

**INSTRUCTION, RESEARCH, AND STUDENT AFFAIRS
APRIL 20, 2017**

TAB	DESCRIPTION	ACTION
1	BOARD POLICY III.Q. ADMISSIONS STANDARDS – FIRST READING	Motion to Approve
2	BOISE STATE UNIVERSITY – BACHELOR OF SCIENCE IN ENGINEERING	Motion to Approve

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SUBJECT

Board Policy III.Q, Admissions Standards – First Reading

REFERENCE

June 2007	Board approved the first reading of amendments to Board Policy III.Q.
August 2007	Board approved the second reading of amendments to Board Policy III.Q.
December 2013	Board approved the first reading of amendments to Board Policy III.Q.
February 2014	Board approved the second reading of amendments to Board Policy III.Q.

APPLICABLE STATUTES, RULE OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section III.Q, Admissions Standards

BACKGROUND / DISCUSSION

At its October 2016 meeting, the State Board of Education (Board) approved a new section of Board Policy III.O regarding placement for entry-level college courses. This section of policy was originally addressed in Board Policy III.Q Admission Standards. Proposed amendments include removing the course placement section, which is now its own policy. Other proposed amendments include:

- Adding Direct Admissions program under sub section 4.
- Updating subject area titles within the Idaho college admission requirements chart.
- Removal of the course placement section, including tests no longer available.
- Changing the term “conditional” to “provisional” admission as it is the most commonly used term on campuses.
- Clarifying language providing institutional discretion regarding students admitted on provisional status.
- General language updates to remove dated references.

IMPACT

Proposed amendments include cleaning up dated language throughout policy, ensuring consistency with the placement policy approved at the December 2016 Board meeting, and adding the Direct Admissions program as another method for admitting students into Idaho’s public colleges and universities.

ATTACHMENTS

Attachment 1 – Board Policy III.Q, Admissions Standards – First Reading Page 3

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STAFF COMMENTS AND RECOMMENDATIONS

Board staff reviewed Board Policy III.Q in its entirety with the Admission Directors from Idaho's public postsecondary institutions and identified areas that needed to be updated or clarified.

The Council on Academic Affairs and Programs supported the proposed amendments at their March 23, 2017 meeting with the understanding that the policy would clarify the requirements for a student accepted under the Direct Admissions program. Proposed amendments were recommended for approval by the Instruction, Research and Student Affairs (IRSA) at its March 30, 2017 meeting.

Staff recommends approval.

BOARD ACTION

I move to approve the first reading of the proposed amendments to Board Policy III.Q, Admission Standards as presented in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

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BOISE STATE UNIVERSITY

SUBJECT

New Bachelor of Science in Engineering and Professional Fee

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section III.G. and Section V.R.3.b.iv.

BACKGROUND/DISCUSSION

Boise State University (BSU) proposes to create a new Bachelor of Science (BS) degree in Engineering. In addition, BSU proposes a professional fee of \$35 per credit for required upper division engineering courses for the new BS in Engineering.

The new program differs from existing baccalaureate engineering programs at BSU, ISU, and UI in that it will not have a specific disciplinary focus such as mechanical engineering, electrical engineering or civil engineering. Instead, the new program will enable students to earn an Accreditation Board for Engineering and Technology (ABET)-accredited engineering degree with the flexibility to incorporate an interdisciplinary curriculum tailored to students' professional goals. The program is a pathway for students to learn and apply engineering principles beyond the constraints of a traditional, discipline-focused degree program in engineering.

The need for engineers with a broad cross-section of skill-sets is championed by the American Society for Engineering Education (ASEE), who (with support from the National Science Foundation) is working with industry, government, and academic leaders to bridge the gap between engineering education and the needs of industry in the 21st century. Employers seek technically competent engineers, but additionally want engineers with workplace skills and disciplinary knowledge that transcend traditional discipline-specific engineering programs.

Graduates of the proposed program will be able to: (i) critically evaluate problems not only within, but also outside of, their domain expertise, (ii) communicate complex problems to colleagues, clients, and management across diverse cultures, and (iii) assimilate disparate and sometimes incomplete pieces of information to make informed business-forward decisions. Graduates will be prepared to enter the workforce in a variety of professions such as engineering, business, secondary education, and manufacturing as well as pursue professional degrees in fields such as medicine, law, architecture, and public administration.

The new program is broader and may appeal to a more diverse set of students than typical engineering programs and may result in more women and underrepresented minorities pursuing STEM professions. The program could also

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hold appeal to veterans, many of whom have experience using advanced technologies and have the problem-solving skills necessary to be successful in engineering. Additionally, the new program will grant credit for prior learning that can be appropriately applied to professional electives.

Two new upper division courses will be created specifically for the new BS in Engineering. However, the remainder of required upper division engineering courses will be offered by the departments of Civil Engineering, Electrical and Computer Engineering, Mechanical and Biomedical Engineering, and Materials Science and Engineering. Note that these are the same departments that have other programs for which professional fees were approved in April 2016.

Professional Fee Analysis

Because of the high overlap in upper division coursework, to not charge a professional fee for the new BS in Engineering creates a situation that may create perceived inequities to students in other engineering programs for which professional fees are charged for the same required courses. Furthermore, concern is shared by the institution that a different fee structure could perpetuate behavior that would lead students to change majors in order to avoid fees. The basis for the request for a professional fee for the new BS in Engineering is the same as it was for the four programs considered by the Board in April 2016. At that time, the Board approved a professional fee in the amount of \$35 per credit for required upper division courses for baccalaureate programs offered by the departments of Civil Engineering, Electrical and Computer Engineering, Mechanical and Biomedical Engineering, and Materials Science and Engineering. Those reasons are as follows:

- Although professional licensure is not required to practice the engineering profession, particularly at entry levels, it is encouraged.
- The charging of a professional fee will enable BSU to avoid charging a course fee for the required courses.
- The cost of instruction is substantially higher in engineering programs because of high salaries of faculty members. The table below was presented to the Board in April, 2016. Note that the College of Business and Economics (COBE) is excluded because the faculty members there also have substantially higher salaries.

Departmental Averages of Salaries	Assistant Professor	Associate Professor	Professor
<i>Engineering: (Civil, ECE, MBE, MSE)</i>	\$83,653	\$89,062	\$107,268
Other Departments (Excludes COBE and CS)	\$57,757	\$65,963	\$80,544
Departments in COBE	\$106,525	\$103,011	\$105,191

- Graduates of engineering programs have high rates of employment and high average salaries, as can be seen in the following table, which also was presented to the board in April 2016.

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National Association of Colleges and Employers: January 2015 Salary Survey Projected Annual Salary for Baccalaureate Graduates	
Discipline	Average Annual Salary
<i>Engineering</i>	\$62,998
Computer Science	\$61,287
Math & Sciences	\$56,171
Business	\$51,508
Agriculture & Natural Resources	\$51,220
Healthcare	\$50,839
Communications	\$49,395
Social Sciences	\$49,047
Humanities	\$45,042

Professional fees were not requested in April 2016 for two other baccalaureate programs offered by BSU's College of Engineering: (i) Computer Science has received substantial legislative support that has covered the high cost of the program, and (ii) Construction Management faculty members do not command the high salaries of engineering departments.

The professional fee charged to BS in Engineering students will be used in a similar manner to the fees charged to students in the already-approved engineering programs because (i) there is very high overlap in courses required by the programs and (ii) students in the new BS in Engineering will require the same degree of intensive advising, instructional support, etc., as students in the already-approved programs. The implementation of a professional fee will enable BSU to ensure that the new BS in Engineering is of high quality and that the students are successful. The following are examples of the ways in which the fees will be used:

- Adding teaching and learning assistants helps students succeed and graduate on time. In many cases, students avoid repeating courses if they have access to assistance early in the semester.
- Adding instructional capacity will enable BSU to keep pace with the enrollment growth and prevent bottlenecks from developing. The professional fee will enable BSU to maintain open enrollment in upper division courses.
- In some cases it is important to hire instructors with strong industry experience and contacts so as to improve the quality of instruction and better prepare students for careers in this field.
- Many of the required courses have a significant laboratory component, and the costs of equipment and personnel can be quite high.

IMPACT

BSU projects that the program will have approximately 100 juniors and seniors once up and running. The program requires 24 upper division credits of required

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engineering coursework. Assuming that a junior or senior takes on average 6 upper division engineering credits per semester, the proposed professional fee would yield approximately \$21,000 per year. A student in the new program would pay an average of \$420 more per year in their upper division studies to obtain this degree.

The program will initially be resourced as follows:

- Much of the coursework will be provided using already-existing faculty members and coursework.
- One-time funds will be used for the first three years to hire one 0.75FTE clinical faculty line to serve a program director.
- In spring prior to the fourth year, permanent funding will be considered if it is warranted based on enrollments, however BSU anticipates that, at a minimum, one lecturer will be hired as a result of steady increases in enrollment.

The “Sunset Clause” for the BS in Engineering includes discontinuing the program if it does not achieve a minimum of 10 graduates per year within five or six years.

ATTACHMENTS

Attachment 1 –Bachelor of Science in Engineering Proposal

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STAFF COMMENTS AND RECOMMENDATIONS

Boise State University (BSU) proposes to create a new BS in Engineering and to include a professional fee of \$35 per credit for upper division Engineering courses required of that degree.

BSU’s proposed BS in Engineering is consistent with their service Region Program Responsibilities and their Five-Year Plan for Delivery of Academic Programs in Region III. Consistent with Board Policy III.Z, no institution has the statewide program responsibility for engineering programs. The proposed program falls within the mission of BSU, and is intended to create graduates who are prepared to work in a variety of professional occupations by drawing on engineering principles and skills as foundation. This differs from traditional discipline-specific programs leading to a career path in a specialized field of engineering. As a result, given the unique interdisciplinary nature of the program, students will need to be properly advised with respect to potential career options. The diverse range of applied curricula will also prepare students for a broad array of graduate study at all three Idaho universities, and, could help address industrial and technical needs in the region and state.

Professional Fee: With regard to the request for a professional fee to accompany this new engineering program, the Board may want to consider the following points:

- The criteria for establishing a professional fee for a program are listed in Board Policy V.R.3.B.iv. Key determinants include: whether the program

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prepares its graduates for credentialing or licensing; and the program entails “extraordinary program costs” compared to other programs which don’t have professional fees; and the program “leads to a degree which provides at least the minimum capabilities required for entry” to the profession.

- Without additional coursework and training, graduates of this program would be less likely to attain the professional licensing/credentialing requirement than graduates of the four specific BSU engineering programs for which professional fees have been approved.
- Professional fees apply to specific students accepted in specific programs. BSU has the flexibility to allocate professional fees over specific courses which constitute these students’ programs rather than collecting the fee in single payments, but a professional fee is not a course fee, as defined in Board policy. The fact that it might be awkward to collect professional fees from some students enrolled in an authorized course—but not from others who may be taking the same course but who are not in the professional fee program—is not a compelling justification to collect professional fees from every student who may be taking a particular course, regardless of their program/major.
- Some of the shared courses which would be taken by the students in the proposed new program had course fees (which met Board criteria) prior to the recent establishment of professional fees, which then superseded all prior course fees. For high costs attributable to specific courses, this mechanism is still available to recoup delivery costs in lieu of a professional fee—though this would require the institution to separately track students in a given course who were in different program tracks, which is admittedly not as easy as assessing professional fees for all students in a given course or for all courses within the engineering discipline.
- The existing courses which would comprise the majority of the new generic engineering program appear to be financially sustainable at this point—due, in part, to the fact that professional fees (rather than course fees) are collected for students in these programs. Time will tell whether the new program would create bottlenecks in the existing programs or require significant investment in new personnel or facilities over and above the .75FTE program director and possibly an additional lecturer.
- If this program is deemed to warrant a professional fee by the Board, it would be hard to argue that every other engineering, business, or multi-disciplinary program which contains a number of high-cost courses would not also be eligible for professional fees—leading to a proliferation of professional fees (as quasi course fees) for programs which are not intimately linked to licensure/credentialing. Professional fees could become the rule rather than the exception—with the impact being a shift, by default, in the balance between finding additional funds to support quality programs and preserving access/affordability to students—an issue which merits deliberate and systematic analysis by the Board.

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- Staff isn't in a position to comment on whether students would "game the system" by declaring the generic engineering major to bypass professional fees in the shared courses in approved programs, and then later switching to a traditional, rigorous engineering program leading to licensure. Hopefully, the "better angels" of character would prevail for both students and administrative staff in any circumstances, but the "gaming" concern is not one of the accepted rationales in Board policy for establishing professional fees.
- Finally, it should be noted that the Business Affairs and Human Resources (BAHR) committee polled the institutions on several occasions over the past year to provide the earliest possible notice of any anticipated new professional fee requests—and there were assurances that no such requests were in the pipeline for the FY2018 tuition/fee setting cycle. Staff did not become aware of this particular professional fee request until very late in the game, and has had limited time to work with BSU counterparts to analyze and assess the merits of this professional fee proposal, notwithstanding the possible merits of having an engineering program of this type for students with interests other than a traditionally-focused engineering degree.

The proposal went through the program review process and was recommended for approval by the Council on Academic Affairs and Programs (CAAP) on March 23, 2017 and was presented to the Instruction, Research, and Student Affairs (IRSA) committee on March 30, 2017 and to the Business Affairs and Human Resources Committee on April 7, 2017.

BOARD ACTION

I move to approve the request by Boise State University to create a new Bachelor of Science in Engineering in substantial conformance to the program proposal submitted as Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

I move to approve the request by Boise State University to designate a professional fee for the Bachelor of Science in Engineering in the amount of \$35 per credit for upper division engineering courses required for the new program in conformance with the program budget submitted to the Board in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____