



# Academic Program Approval

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## Baccalaureate Degrees in Engineering at Comprehensive Universities

Unit/Department: Academic Affairs

CPE Contact

Aaron Thompson, Vice President

Email: [aaron.thompson@ky.gov](mailto:aaron.thompson@ky.gov)

## **Baccalaureate Degrees in Engineering**

On March 20, 2000, in response to various reports outlining deficiencies in the number of engineers in Kentucky and its own survey of the demand for engineers in south central Kentucky, Western Kentucky University (WKU) proposed to the Council for approval three (3) Bachelor of Science degrees in the following disciplines: Construction Engineering and Management, Electrical Engineering, and Mechanical Engineering. Based on concerns related to the capacity of WKU to effectively offer these programs, the Council directed its staff, along with WKU, the University of Kentucky (UK), the University of Louisville (UofL) and other public institutions, to design an alternative proposal to expand engineering in Kentucky.

At the following meeting held July 17, 2000, the Council approved a “Strategy for Statewide Engineering Education in Kentucky,” which included a request for joint program proposals building on the strengths of existing engineering programs at UK and UofL while accommodating employer needs identified by the comprehensive institutions. All programs were to become separately accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET) as soon as possible.

On May 21, 2001, the Council approved the following four joint baccalaureate engineering programs: WKU and UofL in electrical engineering, WKU and UK in mechanical engineering, WKU and UK in civil engineering, and Murray State University and UofL in electrical and telecommunications engineering. WKU joint Bachelor of Science programs in civil, electrical, and mechanical engineering were each EAC/ABET accredited on October 1, 2003, and have maintained continuous accreditation to date. Today, WKU engineering students obtain an average of ninety (90) percent of their coursework from WKU.

In a letter dated February 27, 2014, WKU President Dr. Gary Ransdell informed Council President Robert L. King that WKU would be seeking to offer its own baccalaureate degrees in electrical, mechanical, and civil engineering programs pursuant to its authority to offer baccalaureate programs in KRS 164.295(1)(a), while keeping the existing joint degree programs in place. On May 12, 2014, and in accordance with the Council’s New Academic Program Policy and Procedure, WKU submitted the following three (3) baccalaureate level programs for approval into the electronic Kentucky Program Proposal System (KPPS): Mechanical Engineering, Civil Engineering, and Electrical Engineering.

### Conflict in the Law

The Council is vested with the statutory authority to approve all academic programs at Kentucky’s public colleges and universities. KRS 164.020(15) states that the Council shall “[d]efine and approve the offering of all postsecondary education technical, associate, baccalaureate, graduate, and professional degree, certificate, or diploma

programs in the public postsecondary education institutions.” KRS 164.295 provides specific guidance on academic programs to be provided at Kentucky’s public comprehensive universities. Section (1)(a) states that the six (6) public comprehensive universities in Kentucky “[s]hall provide, upon approval of the Council on Postsecondary Education, associate and baccalaureate programs of instruction.” Section 1(b) requires that these institutions shall also “provide, upon approval of the Council on Postsecondary Education, graduate programs of instruction at the master's-degree level in education, business, and the arts and sciences, specialist degrees, and programs beyond the master's-degree level to meet the requirements for teachers, school leaders, and other certified personnel.” Section 8 specifically prohibits a comprehensive university from offering “terminal degrees of Doctor of Philosophy, Doctor of Musical Arts, or first professional degrees in the fields of architecture, medicine, dentistry, pharmacy, law, or engineering. The existing school of law at Northern Kentucky is exempted from the requirements of this paragraph.”<sup>1</sup>

As stated above, KRS 164.295(8) prohibits comprehensive universities from offering “first professional degrees” in certain fields, including engineering. The term “first professional degree” is not defined through any form of Kentucky law. However, a “first professional degree” could reasonably be defined as the first degree attainment level required to practice professionally in any of the listed disciplines. KRS 322.040 sets forth the requirements for licensure as a professional engineer in Kentucky. Section (1)(a) states that a person shall qualify for licensure as a professional engineer if he or she has:

1. Graduated from an engineering program of four (4) years or more accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology or any engineering program deemed equivalent by the board;
2. Four (4) or more additional years of progressive experience in engineering or teaching of a grade and character which indicates to the board that the applicant is competent to practice engineering; and
3. A passing score on:
  - a. The Principles and Practice of Engineering Examination; and
  - b. The Fundamentals of Engineering Examination. The board may allow students enrolled in the final year of an undergraduate engineering program to take this examination. Upon passing the examination, the applicant shall be designated an engineer in training.

EAC/ABET accredits engineering programs at the bachelor's (four-year degree) level and the master's (post-graduate) level. As such, the lowest degree level attainment required to practice professionally as an engineer in Kentucky is the bachelor’s degree.

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<sup>1</sup> The prohibition against comprehensive universities providing certain “first professional degrees” in KRS 164.295(8) was enacted in the 2011 Regular Session and therefore was not part of the analysis when these programs were proposed in 2000. (See 2011 Ky. Acts ch.b94, sec.b1, effective June 8, 2011).

If a bachelor's degree is considered to be the "first professional degree" in engineering, and comprehensive public universities in Kentucky are prohibited from offering these degrees per section (8) of KRS 164.295, then this provision would be in direct conflict with the mandate in section 1(a) that comprehensive public universities provide baccalaureate programs of instruction. To receive guidance as to how to resolve this conflict, on August 7, 2014 the Council requested that the Attorney General provide a legal opinion as to whether or not the Council has the legal authority to approve bachelor's programs in engineering offered solely by WKU or any other comprehensive public university.

### Resolution

On February 4, 2015, the Attorney General issued the attached Opinion advising that a baccalaureate degree in engineering does not constitute a "first professional degree" for purposes of KRS 164.295(8). As such, the Council may approve baccalaureate degrees in engineering offered by comprehensive universities.



COMMONWEALTH OF KENTUCKY  
**OFFICE OF THE ATTORNEY GENERAL**

JACK CONWAY  
ATTORNEY GENERAL

**OAG 15-004**

CAPITOL BUILDING, SUITE 118  
700 CAPITAL AVENUE  
FRANKFORT, KENTUCKY 40601  
(502) 696-5300  
FAX: (502) 564-2894

February 4, 2015

*Subject:* Whether a baccalaureate degree in engineering constitutes a first professional degree

*Requested by:* Travis Powell, General Counsel  
Kentucky Council on Postsecondary Education

*Written by:* Matt James

*Syllabus:* A baccalaureate degree in engineering does not constitute a first professional degree

*Statutes construed:* KRS 164.295

***Opinion of the Attorney General***

Travis Powell, General Counsel for the Kentucky Council on Postsecondary Education ("Council"), has requested an opinion of this office on whether a baccalaureate degree in engineering constitutes a first professional degree. We advise that a baccalaureate degree in engineering does not constitute a first professional degree.

On Mar. 20, 2000, Western Kentucky University ("WKU") submitted a proposal to the Council requesting approval of three Bachelor of Science Degrees in construction engineering and management, electrical engineering, and mechanical engineering. Based on concerns related to the capacity of WKU to effectively offer these programs, the Council commissioned an alternative proposal to expand engineering education. The alternative proposal involved joint engineering programs between state universities in various areas of engineering, each to be separately accredited by the Accreditation Board for Engineering and



Technology. On May 21, 2001, the Council approved joint programs between WKU and the University of Louisville ("U of L") in electrical engineering, WKU and the University of Kentucky ("UK") in mechanical engineering, WKU and UK in civil engineering, and U of L and Murray State University in electrical and telecommunications engineering. WKU's joint programs in civil, electrical, and mechanical engineering were accredited on Oct. 1, 2003, and have been continuously accredited to date. On May 12, 2014, WKU applied to the Council for approval to offer its own baccalaureate degrees in electrical, mechanical, and civil engineering, while keeping the existing joint degree programs in place. At issue is whether WKU has the statutory authority to offer such engineering programs.

KRS 322.040(1)(a) provides the requirements for licensure as a professional engineer:

A person shall qualify if he or she has:

1. Graduated from an engineering program of four (4) years or more accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology or any engineering program deemed equivalent by the board;
2. Four (4) or more additional years of progressive experience in engineering or teaching of a grade and character which indicates to the board that the applicant is competent to practice engineering; and
3. A passing score on:
  - a. The Principles and Practice of Engineering Examination; and
  - b. The Fundamentals of Engineering Examination. The board may allow students enrolled in the final year of an undergraduate engineering program to take this examination. Upon passing the examination, the applicant shall be designated an engineer in training.

In order to qualify as a professional engineer generally, a person must have graduated from an accredited engineering program of at least four years, obtain

at least four additional years of engineering experience, and pass two engineering examinations. The only degree required for licensure as a professional engineer is a four-year degree, although there are also requirements of significant additional experience and examinations.

KRS 164.295(8) provides that "a comprehensive university shall not: (a) Offer . . . first professional degrees in the fields of architecture, medicine, dentistry, pharmacy, law, or engineering." KRS 164.001(7) provides that "'comprehensive university' means the following public institutions . . . Western Kentucky University." As a comprehensive university, WKU is thus forbidden from offering a first professional degree in engineering. However, "first professional degree" is not expressly defined in any of the Kentucky Revised Statutes or other Kentucky authorities. The issue is therefore whether a baccalaureate degree in engineering counts as a first professional degree, as it is the only degree required to enter into the practice of engineering.

"We will read the statute as a whole, and with other parts of the law of the Commonwealth, to ensure that our interpretation is logical in context." *Lichtenstein v. Barbanel*, 322 S.W.3d 27, 35 (Ky. 2010). The use of "first professional degree" in other regulations indicates that it is to be contrasted with a baccalaureate degree rather than equated with it. 11 KAR 3:011 § 1(27) provides that "'graduate or professional student' means a student who: (a) Is enrolled in a program or course above the baccalaureate level at an institution of higher education or is enrolled in a program leading to a first professional degree." 13 KAR 1:020 § 8(8)(b) requires that "a college shall require a minimum of . . . 2. 120 student credit hours for a baccalaureate degree; or 3. Thirty (30) student credit hours for a post-baccalaureate, graduate, or first professional degree." In both of these regulations, a first professional degree is considered to be above or after the baccalaureate degree. Similarly, federal regulations provide that a first professional degree is beyond an undergraduate degree. *See, e.g.*, 6 C.F.R. § 17.105(i) ("Institution of professional education means an institution (except any institution of undergraduate higher education) that offers a program of academic study that leads to a first professional degree); 7 C.F.R. § 15a.2(j); 10 C.F.R. 5.105. "When interpreting a provision of a statute, a court should not, if possible, adopt a construction that renders a provision meaningless or ineffectual." *Schoenbachler v. Minyard*, 110 S.W.3d 776, 783 (Ky. 2003). To interpret "first professional de-

gree" as including a baccalaureate degree would be to render these regulations contradictory and ineffective. We advise that a baccalaureate degree, including a baccalaureate degree in engineering, does not constitute a "first professional degree" for the purposes of KRS 164.295(8). Accordingly, Western Kentucky University, as well as any other comprehensive university listed in KRS 164.001(7), may provide undergraduate programs in engineering, with the approval of the Council on Postsecondary Education.

JACK CONWAY  
ATTORNEY GENERAL



Matt James  
Assistant Attorney General