

Chapter A-E 4

PROFESSIONAL ENGINEER REGISTRATION

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Note: Chapter A-E 4 as it existed on February 28, 1987 was repealed and a new chapter A-E 4 was created effective March 1, 1987.

A-E 4.01 Authority and purpose. The rules in this chapter are adopted under authority in ss. 15.08 (5) (b), 227.11, 443.04, 443.05, 443.09 and 443.10, Stats. The purpose of rules in this chapter is to interpret basic education, experience and examination requirements for registration as a professional engineer as specified in ss. 443.04, 443.05, 443.09 and 443.10, Stats.

History: Cr. Register, February, 1987, No. 374, eff. 3-1-87.

A-E 4.02 Application for registration. An applicant who files an application but who does not comply with a request for information related to the application within one year from the date of the request shall file a new application and fee.

Note: Applications are available upon request to the board office located at 1400 East Washington Avenue, P.O. Box 8935, Madison, Wisconsin 53708.

History: Cr. Register, February, 1987, No. 374, eff. 3-1-87; am. Register, May, 1990, No. 413, eff. 6-1-90; am. Register, January, 1999, No. 517, eff. 2-1-99.

A-E 4.03 Engineering experience. To qualify as satisfactory experience in engineering work for the purpose of meeting requirements of s. 443.04, Stats., an applicant's experience shall include the application of engineering principles and data and shall demonstrate an applicant's progressive development of competence to do engineering work. The experience shall be acquired in the areas of engineering practice listed in subs. (1) to (7) or in other areas of engineering practice or academic course work which in the opinion of the board provides the applicant with a knowledge of engineering principles and data at least equivalent to that which would be acquired by experience in the areas of practice listed. Experience in all areas listed is not required.

(1) RESEARCH AND DEVELOPMENT. (a) Problem identification, including consideration of alternative approaches to problem solving.

(b) Planning, including selecting a theoretical or experimental approach.

(c) Execution of plan, including completing design calculations.

(d) Interpreting and reporting results, including all of the following:

1. Evaluating project feasibility studies.
2. Analyzing research and development data.
3. Producing interpretive reports.
4. Formulating conclusions and recommendations.
5. Producing final reports.

(2) DESIGN. (a) Problem identification, including all of the following:

1. Identifying design objectives.
2. Identifying possible design concepts or methods.
3. Selecting methods to be employed in consideration of aesthetics, cost and reliability.
4. Defining performance, specifications, and functional requirements such as materials, energy balances, and environmental considerations.
5. Formulating conceptual design specifications.

6. Defining physical properties of all key materials.

(b) Planning, including defining safety, health and environmental constraints.

(c) Execution of plan, including all of the following:

1. Developing design concepts.
2. Conducting feasibility studies.
3. Evaluating design and design methods.
4. Solving design problems.
5. Preparing designs, layouts and models.
6. Selecting materials and components.
7. Conducting value analysis of design.
8. Producing final designs.
9. Preparing supporting technical information.
10. Preparing detailed working drawings.
11. Preparing specifications and data sheets.
12. Interacting with engineers from other areas of work such as research and development and construction.

(d) Interpreting and reporting results, including all of the following:

1. Evaluating design for conformity to specifications.
2. Evaluating design solutions for efficiency, economic and technical feasibility and economic alternatives.
3. Evaluating design impact on public health, safety and welfare.
4. Evaluating design solution for adherence to laws and codes.
5. Evaluating product liability risk.
6. Reviewing designs with clients or management.
7. Preparing final reports.

(e) Implementation of results, including interacting with engineers from other disciplines of engineering.

(3) CONSTRUCTION. (a) Problem identification, including checking working drawings and specifications.

(b) Execution of plan, including all of the following:

1. Consulting with designers.
2. Identifying and requesting design changes.

(4) MANUFACTURING, PRODUCTION AND OPERATIONS. (a) Planning, including all of the following:

1. Proposing design or methods improvement.
2. Planning operational processes and strategies.

(b) Execution of plan, including all of the following:

1. Preparing equipment, system and process specifications.
2. Determining feasibility of new or improved products, systems and processes.

(c) Interpreting and reporting results, including preparing final reports.

(5) MAINTENANCE. (a) Problem identification, including determining causes of failures in equipment, structures or schedules.

(b) Interpreting and reporting results, including reporting the causes of failures in equipment, structures or schedules.

(6) ADMINISTRATION. Administration and management, including execution of plan by communicating with others.

(7) OTHER ENGINEERING TASKS. (a) Conducting systems analysis or operations research.

(b) Serving as a consultant or specialist to individual or business clients.

History: Cr. Register, February, 1987, No. 374, eff. 3-1-87; am. (1) (a) to (d) 4., (2) (a) (intro.) to 5., (b) to (c) 11., (d) (intro.) to 6., (e), (3) to (7) (a), Register, January, 1999, No. 517, eff. 2-1-99; **CR 12-053; am. (2) (a) 4. Register November 2013 No. 695, eff. 12-1-13.**

A-E 4.04 Experience credit limitation. Not more than one year of satisfactory experience credit may be granted for any calendar year.

History: Cr. Register, February, 1987, No. 374, eff. 3-1-87.

A-E 4.05 Requirements for registration as a professional engineer. (1) FOUR YEAR COURSE OF STUDY. A four year course of study requires all of the following:

(a) A bachelor of science degree (B.S.) in engineering from a school or college of engineering accredited by the engineering accreditation commission of the accreditation board for engineering and technology (EAC/ABET) in engineering of not less than 4 years, or a diploma of graduation in engineering of not less than 4 years deemed by the professional engineer section to be equivalent to a B. S. degree in engineering from an EAC/ABET accredited school or college of engineering.

(b) A specific record of 4 or more years of experience within the 10 years preceding the application in engineering work of a character satisfactory to the professional engineer section indicating that the applicant is competent to be placed in responsible charge of engineering work. Experience gained in obtaining a master's degree in engineering and experience gained in obtaining a Ph.D. in engineering or in an engineering related program shall each be deemed equivalent to one year of qualifying experience.

(c) Successful completion of the fundamentals of engineering examination and the principles and practice of engineering examination.

(d) If an engineering degree is from an educational institution located outside the United States or its territories, the applicant shall provide an official evaluation by a transcript evaluation service acceptable to the professional engineer section which compares the degree to an engineering education standard acceptable to the professional engineer section. The professional engineer section may approve the degree if it finds equivalence.

(2) TWO YEAR COURSE OF STUDY. A 2 year course of study requires all of the following:

(a) An associate degree in engineering related course of study from a technical school or college accredited by the engineering technology accreditation commission of the accreditation board for engineering and technology (ETAC/ABET) in an engineering related course of study of not less than 2 years. This shall be deemed equivalent to a degree from a technical school or college approved by the professional engineer section.

(b) A specific record of 6 or more years of experience within the 10 years preceding the application in engineering work of a character satisfactory to the professional engineer section indicating that the applicant is competent to be placed in responsible charge of engineering work.

(c) Successful completion of the fundamentals of engineering examination and the principles and practice of engineering examination.

(3) EXPERIENCE. To qualify as satisfactory experience in professional engineering for purposes of ss. 443.04 (2m) (a) and (b), Stats., an applicant's experience must be obtained subsequent to completion of the educational requirements set forth in s. 443.04 (1m), Stats. This requirement may be waived, in the sole discre-

tion of the professional engineer section, for reasons it considers sufficient.

History: Cr. Register, February, 1987, No. 374, eff. 3-1-87; am. (1), cr. (3) and (4), Register, January, 1993, No. 445, eff. 2-1-93; r. and recr. Register, March, 1996, No. 483, eff. 4-1-96; am. (1) (b), (2) (a), (3) (a) and (4) (b), Register, November, 2000, No. 539, eff. 12-1-00; CR 04-119; am. (1) (c), (2) (b), (3) (c) and (4) (c) Register December 2005 No. 600, eff. 1-1-06; **CR 12-053; r. and recr. Register November 2013 No. 695, eff. 12-1-13.**

A-E 4.06 Engineer-in-training. An applicant for certification as an engineer-in-training shall take and pass a fundamentals examination.

History: Cr. Register, February, 1987, No. 374, eff. 3-1-87; am. Register, January, 1999, No. 517, eff. 2-1-99; CR 12-053; **renum. from A-E 4.07 Register November 2013 No. 695, eff. 12-1-13.**

A-E 4.07 Examinations. (1) SCOPE OF WRITTEN EXAMINATIONS. (a) The fundamentals examination requires an understanding of the physical and mathematical sciences involved in the fundamentals of engineering.

(b) The principles and practice examination requires the ability to apply engineering principles and judgment to problems in general engineering fields such as chemical, civil, electrical and mechanical fields.

(2) REQUIREMENTS FOR ENTRANCE TO EXAMINATIONS. (a) To be eligible to take the examination on fundamentals of engineering, the applicant shall:

1. Be of not less than senior standing in an accredited B.S. engineering program qualifying under s. A-E 4.05 (1) (a); or

2. Have successfully completed a program in an engineering related course of study qualifying under s. A-E 4.05 (2) (a).

(b) To be eligible to take the examination on the principles and practices of engineering, the applicant shall have one of the following:

1. A B.S. degree from an accredited engineering program qualifying under s. A-E 4.05 (1) (a), and at least 4 years of engineering experience qualifying under s. A-E 4.03.

2. A degree from an educational institution located outside of the United States or its territories approved by the professional engineer section as qualifying under s. A-E 4.05 (1) (d) and at least 4 years of engineering experience qualifying under s. A-E 4.03.

3. An associate degree in an engineering related course of study from a technical school or college accredited by the engineering accreditation commission of the accreditation board for engineering and technology (ETAC /ABET) and at least 6 years of engineering experience qualifying under s. A-E 4.03.

(3) APPLICATION FOR EXAMINATION. An application for examination must be filed with the board no later than 90 days before the scheduled date for the examination. An applicant applying for reexamination shall file the application for reexamination no later than 45 days before the scheduled date for the next examination.

Note: An otherwise qualified applicant with a disability shall be proved with reasonable accommodations.

(4) EXAMINATION AND REFUND FEES. The fee for an engineer-in-training or professional engineer examination and requirements for refund of fees are specified in s. 440.05, Stats., and ch. SPS 4.

(5) PLACE AND TIME OF EXAMINATIONS. The examinations shall be held at sites and on dates designated by the board.

(6) GRADING OF WRITTEN EXAMINATIONS. The passing scores set by the board represent the minimum competency required to protect public health and safety. Experience ratings may not be weighed as a part of the examinations.

(7) CHEATING. Any applicant for registration who receives aid or cheats in any other manner in connection with the examination shall be barred from completing the examination or shall not be given a passing grade, or both.

History: Cr. Register, February, 1987, No. 374, eff. 3-1-87; am. (1) (b), Register, May, 1990, No. 413, eff. 6-1-90; r. and recr. (2), Register, June, 1993, No. 450, eff. 10-1-93; am. (1) (b) and (c), Register, December, 1993, No. 456, eff. 1-1-94; am.

(3), Register, August, 1995, No. 476, eff. 9-1-95; am. (7) (b), Register, March, 1996, No. 483, eff. 4-1-96; am. (7) (a), Register, October, 1996, No. 490, eff. 11-1-96; am. (1) (a), (3) and (6), cr. (8), Register, January, 1999, No. 517, eff. 2-1-99; CR 04-119; r. (1) (c) Register December 2005 No. 600, eff. 1-1-06; correction in (4) made under s. 13.92 (4) (b) 7., Stats., Register November 2011 No. 671; **CR 12-053: renum. A-E 4.07 from A-E 4.08, am. (2) (a) 1., 2., r. (2) (a) 3., am. (2) (b), r. (7), renum. (8) to (7), Register November 2013 No. 695, eff. 12-1-13.**

A-E 4.08 Application contents. (1) An application for initial registration shall include all of the following:

- (a) Transcripts or apprenticeship records verifying the applicant's education and training.
- (b) References from at least 5 individuals having personal knowledge of the applicant's engineering work, 3 or more of whom are registered professional engineers, one of whom is registered in Wisconsin and one of whom has served as supervisor in responsible charge of the applicant's engineering work.
- (c) A chronological history of the applicant's employment.
- (d) Any additional data, exhibits or references showing the extent and quality of the applicant's experience that may be required by the professional engineer section.

(2) An application for registration by comity from another state shall include all of the following:

- (a) Verification of registration submitted directly from all states, territories or provinces of Canada where the applicant is or has been registered, including a statement regarding any disciplinary action taken.
 - (am) References from at least 5 individuals having personal knowledge of the applicant's engineering work 3 or more of the references shall be registered professional engineers and one of whom has served as supervisor in responsible charge of the applicant's engineering work.
- (c) Verification of meeting the continuing education requirements set forth in s. A-E 13.09.
- (d) Any additional data, exhibits or references showing the extent and quality of the applicant's experience that may be required by the section.

History: Cr. Register, January, 1993, No. 445, eff. 2-1-93; am. Register, January, 1999, No. 517, eff. 2-1-99; CR 03-087: renum. (intro.) and (1) to (4) to be (1) (intro.), (a) to (d) and am. (1) (intro.) and (b), cr. (2) Register May 2005 No. 593, eff. 6-1-05; **CR 12-053: renum. A-E 4.08 from A-E 4.09, am. (1) (b), cr. (2) (am), renum. (2) (b) to (d), cr. (2) (c) Register November 2013 No. 695, eff. 12-1-13.**