



Preparing Tomorrow's Engineers

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Coalition to Advance the
Profession of Engineering

ISSUE

In our increasingly complex world, the challenges engineers face and the problems they must solve are requiring a greater level of professional breadth and specialization. The exploding body of science and engineering knowledge cannot be accommodated within the context of the traditional four-year degree. This problem has been recognized by the National Academy of Engineering (NAE), the National Society of Professional Engineers (NSPE), the National Council of Examiners for Engineering & Surveying (NCEES), and the American Society of Civil Engineers (ASCE). To address this problem, the minimum standard for licensure as a professional engineer must be raised.

CAPE POSITION

The Coalition to Advance the Profession of Engineering (CAPE) supports the position that the appropriate qualifications for licensure in the future should include: (1) a bachelor's degree; (2) a master's degree or an additional

30 credits of coordinated graduate or upper level undergraduate courses in engineering, science, mathematics and professional practice topics; (3) approximately four years of progressive engineering experience; and (4) successful completion of the appropriate NCEES sponsored written examinations.

KEY POINTS

To protect the public, professional engineers are licensed by the states. The professional engineer (PE) license grants an individual the authority to perform engineering services and direct engineering projects which affect the public's health, safety, and welfare.

Admission to the professional practice of engineering requires the fulfillment of a specialized Body of Knowledge (BOK) attained through appropriate engineering education and experience. The engineering profession is undergoing significant, rapid and revolutionary changes that have increased this BOK required for entry into the profession. As



MISSION:

The Coalition to Advance the Profession of Engineering encourages the states to raise the bar for admission to the professional practice of engineering. The Coalition represents the commitment of the engineering community to advance the profession.

a result, the baccalaureate degree can no longer be considered the professional engineering degree. Admission to the professional practice of engineering requires formal education beyond the baccalaureate degree.

HISTORY

At the beginning of the 1900's, a four year baccalaureate degree was required to enter the engineering profession—more than most of the other learned professions. Other professions (e.g., medicine, law, pharmacy, architecture, and accountancy) responded to changes in society by expanding their formal education requirements beyond a baccalaureate degree. The engineering profession has been stagnant.

In addition, the number of credits required to earn the traditional four-year baccalaureate degree in engineering has decreased dramatically. Academic programs have been trying to squeeze an expanded Body of Knowledge into fewer hours of instruction.

STATUS

CAPE is currently seeking changes to the licensure law in the 56 United States jurisdictions.

FOR MORE INFORMATION

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Figure 1. YEARS OF FORMAL EDUCATION TO ENTER THE PROFESSION

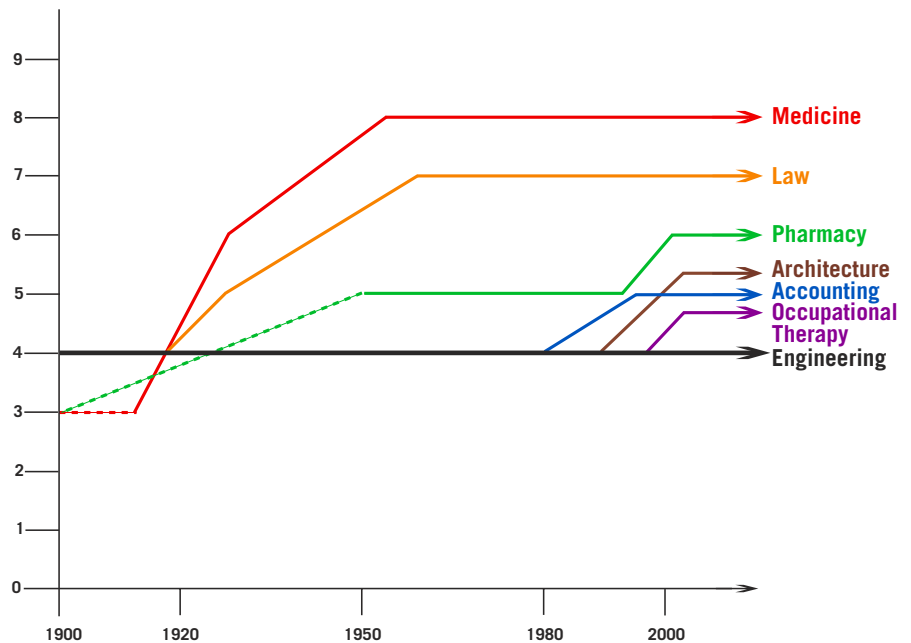
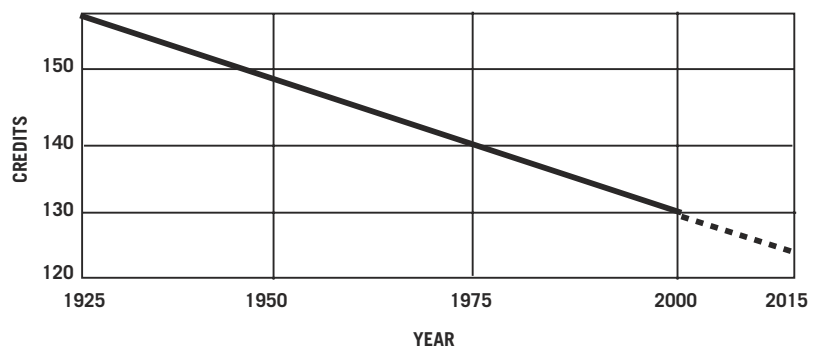


Figure 2. CREDIT HOURS FOR GRADUATION



REFERENCES

- *National Academy of Engineering Report: Educating the Engineer of 2020*
- *NCEES Model Law for Licensure of Engineers and Surveyors*
- *NCEES Report of the Engineering Licensure Qualifications Task Force*
- *NSPE Position Statement 168: Licensure and Qualifications for Practice*
- *ASCE Policy Statement 465: Academic Prerequisites for Licensure & Professional Practice*