Rules of Department of Economic Development

Division 30—Missouri Board for Architects, Professional Engineers and Land Surveyors Chapter 5—Examinations

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Title 4—DEPARTMENT OF ECONOMIC DEVELOPMENT

Division 30—Missouri Board for Architects, Professional Engineers and Land Surveyors Chapter 5—Examinations

4 CSR 30-5.010 Special Examinations Prohibited

PURPOSE: This rule prohibits giving special examinations.

Examinations administered by the board shall be given at times and places established by the board. No special examinations will be conducted.

AUTHORITY: section 327.041, RSMo (1986). Original rule filed March 16, 1970, effective April 16, 1970.

4 CSR 30-5.020 NCARB Examinations—Architects

PURPOSE: This rule adopts the National Council of Architectural Registration Boards' examination for architects.

The architectural division of the Missouri Board for Architects, Professional Engineers and Land Surveyors, having reviewed past examinations of the National Council of Architectural Registration Boards (NCARB) on architecture, finds that the examinations meet the requirements of section 327.151, RSMo (1986), and, pursuant to the discretion vested by this statute, does adopt the examination prepared by that organization as that of the division as fully as if the division had prepared the examination, with the modifications as the division deems proper. The division reserves the right to revoke this approval at any time and to prepare and administer the examination as it deems proper.

AUTHORITY: section 327.041, RSMo (1986). Original rule filed Aug. 27, 1974, effective Sept. 27, 1974.

4 CSR 30-5.030 Standards for Admission to Examination—Architects

PURPOSE: This rule sets out standards for admission to architectural examinations. Editor's Note: The secretary of state has determined that the publication of this rule in its entirety would be unduly cumbersome or expensive. The entire text of the rule has been filed with the secretary of state. The entire text of the rule may be found at the head-quarters of the agency and is available to any interested person at a cost established by state law.

- (1) Standards for admission to the architectural examination shall be those set out in sections (2)-(4).
- (2) The standard for satisfactory architectural experience shall be the criteria set forth in the National Council of Architectural Registration Board's *Circular of Information No. 1 Appendix A* dated 1990—1991. Credit for education and experience allowed toward required qualifications set out in sections (3) and (4) will be based on that criteria.
- (3) Proof of Architectural Experience of Graduates. Every graduate from a curriculum fully accredited by the National Architectural Accreditation Board (NAAB) who shall apply for architectural registration shall submit with, and as a part of, the application documents, a weekly record or log of diversified architectural experience of not less than one hundred fifty-six (156) weeks or a fully certified and completed Intern Development Program (IDP) record in lieu of the weekly record or log. Every such record or log shall cover no fewer than three (3) calendar years and shall be witnessed by the signature of a registered architect having direct personal supervision of those experiences. In addition to the experience log, there also shall be included in the application a chronological list of experience record prior to the period of the log or a fully certified IDP record.
- (4) Proof of Architectural Experience of Nongraduate. Every nongraduate applying for architectural registration shall submit with, and as part of, the application documents, a weekly record or log of diversified architectural experience covering a period of not fewer than two hundred eight (208) weeks immediately prior to application. Every weekly record or log shall be witnessed by the signature of a registered architect having direct personal supervision of that experience. In addition to the experience log, there also shall be included in the application a chronological list of the education and architectural experience the applicant claims prior to the period of the log which will furnish a

total of eight (8) years of architectural experience.

AUTHORITY: section 327.041, RSMo (Cum. Supp. 1989). Original rule filed March 16, 1970, effective April 16, 1970. Amended: Filed Dec. 8, 1981, effective March 11, 1982. Amended: Filed Sept. 13, 1983, effective Dec. 11, 1983. Amended: Filed Sept. 12, 1985, effective Dec. 12, 1985. Amended: Filed Feb. 4, 1992, effective June 25, 1992.

4 CSR 30-5.040 Scope of Examination—Architects

(Rescinded March 11, 1982)

4 CSR 30-5.050 Admission to Examination—Architects

PURPOSE: This rule prohibits admission to the architectural examination of a candidate who has an application pending in another state, unless the candidate has moved to Missouri since filing his/her original application.

No person shall be admitted to the examination for registration as an architect if s/he has an application pending for initial registration in another state, unless the applicant has changed his/her residency to Missouri since filing the original application.

AUTHORITY: section 327.041, RSMo (1986). Original rule filed May 25, 1970, effective June 25, 1970.

4 CSR 30-5.055 Passing Grade—Architects

PURPOSE: This rule sets the required passing grade on architectural examinations.

The passing grade shall be seventy-five (75) on each portion of the architectural examination except for the design (graphic) portion of the examination. The passing grade for the design (graphic) portion of the examination, which is graded on a pass/fail basis, shall be pass.

AUTHORITY: section 327.041, RSMo (Cum. Supp. 1989). Original rule filed Dec. 8, 1981, effective March 11, 1982. Amended: Filed Feb. 4, 1992, effective June 25, 1992.

4 CSR 30-5.060 Reexamination—Architects

PURPOSE: This rule permits unlimited opportunities for retake of the architectural examinations.

Applicants who fail to pass the architectural examinations will be allowed unlimited opportunities for reexamination.

AUTHORITY: section 327.041, RSMo (1986). Original rule filed Aug. 22, 1973, effective Sept. 22, 1973. Amended: Filed Dec. 8, 1981, effective March 11, 1982. Amended: Filed Sept. 13, 1983, effective Dec. 11, 1983.

4 CSR 30-5.070 NCEE Examinations— Engineers

PURPOSE: This rule adopts the National Council of Engineering Examiners examination for engineers.

The Missouri Board for Architects, Professional Engineers and Land Surveyors, having reviewed past examinations of the National Council of Engineering Examiners (NCEE) on engineering, finds that the examination meets the requirements of section 327.241, RSMo (1986) and, pursuant to the discretion vested by this statute, does adopt the examination prepared by that organization as that of the board as fully as if the board had prepared the examination, with modifications as the board deems proper. The board reserves the right to revoke this approval at any time and to prepare and administer the examination as it deems proper.

AUTHORITY: section 327.041, RSMo (1986). Original rule filed Aug. 27, 1974, effective Sept. 27, 1974.

4 CSR 30-5.080 Standards for Admission to Examination—Engineers

PURPOSE: This rule sets out standards for admission to engineering examinations.

(1) Before being admitted to the examination, an applicant for registration as a professional engineer shall have the knowledge, skills and experience as the board deems necessary to qualify the applicant for being placed in responsible charge of engineering work. The minimum length of experience required of the applicant, based on education, is three (3) years for any applicant holding a master's

degree or a doctorate degree in engineering; however, an applicant will not be admitted to examination sooner than four (4) years after the applicant has satisfied the educational requirements of sections 327.221 and 327.241, RSMo, provided, however, any applicant who shall have been conferred a master's degree or doctorate degree in engineering concurrently while acquiring three (3) years of satisfactory engineering experience, as provided in this rule, shall be admitted to the examination. The Engineers' Council for Professional Development (ECPD) has been succeeded by the Accreditation Board for Engineering and Technology, Inc. (ABET). For purposes of evaluating engineering curricula at the baccalaureate level, the programs accredited by the Engineering Accreditation Commission (EAC) of ABET shall be the basis used for evaluation of programs not accredited by EAC of ABET.

- (2) The board reserves the right to revoke this approval at any time and to prepare and administer the examination as it deems proper.
- (3) When an engineering curriculum has not been accredited by ECPD, ABET, or its successor organizations, the professional engineering division shall evaluate the educational program of the applicant in order to determine whether or not, in its opinion, the educational program is equal to or exceeds the programs accredited by ECPD, ABET, or their successor organizations. The professional engineering division shall select one (1) registered engineer experienced in evaluating academic credentials to assist in making this determination. The evaluator, by evaluation of transcripts and an official publication describing the engineering degree program of the institution, personal interview, by examination, or both in any other manner deemed suitable, shall make an evaluation as to whether the academic program completed by the applicant meets the minimum educational requirements established by section 327.221, RSMo. The evaluator shall recommend to the professional engineering division and report how any deficiencies can be corrected, listing prescribed educational areas to bring the applicant's academic qualifications up to the required minimum. The report of the evaluator shall not be binding upon the division.
- (4) Any applicant deemed by the professional engineering division under section (3) of this rule to have completed an educational program which is equal to or exceeds those programs accredited by ECPD, ABET, or their

successor organizations shall be required to have obtained the minimum engineering work experience as is required in section (1) of this rule. In all cases, the board will consider only that experience the applicant has obtained after satisfying the educational requirements of sections 327.221 and 327.241, RSMo.

- (5) In evaluating the minimum engineering work experience required of all applicants, the professional engineering division shall grant maximum credit as follows:
- (A) Engineering teaching at collegiate level (only advanced engineering subjects or courses related to advanced engineering at board-approved schools), assistant professor and higher—year-for-year;
- (B) Graduate education, master's degree or PhD degree—one (1) year for completion of either;
- (C) Military service (commissioned only—normally this service is in a technical branch such as engineering, ordinance, civil work services (CWS), civil engineering corps (CEC), etc.): Generally year-for-year subject to evaluation;
- (D) Construction (technical decision-making level), above average complexity, non-standard design, or both involving field modification—year-for-year;
- (E) Project planning including layout and twenty-five percent (25%) or more design—year-for-year;
- (F) Research and development at the planning and decision-making level—year-for-year; and
- (G) Engineering management and administration—year-for-year.
- (6) Individual evaluation may result in less than full credit.
- (7) In accordance with the authority conferred upon the board at section 327.241.6., RSMo, the board provides that any person, upon satisfactory showing of an urgent need, such as absence from the United States, economic hardship or professional necessity, and who has graduated from and holds an engineering degree from an accredited school of engineering, and has acquired at least three and one-half (3 1/2) years of satisfactory experience, and previously has been classified an engineer-in-training by having successfully passed the first part of the examination, shall be eligible to take the second part of the examination and, upon passing, shall be entitled to receive a certificate of registration to practice as a professional engineer subject, however, to other provisions of Chapter 327, RSMo, including having

acquired four (4) years of satisfactory experience.

AUTHORITY: section 327.041, RSMo (1994).* Original rule filed March 16, 1970, effective April 16, 1970. Amended: Filed Sept. 13, 1977, effective March 11, 1978. Amended: Filed Dec. 8, 1981, effective March 11, 1982. Amended: Filed Sept. 13, 1983, effective Dec. 11, 1983. Amended: Filed Nov. 9, 1984, effective Feb. 11, 1985. Amended: Filed Sept. 12, 1985, effective Dec. 12, 1985. Amended: Filed Aug. 31, 1987, effective Nov. 23, 1987. Amended: Filed Feb. 15, 1989, effective May 11, 1989. Amended: Filed Oct. 3, 1995, effective April 30, 1996.

*Original authority 1969, amended 1981, 1986, 1989, 1993, 1995.

4 CSR 30-5.090 Scope of Examination— Engineers

PURPOSE: This rule prescribes hours and subject matter of engineering examinations.

- (1) The engineering examination shall consist of two (2) parts. Each part of the examination shall consist of two (2) four (4)-hour sections. Any reexamination shall consist of all of part I or part two II, as the case shall require.
- (2) Part I of the engineering examination shall be in mathematics and basic sciences.
- (3) Part II of the engineering examination shall be in theory and practice of engineering.

AUTHORITY: section 327.041, RSMo (1986). Original rule field March 16, 1970, effective April 16, 1970.

4 CSR 30-5.100 Passing of Part I Required—Engineers

PURPOSE: This rule requires all candidates for part two of the engineering examination to pass part one before being admitted to part two.

No applicant for registration as a professional engineer under section 327.221, RSMo shall be allowed to take part two II of the required examination without having first passed part I of that examination.

AUTHORITY: section 327.041, RSMo (1986). Original rule filed Aug. 5, 1971, effective Sept. 5, 1971.

Amended: Filed Dec. 8, 1981, effective March 11, 1982.

4 CSR 30-5.105 Reexaminations— Engineers

PURPOSE: This rule sets the policy for reexamination of the professional engineering examinations.

- (1) An applicant for enrollment as an engineer-in-training who fails to make the passing grade of seventy percent (70%) will have an opportunity to retake part I of the examination two (2) times within a five (5)-year period. This period begins at the time part I of the examination is initially taken.
- (2) An applicant for registration as a professional engineer must complete both parts one I and two II of the examination within a five (5)-year period. In either case, an applicant will not be permitted to retake either part of the examination more than twice within the five (5)-year period.
- (3) Any applicant who does not meet the requirements as set out in sections (1) and (2) of this rule may submit a new application. The board, within its discretion, may either deny the applicant the opportunity for an additional examination or approve this reexamination based upon additional information which the board may require. This additional information will include, but will not be limited to, further educational training, current references or other information as the board may deem necessary in evaluating the qualifications of the applicant.
- (4) Any person with an application on file on March 11, 1982 and who exceeds the limitations prescribed in sections (1) and (2) of this rule shall have one (1) opportunity to retake either part I or part II before becoming subject to section (3) of this rule.

AUTHORITY: section 327.041, RSMo (1986). Original rule filed Dec. 8, 1981, effective March 11, 1982.

4 CSR 30-5.110 Standards for Admission to Examination—Land Surveyors

PURPOSE: This rule sets out standards for admission to land surveying examinations for applicants not enrolled in the land surveyor-in-training program.

(1) Before being admitted to the examination, an applicant for registration as a land survey-

or who is not enrolled in the land surveyorin-training program shall have the knowledge, skills and experience as, in the discretion of the board, would indicate that the applicant is qualified to be placed in responsible charge of land surveying work. The minimum length of experience required of the applicant, based on education, shall generally be as listed in sections (2)—(5).

- (2) Years and Kind of Education and Minimum Land Surveying Work Experience.
- (A) Engineering graduate, accredited—two (2) years, one (1) year responsible charge of field crew and one (1) year office work directly related to land surveying.
- (B) Engineering or science (college level) year-for-year (minimum four (4)).
- (C) Nonengineering or science graduate (college level)—individual evaluation.
- (D) Courses taken (not full-time student)—individual evaluation.
- (E) High school graduate—eight (8) years combined work experience and education.
- (3) Individual evaluation may result in less than full credit.
- (4) In evaluating the minimum land surveying work experience required of all applicants, credit will be given for work under the responsible charge of a registered land surveyor for work directly related to land surveying. Full credit will not be given for engineering or construction surveying work experience. The professional engineering division shall grant maximum credit as follows:
- (A) Survey crew member (rodman, chainman, instrument man)—maximum two (2) years;
 - (B) Party chief-year-for-year; and
- (C) Office work (record research, drafting, calculations, preparing legal descriptions)—year-for-year.
- (5) Applicant must have a minimum of three (3) years' field work and one (1) year of office work. Individual evaluations may result in less than full credit.

AUTHORITY: section 327.041, RSMo (1986). Original rule filed March 16, 1970, effective April 16, 1970. Amended: Filed Dec. 8, 1981, effective March 11, 1982. Amended: Filed Jan. 12, 1984, effective April 12, 1984. Amended: Filed July 20, 1987, effective Oct. 25, 1987.

4 CSR 30-5.120 Scope of Examination— Land Surveyors

PURPOSE: This rule prescribes hours and subject matter of land surveying examinations.

- (1) The examination for enrollment as a land surveyor-in-training shall be written in two (2) separate four (4)-hour parts. These parts shall include National Council of Engineering Examiners (NCEE) Parts I and II covering the Fundamentals of Land Surveying. On the basis of one hundred percent (100%) as perfect for Parts I and II combined, a passing grade of seventy percent (70%) will be required.
- (2) The examination for registration as a land surveyor for applicants who are enrolled in the land surveyor-in-training program shall be written in three (3) separate parts totaling eight (8) hours. These parts shall include NCEE Part III covering the Principles and Practice of Land Surveying, Part IV-A covering Missouri statutes and rules related to land surveying, the United States system of public land surveys in Missouri, the Missouri State Coordinate System and other areas of professional practice in Missouri and NCEE Part IV-B covering the Principles and Practice of Land Surveying. On the basis of one hundred percent (100%) as perfect for Part III, a passing grade of seventy percent (70%) will be required. On the basis of one hundred percent (100%) as perfect for Part IV-A and Part IV-B combined, a passing grade of seventy percent (70%) will be required.
- (3) The examination for land surveyor for applicants who are not enrolled in the land surveyor-in-training program shall be five (5) separate parts totaling sixteen (16) hours. The parts shall be NCEE Parts I and II covering the Fundamentals of Land Surveying, NCEE Part III covering the Principles and Practice of Land Surveying, Part IV-A covering Missouri statutes and rules related to the Standards of Practice of the Missouri Land survey, the United States system of public land surveying in Missouri, the Missouri State Coordinate System, and other areas of professional practice in Missouri, and NCEE Part IV-B covering the Principles and Practice of Land Surveying. On the basis of one hundred percent (100%) as perfect for Parts I and II combined, a passing grade of seventy percent (70%) will be required. On the basis of one hundred percent (100%) as perfect for Part III, passing grade of seventy percent (70%) will be required. On the basis of one hundred percent (100%) as perfect for Part IV-A and Part IV-B combined, a passing

grade of seventy percent (70%) will be required.

AUTHORITY: section 327.041, RSMo (1986). Original rule filed Dec. 8, 1981, effective March 11, 1982. Amended: Filed Jan. 12, 1984, effective April 12, 1984. Amended: Filed Jan. 27, 1987, effective April 26, 1987. Amended: Filed July 20, 1987, effective Oct. 25, 1987.

4 CSR 30-5.130 Reexamination—Land Surveyors

PURPOSE: This rule sets the policy for reexamination of the land surveying examinations.

- (1) An applicant for enrollment as a land surveyor-in-training who fails to make the passing grade of seventy percent (70%) on Parts I and II of the National Council of Engineering Examiners (NCEE) examinations will have two (2) opportunities to retake Parts I and II within a five (5)-year period. This period beginning at the time Parts I and II are initially taken.
- (2) An applicant for registration as a land surveyor who is enrolled in the land surveyor-intraining program must complete both Parts III and IV of the land surveying examination within a five (5)-year period. An applicant will not be permitted to retake either part of the examination more than twice within the five (5)-year period.
- (3) An application for registration as a land surveyor for an individual not enrolled in the land surveyor-in-training program shall be valid for a maximum of five (5) years. The applicant shall be limited to three (3) examinations on one (1) land surveying application. If the applicant has not passed all parts of his /her land surveying examination after three (3) examinations or within the five (5)-year duration of his/her application, s/he then must submit a new application and retake all parts of the land surveying examination if, at the discretion of the board, the application is approved.

AUTHORITY: section 327.041, RSMo (1986). Original rule filed Dec. 8, 1981, effective March 11, 1982. Amended: Filed Jan. 12, 1984, effective April 12, 1984.