ADOPTED REGULATION OF THE

STATE BOARD OF EDUCATION

LCB File No. R040-05

Effective October 31, 2005

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

AUTHORITY: §§1, 2 and 3, NRS 385.080 and 385.110.

A REGULATION relating to courses of study; prescribing standards for metalworking and welding; and providing other matters properly relating thereto.

Section 1. Chapter 389 of NAC is hereby amended by adding thereto a new section to read as follows:

A course of study in metalworking 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 safety, demonstrate safe work practices while performing operations in the metalworking laboratory, as demonstrated by the pupil's ability to:

(a) Comply with personal and environmental safety practices associated with:

(1) Clothing;

(2) Protection of the eyes and ears;

(3) Hand tools and power equipment;

(4) Proper ventilation; and

(5) The handling, storage and disposal of materials in accordance with local, state and federal safety and environmental regulations.

(b) Adhere to the general rules of laboratory safety as they apply to:

(1) Flammables;

(2) Ventilation;

(3) Electrical hazards;

(4) Maintenance of orderly work areas;

(5) Personal protective wear;

(6) Safe use of tools and equipment;

(7) Work habits and behaviors; and

(8) Lifting and emergency response.

(c) Adhere to the specific procedures of fire safety in the laboratory and the rules applying to:

(1) The proper use of extinguishers;

(2) Evacuation;

(3) Knowledge of potential fire hazards;

(4) Ventilation;

(5) Personal protective wear; and

(6) Storage of flammables.

2. For the area of measurement and layout techniques, understand the proper use of layout and measurement tools and techniques, as demonstrated by the pupil's ability to:

(a) Use measuring tools to complete required laboratory assignments;

(b) Use and apply layout tools to complete required laboratory projects;

(c) Interpret basic prints and develop working drawings; and

(d) Apply basic mathematical skills common to the metalworking industry.

3. For the area of metallurgy, understand the classification and physical properties of different types of metals common to the welding industry, as demonstrated by the pupil's ability to:

(a) Identify the types and shapes of metals;

(b) Describe and apply the principles of metallurgy as they apply to hardening and annealing; and

(c) Describe the effects of heating and cooling of metals to be fabricated.

4. For the area of tools and machines, understand how to safely operate commonly used machines and tools, as demonstrated by the pupil's ability to identify and safely operate:

(a) Stationary power machines commonly used in the welding industry;

(b) Portable power machines commonly used in the welding industry; and

(c) Hand tools commonly used in the welding industry.

5. For the area of welding techniques, understand proper welding and cutting techniques, as demonstrated by the pupil's ability to:

(a) Properly use personal protective equipment and procedures;

(b) Set up and operate oxy-fuel welding and cutting equipment;

(c) Set up and operate shielded metal arc welding equipment;

(d) Set up and operate gas metal arc welding equipment;

(e) Set up and operate gas tungsten arc welding equipment; and

(f) Set up and operate plasma arc welding equipment.

6. For the area of sheet metal, understand the proper layout, forming and fastening techniques, as demonstrated by the pupil's ability to:

(a) Demonstrate pattern development and layout techniques;

(b) Identify and demonstrate the use of sheet metal forming machines and hand tools; and

(c) Identify and demonstrate the use of various sheet metal fastening techniques.

7. For the area of machine tools, understand the identification and safe operation of machine tools, as demonstrated by the pupil's ability to set up and safely operate:

(a) Metal cutting lathes;

(b) Milling machines; and

(c) The drill press.

8. For the area of skills necessary to obtain employment, achieve competence in workplace readiness, career development and lifelong learning by demonstrating:

(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.

Sec. 2. NAC 389.516 is hereby amended to read as follows:

389.516 A local school board may offer the following courses of study as elective courses in a public high school:

1. History, other than American history.

2. Government, other than American government.

3. Agriculture and natural resource sciences, which may include the courses of study described in NAC 389.520 to 389.536, inclusive.

4. The arts.

5. Business, which may include the courses of study described in NAC 389.543 to 389.555, inclusive.

6. Communications, which may include the courses of study described in NAC 389.556 and 389.558.

7. Occupational education, in cooperation with private employers, as described in NAC 389.562, 389.564 and 389.566.

8. Drivers' education.

9. Foreign language.

10. Occupations, which may include the courses of study described in NAC 389.572 to 389.584, inclusive.

11. Occupations in trade and industry, which may include the courses of study described in NAC 389.586 to 389.618, inclusive ~~[.]~~ ***, and section 1 of this regulation.***

12. Family and consumer sciences.

13. Industrial arts.

14. Marketing.

15. Skills needed to obtain employment as described in NAC 389.644 to 389.650, inclusive.

16. Social studies.

17. Introduction to occupations which may include the courses of study described in NAC 389.6528 to 389.6547, inclusive.

18. Great Basin Native American languages.

Sec. 3. NAC 389.612 is hereby amended to read as follows:

389.612 A course of study in welding must ~~[include instruction designed to teach the pupil to do]~~ ***be designed so that pupils meet*** the following ~~[:~~

~~1. Cut metal with machine and manual torches.~~

~~2. Butt weld and fillet weld in any position using:~~

~~(a) Brass and silver;~~

~~(b) A metallic arc;~~

~~(c) Arc welding with tungsten gas; and~~

~~(d) Metallic inert gas.]~~ ***performance standards by the completion of an advanced program of instruction:***

1. For the area of safety, demonstrate safe work practices while performing operations in the welding laboratory, as demonstrated by the pupil's ability to:

(a) Comply with personal and environmental safety practices associated with:

(1) Clothing;

(2) Protection of the eyes and ears;

(3) Hand tools and power equipment;

(4) Proper ventilation; and

(5) The handling, storage and disposal of materials in accordance with local, state and federal safety and environmental regulations.

(b) Adhere to the general rules of laboratory safety as they apply to:

(1) Flammables;

(2) Ventilation;

(3) Electrical hazards;

(4) Maintenance of orderly work areas;

(5) Personal protective wear;

(6) Safe use of tools and equipment;

(7) Work habits and behaviors; and

(8) Lifting and emergency response.

(c) Adhere to the specific procedures of fire safety in the laboratory and the rules applying to:

(1) The proper use of extinguishers;

(2) Evacuation;

(3) Knowledge of potential fire hazards;

(4) Ventilation;

(5) Personal protective wear; and

(6) Storage of flammables.

2. For the area of measurement and layout techniques, understand the proper use of layout and measurement tools and techniques, as demonstrated by the pupil's ability to:

(a) Use measuring tools to complete required laboratory assignments;

(b) Use and apply layout tools to complete required laboratory projects;

(c) Interpret basic prints and develop working drawings; and

(d) Apply basic mathematical skills common to the welding industry.

3. For the area of metallurgy, understand the classification and physical properties of different types of metals common to the welding industry, as demonstrated by the pupil's ability to:

(a) Identify the types and shapes of metals; and

(b) Describe the effects of heating, cooling and annealing processes of metals to be fabricated.

4. For the area of tools and machines, understand how to safely operate commonly used machines and tools, as demonstrated by the pupil's ability to identify and safely operate:

(a) Stationary power machines commonly used in the welding industry;

(b) Portable power machines commonly used in the welding industry; and

(c) Hand tools commonly used in the welding industry.

5. For the area of oxy-fuel welding and cutting, understand proper welding and cutting techniques, as demonstrated by the pupil's ability to:

(a) Properly use personal protective equipment and procedures;

(b) Identify, select, set up and use oxy-fuel welding equipment;

(c) Identify, select, set up and use oxy-fuel cutting equipment; and

(d) Identify, select, set up and use oxy-fuel brazing equipment.

6. For the area of shielded metal arc welding, understand proper shielded metal arc welding techniques, as demonstrated by the pupil's ability to:

(a) Use safety procedures and describe the electrical theory of shielded metal arc welding;

(b) Select and set up the appropriate equipment and consumables used in shielded metal arc welding; and

(c) Perform shielded metal arc welding using appropriate safety techniques.

7. For the area of gas metal arc welding, understand proper gas metal arc welding techniques, as demonstrated by the pupil's ability to:

(a) Use safety procedures and describe the electrical theory of gas metal arc welding;

(b) Select and set up the appropriate equipment and consumables used in gas metal arc welding; and

(c) Perform gas metal arc welding using appropriate safety techniques.

8. For the area of flux cored arc welding, understand proper flux cored arc welding techniques, as demonstrated by the pupil's ability to:

(a) Use safety procedures and describe the electrical theory of flux cored arc welding;

(b) Select and set up the appropriate equipment and consumables used in flux cored arc welding; and

(c) Perform flux cored arc welding using appropriate safety techniques.

9. For the area of gas tungsten arc welding, understand proper gas tungsten arc welding techniques, as demonstrated by the pupil's ability to:

(a) Use safety procedures and describe the electrical theory of gas tungsten arc welding;

(b) Select and set up appropriate equipment and consumables used in gas tungsten arc welding; and

(c) Perform gas tungsten arc welding using appropriate safety techniques.

10. For the area of plasma arc cutting, understand proper plasma arc cutting techniques, as demonstrated by the pupil's ability to:

(a) Use safety procedures and describe the electrical theory of plasma arc cutting;

(b) Select and set up the appropriate equipment and consumables used in plasma arc cutting; and

(c) Perform plasma arc cutting using appropriate safety techniques.

11. For the area of fabrication, understand the tools, equipment and fabrication techniques, as demonstrated by the pupil's ability to:

(a) Identify and use fabrication techniques and equipment while planning, designing, laying out and constructing projects;

(b) Identify and perform nondestructive weld-testing techniques; and

(c) Identify and perform destructive weld-testing techniques.

12. For the area of skills necessary to obtain employment, achieve competence in workplace readiness, career development and lifelong learning by demonstrating:

(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.

NOTICE OF ADOPTION OF PROPOSED REGULATION
LCB File No. R040-05

The State Board of Education adopted regulations assigned LCB File No. R040-05 which pertain to chapter 389 of the Nevada Administrative Code on September 22, 2005.

Notice date: 8/30/2005 **Date of adoption by agency:** 9/22/2005
Hearing date: 10/7/2005 **Filing date:** 10/31/2005

INFORMATIONAL STATEMENT

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 150 individuals and educational organizations. A workshop was held on October 7, 2005. There were two comments from the public.

The Notice of Intent to Act Upon a Regulation for public hearing and adoption of the proposed revisions for amendments to NAC 389, Metalworking and Welding, were sent to approximately 150 individuals and educational organizations. A public hearing was conducted on October 7, 2005. There were no comments from the public. The State Board of Education adopted amendments to NAC 389.

2. The Number of Persons Who:

a) Attended Each Hearing: Workshop: 8 Hearing: 8
b) Testified at Each Hearing: Workshop: 2 Hearing: 0
c) Submitted Written Statements: Workshop: 0 Hearing: 0

A copy of any written comments may be obtained by contacting Nita Barnes, Secretary to the State Board of Education, 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 comment was 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 August 30, 2005 and the public hearing notice of August 30, 2005. At the October 7, 2005 Workshop to Solicit Comments there were two public comments to the proposed language. At the October 7, 2005 Public Hearing there were no public comments.

Dr. Dotty Merrill, Assistant Superintendent, Washoe County School District, testified on behalf of Janet Hay, Coordinator for Career Technical Education for Washoe County, requesting full support for the revised standards and stated that four or five of their teachers were involved in this process and based on their comments, Washoe County School District continues to support and encourages adoption.

Jane Kadovich, Clark County School District, concurred with Washoe County; they should be passed.

A copy of the summary and/or minutes of the public hearing may be obtained by contacting Nita Barnes, Secretary to the State Board of Education, 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/Nevada State Board for Career and Technical Education adopted the regulation language from temporary to permanent at the public hearing held October 7, 2005. The reason for adopting new occupational skill standards for Metalworking and Welding programs is the need to replace portions of the occupational courses of study in the Nevada Administrative Code that were developed during the 1980's. The new skill standards were adapted from national industry skill standards and other states' standards. The standards have also been endorsed by local business and industry.

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:

The economic impact on school districts is negligible, since the districts revise existing curriculum periodically. The development of state skill standards has been widely supported by school districts.

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

There is no estimated cost for endorsement to the regulating agency.

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.

There is no duplication or overlap of state or local governmental agencies.

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.

The regulations do not establish a new fee nor increase an existing fee of the regulating agency.