

## Chapter GHSS 2

### PROFESSIONAL GEOLOGIST LICENSE

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Note: Chapter GHSS 2 was created as an emergency rule effective May 15, 1999.

**GHSS 2.01 Authority and purpose.** This chapter is adopted under authority in ss. 15.08 (5) (b), 227.11 (2), 470.03 (1) (a) and 470.04, Stats. The purpose of this chapter is to interpret basic education, experience and examination requirements for licensure as a professional geologist as specified in ss. 470.04 and 470.05, Stats.

History: Cr. Register, December, 1999, No. 528, eff. 1-1-00.

**GHSS 2.02 Applications.** An applicant for a professional geologist license shall file an application. An applicant 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.

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

History: Cr. Register, December, 1999, No. 528, eff. 1-1-00.

**GHSS 2.03 Application contents.** An application for licensure as a professional geologist shall include:

(1) Either of the following:

(a) Official transcripts of graduate and undergraduate training, properly attested to by the degree granting institution and submitted by the institution directly to the board establishing that the applicant has been granted a bachelor degree in geology or a bachelor degree with a geology major meeting the requirements under s. 470.04 (2) (c), Stats., granted by a college or university accredited by a regional accrediting agency approved by the state board of education in the state in which the college or university is located, or accredited by a Canadian accrediting agency satisfactory to the board, or

(b) A chronological history of the applicant's employment or other qualifying experience in satisfaction of s. 470.04 (7), Stats.

(2) A chronological history of the applicant's employment or other qualifying experience in satisfaction of s. 470.04 (2) (c) 1., Stats.

(3) For applicants applying under s. 470.04 (2) (c) 1. or 2., Stats., a completed "supervised geologic experience" form completed by a supervisor relating to professional geology and who is one of the following:

(a) A professional geologist who, during the time of the supervised practice, was licensed in this state.

(b) A professional geologist who, during the time of the supervised practice, was licensed in another licensing jurisdiction that has licensure requirements not lower than the requirements for licensure in this state.

(c) A person whom the professional geologist section determines is qualified to have responsible charge of geologic work.

(4) For applicants applying under s. 470.04 (2) (c) 2., Stats., submission of at least 3 "peer evaluation" forms satisfactory to the professional geologist section completed by licensed professional geologists who have had professional contact with the applicant's practice and who certify that the applicant is qualified to assume responsible charge of geologic work.

(5) References from at least 5 individuals, at least 3 of whom shall be professionally competent to evaluate the applicant's prac-

tice and at least one of whom shall be licensed as a professional geologist in this state or in a state where an applicant by reciprocity is currently licensed.

(6) The fee required under s. 440.05 (1), Stats.

(7) For applicants previously licensed in another state, territory or possession of the United States or in another country, verification of the applicant's licensure in the licensing jurisdiction of original licensure or, if the applicant has permitted his or her licensure in the jurisdiction of original licensure to lapse, verification of licensure in the licensing jurisdiction where the applicant is currently licensed and where the applicant was last engaged in the practice of professional geology.

(8) For applicants who have a pending criminal charge or have been convicted of a crime, all related information necessary for the professional geologist section to determine whether the circumstances of the pending criminal charge or criminal conviction are substantially related to the circumstances of the practice of geology.

(9) Any additional data, exhibits or references showing the extent and quality of the applicant's experience that may be required by the professional geologist section.

(10) Evidence of successful completion of the fundamentals of geology examination and the principles and practice of geology examination.

Note: Application forms, including the "Supervised Geologic Experience" form and the "Peer Evaluation" form are available upon request to the Professional Geologist Section of the board at 1400 East Washington Avenue, P.O. Box 8935, Madison, Wisconsin 53708.

History: Cr. Register, December, 1999, No. 528, eff. 1-1-00.

#### GHSS 2.04 Experience as a professional geologist.

(1) To qualify as satisfactory professional geologic work for the purposes of s. 470.04 (2) (c), Stats., an applicant's experience shall include the application of accepted principles in the practice of geology and shall demonstrate an applicant's progressive development of competence to practice as a professional geologist. The experience shall be acquired in the areas of the practice of geology listed in sub. (2) (a) to (m) or in other areas of the practice of geology which in the opinion of the professional geologist section provide the applicant with a knowledge of principles and data related to the practice of geology at least equivalent to that which would be acquired by experience in the areas of practice listed. Experience in every listed area is not required.

(2) Areas of experience in the practice of professional geology include:

(a) Mineralogy, including identification of minerals and mineral assemblages, the determination of physical and chemical properties of rocks, and determination of probable genesis and sequence of mineral assemblages.

(b) Petrography or petrology, including identification and classification of major rock types, determination of physical and chemical properties of rocks, and determination of probable genesis and sequence of rock formation.

(c) Geochemistry, including evaluation of geochemical data, and construction of geologic models based on geochemical analyses.

(d) Stratigraphy or historical analysis, including identification of rock sequences, establishment of the relative position of rock units, determination of the ages of rock units, interpretation of depositional environments and geologic histories, performance of facies analyses, and establishment of stratigraphic classifications.

(e) Structural geology, including identification of structural features and their interrelationships, determination of the orientation of structural features, performance of qualitative and quantitative structural analyses, correlation of separated structural features, and interpretation of structural features and tectonic histories.

(f) Paleontology, including determination of estimated relative geologic ages of rocks, identification of fossils and fossil assemblages, correlation of rock biostratigraphy, and paleoecological interpretation.

(g) Geomorphology, including identification of landforms, performance of geomorphic field investigations, determination of geomorphic processes and the development and age relationships of landforms and soils, and interpretation of geomorphic field data.

(h) Geophysics, including performance of geophysical investigations in the field, performance of geological interpretations of geophysical data, and identification of potentially hazardous geological conditions by use of geophysical techniques.

(i) Hydrogeology, including design and interpretation of hydrologic and hydrogeologic testing programs, utilization of physical and chemical data to evaluate hydrogeologic conditions, development and interpretation of groundwater geologic maps and sections, application of geophysical methods to analyze hydrogeologic conditions, determination of the physical and chemical properties of aquifers and vadose zones, determination of groundwater resources and quality, design of wells and drilling programs, development of groundwater resource management plans, and development of remedial action programs.

(j) Engineering geology, including geologic interpretation for engineering design, identification and interpretation of potential seismic and geologic hazards, development and interpretation of engineering geology maps and sections, evaluation of materials resources, establishment of site selection and evaluation criteria, design and implementation of field and laboratory programs, and provision of sample soils for geologic analysis and materials properties testing.

(k) Mining geology, including formulation of exploration programs, implementation of field investigations on prospects, performance of geologic interpretations for mineral reserves, performance of economic analyses and appraisals, provision of geologic interpretations for mineral resource, mine development, and mine reclamation or abandonment.

(l) Petroleum geology, including formulation of exploration plans, implementation of field investigations on prospects, performance of geologic interpretations of physical properties and hydrocarbon reserves, performance of petroleum economic analyses and appraisals, and provision of geologic interpretations for development and abandonment of hydrocarbon reservoirs.

(m) Glacial geology, including understanding glacial processes, deposits, landforms and environments; identification and classification of glacial sediment; performance of facies analyses; identification of glacial sequences and establishment of stratigraphic classifications; determination of glacial histories; and development and interpretation of glacial geologic maps and sections.

(3) Not more than one year of satisfactory experience credit may be granted for any calendar year.

History: Cr. Register, December, 1999, No. 528, eff. 1-1-00.

**GHSS 2.05 Education.** (1) In satisfaction of the education requirement under s. 470.04 (2) (b), Stats., the professional geologist section shall accept a bachelor degree in geology, or a

degree reflecting that the applicant has completed at least 30 semester hours or 45 quarter hours of course credits in geology of a variety and nature sufficient to constitute a major in geology, granted by a college or university accredited by a regional accrediting agency approved by the state board of education in the state in which the college or university is located, or accredited by a Canadian accrediting agency satisfactory to the board.

(2) If the degree is from an educational institution not meeting the requirements of sub. (1), the applicant must provide an official evaluation by a transcript evaluation service acceptable to the professional geologist section which shows that the degree is equivalent to a bachelor degree in geology or a bachelor degree with a major in geology meeting the requirements under sub. (1).

(3) In order to be considered a major in geology, an applicant must have completed at least 30 semester hours or 45 quarter hours of course credits which include credits in at least 4 of the following areas:

- (a) Geochemistry or geophysics.
- (b) Geologic field methods.
- (c) Glacial geology or geomorphology.
- (d) Hydrogeology or hydrology.
- (e) Mineralogy.
- (f) Petrology or petrography.
- (g) Stratigraphy or sedimentology.
- (h) Structural geology.

(4) In addition to the coursework required under sub. (3), other coursework that may be used to satisfy the 30 semester hour or 45 quarter hour requirement includes, but is not limited to, the following:

- (a) Engineering geology.
- (b) Historical geology.
- (c) Mining geology.
- (d) Paleontology.
- (e) Petroleum geology.
- (f) Physical geology.

History: Cr. Register, December, 1999, No. 528, eff. 1-1-00.

**GHSS 2.06 Examinations.** (1) **REQUIRED EXAMINATIONS.** An applicant for initial licensure as a professional geologist shall pass examinations for the professional practice of geology approved by the professional geologist section. Required examinations shall include a fundamentals examination and a principles and practice of geology examination.

(2) **FUNDAMENTALS EXAMINATION.** The fundamentals examination requires an understanding of the physical and mathematical sciences involved in the fundamentals of geology. To be eligible to take the fundamentals examination, an applicant shall have done one of the following:

(a) Completed at least 24 semester hours or 36 quarter hours of course credits in geology and be of not less than second semester senior standing in a bachelor program meeting the requirements of s. GHSS 2.05.

(b) Completed at least 4 years of experience, which is determined by the professional geologist section to be equivalent to the requirements of s. GHSS 2.04 (1).

(3) **PRINCIPLES AND PRACTICE EXAMINATION.** The principles and practice examination requires the ability to apply geologic principles and judgment to problems in the practice of professional geology. To be eligible to take the principles and practice examination, an applicant shall have done one of the following:

(a) To be eligible to take the principles and practice examination, an applicant under s. 470.04 (2) (c) 1., Stats., shall have done all of the following:

1. Met the requirements under s. 470.04 (2) (a), Stats.
2. Met the requirement under s. 470.04 (2) (b), Stats., or have at least 5 years of professional experience in addition to the quali-

fyng experience under subd. 3., which is determined by the professional geologist section to be substantially equivalent to the requirement under s. 470.04 (2) (b), Stats.

3. Completed at least 4 years of professional experience in geologic work of a character satisfactory to the professional geologist section, or completed at least 3 years of professional experience in geologic work of a character satisfactory to the section if the applicant has one or more advanced degrees relevant to the practice of professional geology, demonstrating that the applicant is qualified to assume responsible charge of geologic work. At least one year of the qualifying professional experience under this subdivision must have been performed under the supervision of one or more of the following:

a. A person who is at the time of application licensed as a professional geologist under this chapter or who, during the period of supervised experience, was licensed as a professional geologist under ch. 470, 1997 Stats.

b. A person who, during the period of supervised experience, was licensed as a professional geologist in another state, territory or possession of the United States or in another country that has licensure requirements for professional geologists that are not lower than the requirements for licensure under this chapter.

c. A person who, during the period of supervised experience, is deemed by the professional geologist section to have been qualified to have responsible charge of geologic work.

(b) To be eligible to take the principles and practice examination, an applicant under s. 470.04 (2) (c) 2., Stats., shall have done all of the following:

1. Met the requirements under s. 470.04 (2) (a), Stats.

2. Met the requirement under s. 470.04 (2) (b), Stats., or have at least 5 years of professional experience in addition to the qualifying experience under subd. 3., which is determined by the professional geologist section to be equivalent to the requirement under s. 470.04 (2) (b), Stats.

3. Completed at least 6 years of professional experience in geologic work of a character satisfactory to the professional geologist section, or completed at least 5 years of professional experience in geologic work of a character satisfactory to the section if

the applicant has one or more advanced degrees relevant to the practice of professional geology, demonstrating that the applicant is qualified to assume responsible charge of geologic work. At least one year of the qualifying professional experience under this subdivision must have been performed under a peer review system approved by the professional geologist section.

(3m) APPLICATION FOR EXAMINATION. An applicant for initial licensure shall file an application for examination with the board not less than 2 months before the scheduled date of the examination.

(4) AMERICANS WITH DISABILITIES ACT. Otherwise qualified applicants with disabilities shall be provided with reasonable accommodations.

(5) EXAMINATION AND REFUND FEES. The fee for the examinations for professional geologists and the requirements for refund of fees are specified in s. 440.05 (1) (b), Stats., and s. RL 4.06, respectively.

(6) PLACE AND TIME OF EXAMINATIONS. The examinations required by this section shall be held at sites and on dates designated by the professional geologist section.

(7) PASSING SCORES. (a) The passing scores set by the professional geologist section represent the minimum competency required to protect public health and safety.

(b) All required examinations are scored separately. The fundamentals of geology and the principles and practice of geology examinations of the association of state boards of geology are scored separately. An applicant shall achieve a passing score on each of the required examinations to qualify for licensure.

(c) The professional geologist section may accept the recommendations of the association of state boards of geology for the passing score on the fundamentals of geology and the principles and practice of geology examinations.

(8) CHEATING. The professional geologist section may deny release of scores or issuance of a credential if the board determines that the applicant violated rules of conduct of the examination or otherwise acted dishonestly in taking the examination.

History: Cr. Register, December, 1999, No. 528, eff. 1-1-00; am. (7) (b), r. (7) (d), Register, November, 2000, No. 539, eff. 12-1-00.

