

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

LCB File No. R153-15

January 8, 2016

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 education; revising the required and elective courses that may be counted toward a comprehensive major or minor in mathematics; and providing other matters properly relating thereto.

Legislative Counsel's Digest:

Existing law requires the Commission on Professional Standards in Education to adopt regulations: (1) identifying fields of specialization in teaching which require the specialized training of teachers; and (2) setting forth the requirements a teacher must satisfy to qualify for an endorsement in each field of specialization. (NRS 391.019) Existing regulations authorize a teacher who possesses a secondary license which is endorsed for a recognized field of teaching to teach in: (1) departmentalized seventh or eighth grade; (2) a junior high school; (3) an approved middle school; or (4) a senior high school. Such an endorsement is based on an applicant's field of specialization or concentration, usually designated as his or her major, minor or area of concentration. (NAC 391.125) Existing regulations recognize mathematics as a comprehensive major or minor. (NAC 391.1301) Existing regulations also prescribe certain required courses that a major or minor in mathematics must include and certain elective courses that may be counted toward the hours of credit required for a comprehensive major or minor in mathematics. (NAC 391.13043) This regulation removes authorization for a person seeking a major or minor in mathematics to receive credit for a course in numerical analysis as an alternative to certain other required courses. This regulation also adds certain courses, including numerical analysis, to the list of elective courses that may be counted towards the required hours of credit toward a comprehensive major or minor in mathematics.

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 involving:

- (1) Probability or statistics;
- (2) Number theory ; ~~for numerical analysis;~~
- (3) Linear algebra;
- (4) Abstract or modern algebra;
- (5) Finite mathematics or discrete processes; and
- (6) If necessary to complete 27 semester hours of credit:
 - (I) The history of mathematics;
 - (II) Euclidean geometry;
 - (III) Non-Euclidean geometry;
 - (IV) Mathematical computer applications, data structures or programming;
 - (V) Differential equations; ~~and~~
 - (VI) Real number analysis ~~and~~ ;
 - (VII) Multivariate calculus;*
 - (VIII) Numerical analysis; and*
 - (IX) Logic or methods of mathematical proof.*

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 or she 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 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 statistics;

(2) Finite mathematics, discrete mathematics ~~+~~ *or* number theory ; ~~for numerical analysis;~~

(3) Linear, abstract or modern algebra; and

(4) If necessary to complete 18 semester hours of credit:

(I) Multivariate calculus;

(II) The history of mathematics;

(III) Differential equations;

(IV) Real number analysis;

(V) Euclidean geometry;

(VI) Non-Euclidean geometry; ~~and~~

(VII) Mathematical computer applications, data structures or programming ~~+~~ ;

(VIII) Numerical analysis; and

(IX) Logic or methods of mathematical proof.

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 or she 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. 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.