical behavior appropriate for the workplace;~~
 - ~~(g) An ability to manage effectively resources in the workplace;~~
 - ~~(h) Skills necessary for the planning and development of a career; and~~
 - ~~(i) Skills necessary for retention of a job and continuation of learning throughout a career.]~~

NAC 389 (to be added) Graphic Design. (NRS 385.080, 385.110) A course of study in graphic design must be designed so that pupils meet the following performance standards as measured by the performance indicators in the approved state standards by the completion of an advanced program of instruction:

- 1. For the area of graphic industry, demonstrate knowledge of the graphics industry:*
 - (a) Demonstrate knowledge of history of the graphic design field*
 - (b) Communicate ideas using appropriate industry terminology*
- 2. For the area of design, apply elements and principles of design to communicate visually:*
 - (a) Identify and apply the elements of design*
 - (b) Identify and apply the principles of design*
 - (c) Identify and apply the principles of typography*
 - (d) Apply principles and elements of design to layout*
- 3. For the area of production, demonstrate knowledge of the key aspects of production using industry standard software:*
 - (a) Demonstrate knowledge of concept development*
 - (b) Demonstrate knowledge of image creation and manipulation*

- (c) Demonstrate appropriate applications of media outputs*
- (d) Demonstrate knowledge of the graphic design workflow to increase success and productivity*
- (e) Identify and apply the design process*
- (f) Demonstrate knowledge of branding and corporate identity*
- 4. For the area of ethics and legal issues, demonstrate knowledge of ethical and legal issues related to graphic design*
 - (a) Demonstrate knowledge of copyright and intellectual property laws*
 - (b) Demonstrate ethical behavior as it relates to the industry*
- 5. For the area of personal portfolio, create and maintain a personal portfolio:*
 - (a) Create and maintain a personal portfolio based on audience*
 - (b) Demonstrate the process of evaluating portfolios*