

**ADOPTED REGULATION OF THE  
STATE BOARD OF EDUCATION**

**LCB File No. R064-11**

Effective December 30, 2011

EXPLANATION – Matter in *italics* is new; matter in brackets ~~[omitted material]~~ is material to be omitted.

AUTHORITY: §§1-5, NRS 385.080 and 385.110.

A REGULATION relating to education; prescribing the performance standards for courses of study in graphic design, mechanical drafting and design, and architectural drafting and design; repealing the performance standards for courses of study in drafting and computer-aided drafting and design; and providing other matters properly relating thereto.

**Section 1.** Chapter 389 of NAC is hereby amended by adding thereto the provisions set forth as sections 2, 3 and 4 of this regulation.

**Sec. 2.** *A course of study in graphic design must be designed so that pupils meet the following performance standards by the completion of an advanced program of instruction:*

*1. For the area of graphic design industry, demonstrate knowledge of the graphic design industry, as demonstrated by the ability of the pupil to:*

*(a) Demonstrate knowledge of the history of the field of graphic design; and*

*(b) Communicate ideas using appropriate terminology related to the graphic design industry.*

*2. For the area of design, apply elements and principles of design to communicate in a visual manner, as demonstrated by the ability of the pupil to:*

*(a) Identify and apply the elements of design;*

*(b) Identify and apply the principles of design;*

*(c) Identify and apply the principles of typography; and*

*(d) Apply the principles and elements of design to layout.*

*3. For the area of production, demonstrate knowledge of the key aspects of production using software that is standard in the graphic design industry, as demonstrated by the ability of the pupil to:*

*(a) Demonstrate knowledge of concept development;*

*(b) Demonstrate knowledge of image creation and manipulation;*

*(c) Demonstrate the appropriate applications of media output;*

*(d) Demonstrate knowledge of workflow in the graphic design industry to increase success and productivity;*

*(e) Identify and apply the design process; and*

*(f) Demonstrate knowledge of the use of brand names and corporate identity.*

*4. For the area of ethics and legal issues, demonstrate knowledge of the ethical and legal issues related to graphic design, as demonstrated by the ability of the pupil to:*

*(a) Demonstrate knowledge of copyright and intellectual property laws related to the graphic design industry; and*

*(b) Demonstrate ethical behavior related to the graphic design industry.*

*5. For the area of portfolio of work:*

*(a) Create and maintain a portfolio of the pupil's work; and*

*(b) Demonstrate the process for evaluating a portfolio.*

**Sec. 3.** *A course of study in mechanical drafting and design must be designed so that pupils meet the following performance 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 ability of the pupil to:*

- (a) Create geometric constructions;*
- (b) Demonstrate measuring and scaling techniques;*
- (c) Demonstrate conventional drafting practices;*
- (d) Create multiview drawings using orthographic projections;*
- (e) Apply dimensions and annotations;*
- (f) Create pictorial drawings; and*
- (g) Demonstrate sketching techniques.*

*2. For the area of fundamental computer-aided drafting and design skills, understand computer-aided drafting and design processes, as demonstrated by the ability of the pupil to:*

- (a) Use basic computer and informational technology skills;*
- (b) Set up a drawing environment;*
- (c) Use the Cartesian Coordinate System to create geometric shapes and objects;*
- (d) Create and modify objects using computer-aided drafting and design commands;*
- (e) Create and modify annotations; and*
- (f) Use basic output methods.*

*3. For the area of advanced computer-aided drafting and design skills, understand advanced computer-aided drafting and design processes, as demonstrated by the ability of the pupil to:*

- (a) Use templates, symbols and libraries;*
- (b) Develop and display three-dimensional models; and*
- (c) Use advanced output methods.*

*4. For the area of mechanical drafting and design, understand mechanical drafting and design processes, as demonstrated by the ability of the pupil to:*

- (a) Apply mechanical drafting concepts related to basic manufacturing processes;*
- (b) Apply geometric dimensioning and tolerancing standards; and*
- (c) Apply mechanical drafting concepts to basic pattern development.*

**Sec. 4.** *A course of study in architectural drafting and design must be designed so that pupils meet the following performance 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 ability of the pupil to:*

- (a) Create geometric constructions;*
- (b) Demonstrate measuring and scaling techniques;*
- (c) Demonstrate conventional drafting practices;*
- (d) Create multiview drawings using orthographic projections;*
- (e) Apply dimensions and annotations;*
- (f) Create pictorial drawings; and*
- (g) Demonstrate sketching techniques.*

*2. For the area of fundamental computer-aided drafting and design skills, understand computer-aided drafting and design processes, as demonstrated by the ability of the pupil to:*

- (a) Use basic computer and informational technology skills;*
- (b) Set up a drawing environment;*
- (c) Use the Cartesian Coordinate System to create geometric shapes and objects;*
- (d) Create and modify objects using computer-aided drafting and design commands;*

*(e) Create and modify annotations; and*

*(f) Use basic output methods.*

*3. For the area of advanced computer-aided drafting and design skills, understand advanced computer-aided drafting and design processes, as demonstrated by the ability of the pupil to:*

*(a) Use templates, symbols and libraries;*

*(b) Develop and display three-dimensional models; and*

*(c) Use advanced output methods.*

*4. For the area of architectural drafting and design skills, understand architectural drafting and design processes, as demonstrated by the ability of the pupil to:*

*(a) Identify architectural draftings related to architectural design;*

*(b) Prepare architectural draftings 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.*

**Sec. 5.** NAC 389.602 and 389.603 are hereby repealed.

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## **TEXT OF REPEALED SECTIONS**

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**389.602 Drafting. (NRS 385.080, 385.110)** A course of study in drafting must include instruction designed to teach the pupil to do the following:

1. Sketch by freehand.

2. Identify, define, draw and construct geometric shapes and designs.
3. Complete a set of architectural, mechanical and electrical drawings.
4. Construct an orthographic drawing.
5. Complete a set of specifications.
6. Draw a topographical map.

**389.603 Computer-aided drafting and design. (NRS 385.080, 385.110)** A course of study in computer-aided drafting and design, or CADD, must be designed so that pupils meet the following performance 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 measuring and scaling techniques;
- (c) Use conventional drafting practices;
- (d) Create multiview drawings using orthographic projections;
- (e) Apply dimensions and annotations;
- (f) Create pictorial drawings; and
- (g) Create development drawings and models.

2. For the area of fundamental computer 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.

3. For the area of fundamental computer-aided drafting and design skills, understand 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.

4. For the area of advanced computer-aided drafting and design skills, understand computer-aided 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.

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.



**NEVADA DEPARTMENT OF EDUCATION**  
**NEVADA STATE BOARD OF EDUCATION**  
**NEVADA STATE BOARD FOR CAREER AND TECHNICAL EDUCATION**  
**LEGISLATIVE REVIEW OF ADOPTED REGULATIONS AS REQUIRED**  
**BY ADMINISTRATIVE PROCEDURES ACT, NRS 233B.066**  
**LCB File No. R064-11**

**New Regulation for State Standards for Architectural Drafting and Design and Mechanical Drafting and Design and Repeal NAC 389.602, Drafting and NAC 389.603 Computer Aided Drafting and Design**

**INFORMATIONAL STATEMENT**

The following statement is submitted for adopted amendments to Nevada Administrative Code 389:

1. A description of how public comment was solicited, a summary of public response, and explanation how other interested persons may obtain a copy of the summary.

Notice of Workshop to Solicit Comments on Proposed Regulations was sent to approximately 36 individuals and educational organizations. A workshop was held on October 7, 2011. There was no public comment.

The Notice of Intent to Act Upon a Regulation for public hearing and adoption of the new regulation amendments to R064-11; New Regulation for State Standards; for Architectural Drafting and Design and Mechanical Drafting and Design and Repeal NAC 389.602, Drafting and NAC 389.603 Computer Aided Drafting and Design. A public hearing was conducted on December 9, 2011 to provide the opportunity for comments by affected parties and the public. There was no public comment. The State Board of Education adopted R064-11.

2. The Number of Persons Who:

- a) Attended Each Hearing: First Workshop: 12; First Hearing: 22; Second Hearing: N/A
- b) Testified at Each Hearing: First Workshop: 0; First Hearing: 0; Second Hearing: N/A
- c) Submitted Written Statements: First Workshop: 0; First Hearing: 0; Second Hearing: N/A

A copy of any written comments may be obtained by contacting Karen Johansen, Administrative Assistant, Nevada Department of Education, 775-687-9225, or by writing to the Nevada Department of Education, 700 East Fifth Street, Carson City, Nevada 89701-5096.

3. A description of how comments were solicited from affected businesses, a summary of the response and an explanation how other interested parties may obtain a copy of the summary.

Comments were solicited through the workshop notice of September 14, 2011 and a public hearing notice of November 3, 2011. At the October 7, 2011 Workshop to Solicit Comments, there was no public comment to the proposed new regulation. At the December 9, 2011 public hearing there was no public comment to the proposed new regulation language.

Summary of Comments:

Workshop comments:

There were no public comments at the workshop.

Public Hearing comments:

There were no public comments

A copy of the summary and/or minutes of the public hearing may be obtained by contacting Karen Johansen, Administrative Assistant, Nevada Department of Education, 775-687-9225, or by writing to the Nevada Department of Education at 700 East Fifth Street, Carson City, Nevada 89701-5096.

4. If the regulation was adopted with or without change to any part of the proposed regulation, a summary of the reasons for adopting.

The Nevada State Board of Education adopted the proposed new regulation language at the public hearing held December 9, 2011. The reason for adopting the new regulation is to prescribe the performance standards for courses for study in graphic design, mechanical drafting and design, and architectural drafting and design; repealing the performance standards for courses of student in drafting and computer-aided drafting and design.

5. The estimated economic effect of the adopted regulation on the business that it is to regulate and on the public. These must be stated separately and each case must include:

There is no economic effect on the public or the business it regulates.

There is no cost to the Department of education to adopt these regulations. There is no federal law affecting the proposed regulations. There is no duplication or overlap of state or local governmental agencies. The proposed regulations do not establish a new fee nor increase an existing fee of the regulating agency.

6. The estimated cost to the agency for enforcement of the adopted regulation.

There is no additional cost to the agency for enforcement of this regulation.

7. A description of any regulations of other state or governmental agencies which the proposed regulation overlaps or duplicates and a statement explaining why the duplication or overlapping is necessary. If the regulation overlaps or duplicates a federal regulation, the name of the regulating federal agency.

No other state or governmental agency regulations will be overlapped or duplicated by the above noted regulation. There is no duplication or overlap of federal regulations.

8. If the regulation includes provisions which are more stringent than a federal regulation, which regulates the same activity, a summary of such provisions.

There are none.

9. If the regulation provides a new fee or increases an existing fee, the total annual amount the agency expects to collect and the manner in which the money will be used.

This regulation does not provide for a new fee or increase an existing fee.