



# NCEES

*advancing licensure for  
engineers and surveyors*

## **NCEES Surveying Education Standard**

### **A. 18 college semester credit hours of mathematics and basic sciences**

1. A minimum of 12 credits in mathematics must be beyond basic mathematics, but the credits include college algebra or higher mathematics. These courses must emphasize mathematical concepts and principles rather than computation. Mathematics courses may include college algebra, trigonometry, analytic geometry, differential and integral calculus, linear algebra, numerical analysis, probability and statistics, and advanced calculus
2. A minimum of 6 credits must be in basic sciences. These courses must cover one or more of the following topics: general chemistry, advanced chemistry, life sciences (biology), earth sciences (geology, ecology), general physics, and advanced physics. Computer skills and/or programming courses may not be used to satisfy mathematics or basic science requirements.

### **B. 16 college semester credit hours in a general education component that complements the technical content of the curriculum**

Examples of traditional courses in this area are philosophy, religion, history, literature, fine arts, sociology, psychology, political science, anthropology, economics, professional ethics, and social responsibility. No more than 6 credit hours of languages other than English or other than the applicant's native language are acceptable for credit. English and foreign language courses in literature and civilization may be considered in this area. Courses that instill cultural values are acceptable, while routine exercises of personal craft are not.

### **C. 30 college semester credit hours of surveying science and surveying practice**

Courses shall be taught by qualified surveying faculty. Examples of surveying courses are basic surveying, route surveying, geodesy, geographic information systems, land development design and planning, global positioning systems, photogrammetry, mapping, legal principles of land surveying, boundary law, professional surveying and mapping, and remote sensing. Graduate-level surveying courses can be included to fulfill curricular requirements in this area.

## **NCEES Credentials Evaluations**

NCEES Credentials Evaluations will adhere to the following in conducting evaluations:

- Evaluations will be conducted on the following:
  1. Foreign surveying degree programs
  2. U.S.-based, non-EAC/ANSAC/TAC ABET-accredited degree programs in surveying
  3. U.S.-based B.S./B.A. programs for applicants that have met the "surveying core" program requirements.
- Evaluations may be conducted on programs that do not meet these criteria if specifically requested by an NCEES member board. Such requests must come directly from the member board to the NCEES Manager of Credentials Evaluations.
- NCEES will evaluate all programs against the NCEES standard. NCEES will no longer determine substantial equivalence to an EAC/ANSAC/TAC ABET-accredited program.
- In conducting the evaluation, NCEES will consider the breadth of the applicant's education, to include bachelor's degree coursework, master's degree coursework, and doctorate coursework in determining satisfaction of the NCEES standard.
- NCEES will provide credit for any advanced coursework earned prior to college enrollment that is deemed appropriate for college-level academic credit (such as Advanced Placement, A-levels, Abitur, French Baccalaureate, International Baccalaureate, Lebanese Baccalaureate, etc.).
- A maximum of six hours' credit will be granted for thesis, special topics, and independent study at any level.

- Cooperative training, practicums, internships, and continuing education activities will not receive educational credits to satisfy the NCEES standard.
- NCEES will not conduct evaluations of degrees that are offered entirely via the Internet.
- NCEES will note any deficiencies in the applicant's educational history compared to the NCEES standard.

For applicants whose educational record indicates satisfaction of the NCEES standard, NCEES will report that the applicant possesses the education required in order to be considered by a member board for entry into the professional practice of surveying.

For applicants whose educational record indicates deficiencies relative to the NCEES standard, those deficiencies will be noted for any action deemed appropriate by a member board. NCEES will also provide any relevant information concerning the educational requirements and/or any prerequisites for entry into surveying programs in the applicant's country for consideration and overall qualification by a member board.