

**ADOPTED REGULATION OF THE COMMISSION ON
PROFESSIONAL STANDARDS IN EDUCATION**

LCB File No. R127-05

Effective December 29, 2005

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

AUTHORITY: §1, NRS 391.019.

A REGULATION relating to educational personnel; revising requirements for a major or minor in mathematics; and providing other matters properly relating thereto.

Section 1. NAC 391.13043 is hereby amended to read as follows:

391.13043 1. A comprehensive major in mathematics consists of 36 semester hours of credit which must include:

- (a) At *least 9 semester hours of credit in calculus courses.*
- (b) *In addition to the semester hours required by paragraph (a), at* least 27 semester hours of credit in ~~[courses in methods of teaching mathematics and]~~ courses involving:
 - (1) ~~Euclidean and noneuclidean geometry;~~
 - ~~(2)}~~ Probability or ~~[combinatorics;~~
 - ~~(3) The theory of numbers and solving problems;~~
 - ~~(4) Computer application and programming;~~
 - ~~(5) Statistics or data analysis;~~
 - ~~(6)}~~ *statistics;*
- (2) *Number theory or numerical analysis;*
- (3) Linear algebra;

~~(7)~~ (4) Abstract or modern algebra;

~~(8)~~ (5) Finite mathematics or discrete processes; and

~~(9)~~ (6) If necessary to complete 27 semester hours of credit:

(I) The history of mathematics;

(II) ~~Numerical analysis;~~

~~(III) An analysis of the real numbers system;~~

~~(IV) Euclidean geometry;~~

(III) Non-Euclidean geometry;

(IV) Mathematical computer applications, data structures or programming;

(V) Differential equations; and

~~(V) Data structures and advanced programming.~~

~~(b) At least 9 semester hours of credit in courses involving:~~

~~(1) Differential calculus;~~

~~(2) Integral calculus; and~~

~~(3) Multivariable calculus.]~~

(VI) Real number analysis.

2. A person who holds a bachelor's degree or a higher degree with a major in mathematics that was conferred by a regionally accredited college or university shall be deemed to have qualified for a comprehensive major in mathematics if he has satisfied the requirements of NAC 391.120.

3. A recipient of a comprehensive major in mathematics may teach in grades 7 to 12, inclusive, any course in mathematics included in the course of study adopted by the Board.

4. A comprehensive minor in mathematics consists of 24 semester hours of credit [~~in~~
~~courses in methods of teaching mathematics and courses involving:~~
- (a) ~~Euclidean and noneuclidean geometry;~~
- (b)} ~~which must include:~~
- (a) *At least 6 semester hours of credit in calculus courses.*
- (b) *In addition to the semester hours required by paragraph (a), at least 18 semester hours of credit in courses involving:*
- (1) Probability or ~~combinatorics;~~
- (e) ~~The theory of numbers and solving problems;~~
- (d) ~~Computer application and programming;~~
- (e) ~~Statistics or data analysis;~~
- (f) ~~Differential calculus; and~~
- (g)} *statistics;*
- (2) *Finite mathematics, discrete mathematics, number theory or numerical analysis;*
- (3) *Linear, abstract or modern algebra; and*
- (4) If necessary to complete [~~24~~] *18* semester hours of credit:
- [(1) ~~Integral calculus;~~
- (2) ~~Multivariable calculus;~~
- (3)} (I) *Multivariate calculus;*
- (II) The history of mathematics;
- [(4) ~~Finite mathematics or discrete processes;~~
- (5) ~~Linear algebra;~~
- (6) ~~Abstract and modern algebra;~~

~~(7)~~ **(III)** Differential equations; ~~[and~~

~~(8) Data structures and advanced programming.]~~

(IV) Real number analysis;

(V) Euclidean geometry;

(VI) Non-Euclidean geometry; and

(VII) Mathematical computer applications, data structures or programming.

5. A person who holds a bachelor's degree or a higher degree with a minor in mathematics that was conferred by a regionally accredited college or university shall be deemed to have qualified for a comprehensive minor in mathematics if he has satisfied the requirements of NAC 391.120.

6. A recipient of a comprehensive minor in mathematics may teach in grades 7 to 12, inclusive, any course in mathematics included in the course of study adopted by the Board up to and including Algebra II and Geometry I.

7. A person who received an endorsement to teach mathematics before January 14, 1998, but who has not fulfilled the requirements for calculus, may teach in grades 7 to 12, inclusive, any course in mathematics included in the course of study adopted by the Board up to and including Algebra II and Geometry I.

8. ~~[To renew a comprehensive major or minor in mathematics, the holder must complete at least 6 semester hours of course work before the endorsement expires.~~

9.] A person who receives an endorsement to teach mathematics on or after January 14, 1998, must complete a course in the methods of teaching mathematics to renew the endorsement.

NOTICE OF ADOPTION OF PROPOSED REGULATION
LCB File No. R127-05

The Commission on Professional Standards in Education adopted regulations assigned LCB File No. R127-05 which pertain to chapter 391 of the Nevada Administrative Code on December 16, 2005.

Notice date: 8/16/2005; 11/9/2005
Hearing date: 9/22/2005; 12/16/2005

Date of adoption by agency: 12/16/2005
Filing date: 12/29/2005

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 100 individuals and educational organizations. A workshop was held on September 22, 2005. There was public comment.

The Notice of Intent to Act Upon a Regulation for public hearing and adoption of the amendments to NAC 391.13043 – Major or Minor in Mathematics was sent to approximately 100 individuals and educational organizations. The public hearing was conducted on December 16, 2005 to provide the opportunity for comments by affected parties and the public. There was public comment. The Commission adopted the proposed amendments to the regulation.

2. The Number of Persons Who:
 - a) Attended Each Hearing: First Workshop: 13; First Hearing: 9; Second Hearing: N/A
 - b) Testified at Each Hearing: First Workshop: 2; First Hearing: 4; 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 calling Christina Harper, Administrative Assistant to the Commission on Professional Standards in Education, Nevada Department of Education, 775-687-9226, 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 16, 2005; and the public hearing notice of November 9, 2005. At the September 22 Workshop to Solicit Comments, there were public comments to the proposed amendments to the regulation language. At the December 16, 2005 Public Hearing there was public comment to the proposed amendments to the regulation language.

Summary of Comments:

Workshop/Public Hearing Comments:

- (a) William Speer, UNLV, stated that it was the intent of the Math Task Force to maintain the integrity of the quality of the content preparation of the math teachers with upper division classes and suggested adding a phrase in the introduction to include finite mathematics courses that are pre-major courses and suggested adding “upper division” coursework in the regulation.
- (b) Marilyn Ford, UNLV, suggested adding a statement that individuals are not allowed to use lower division courses for this endorsement.
- (c) Commissioner Lark expressed concern that the Clark County School District is in a crisis situation with math teachers and questioned if the delay in action will affect the crisis.
- (d) Sue Segura and Mary Goodman stated that it is very difficult to find licensed math teachers and it is a struggle to get math teachers into the schools, as they tend to be hired into private industry. Ms. Segura and Ms. Goodman expressed a concern for qualified math teachers in rural Nevada. They encouraged the Commission to adopt regulations that will allow qualified individuals into the classroom.
- (e) Mary Ann Gibbs, Clark County School District, expressed concern with the proposed regulations and the courses at a pre-major level.
- (f) Francine Mayfield, Nevada State College, suggested that the Commission give guidance as to what courses will be accepted.

A copy of the summary and/or minutes of the public hearing may be obtained by calling Christina Harper, Administrative Assistant to the Commission on Professional Standards in Education, Nevada Department of Education, 775-687-9224, 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 Commission on Professional Standards in Public Education adopted the proposed amendments to the regulation language at the public hearing held December 16, 2005. The reason for adopting the regulation is to allow flexibility in the coursework in order to license qualified math teachers.

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 beneficial economic effect is that it allows qualified math teachers, who come from out of state, to be licensed, hired by schools, and then placed in a math class. There is no estimated economic effect on the public, either adversely or beneficially, nor immediate or long term.

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.