Centers of Actuarial Excellence

B-Level Criteria Guidance

Updated June 13, 2024

To be designated a Center of Actuarial Excellence (CAE), a university must meet the B-Level criteria (in addition to meeting A-level criteria. The B criteria are first evaluated by the CAE Evaluation Committee and, should a university be granted a site visit, evaluated by the Site Visit Team in more detail. The Site Visit Team provides its assessment of each of the four B criteria using the following rankings:

- Exceptional (highest)
- Strong
- Adequate
- Inadequate, but repairable
- Not in evidence (lowest)

To meet the B criteria, the university must receive a rating of "adequate" or better for each of the four criteria AND a rating of "strong" or better for at least one criterion. A university cannot be named CAE if it ranks only "adequate" in each of the B criteria. For the purposes of these criteria it should be noted that a ranking of "adequate" refers to adequate within a standard of excellence.

The tables in this document are provided for guidance purposes and should be used as such. A university does not have to demonstrate activity in all the suggested areas in the tables. Universities may use activities not listed to augment or substitute for those on the list.

The Appendix D worksheet may be used to provide data on graduates. Student names are not required. Similar data on current students may be submitted if the university believes the information will support its application. When reporting data, totals must be provided.

The SOA reserves the right to change this guidance. In no case will any change to the guidance provided be considered a change in the criteria which would lead to the reconsideration of the award (or denial) of CAE status.

Society of Actuaries Centers of Actuarial Excellence
B-Level Criteria

Criterion B.1: The program produces high quality graduates who are in demand by employers.

The regular collection of student data on exam success, job placement, and the number of credentialed graduates is key to a thorough review of this criterion. The information not only has value for assessing CAE status consistently across programs, but is also useful for planning, benchmarking and marketing.

Required Documentation

- Universities will provide a narrative and supporting documentation demonstrating that their university produces high quality graduates. The university should include supporting data that could include, but would not be limited to, job placement, success in examinations, company attendance at career fairs or recruiting events, proportion of graduates who become credentialed actuaries and testimonials from employers and/or graduates. Student data regarding exam performance and job placement should cover the most recent four-year period.

- Completion of the Appendix D Criterion A.3, B.1 and B.2 worksheet is strongly encouraged. Otherwise, a similar reporting of the requested information on graduating students (exams passed, job placement and internships) is needed. Anonymous identifiers MUST be used; student names must not be disclosed.

Guidance

- Data on graduates who are international students (students who are not permanent residents or citizens of the country in which the university is located) may be provided separately for the evaluation of job placement. The CEC will consider job placement rates separately for international and domestic students.

- Fully earned UEC credit may also be included in examination counts. If also reporting UEC credit as part of examination counts, this must be disclosed in the accompanying narrative.

- If reporting exams passed other than SOA exams, this must be disclosed in the accompanying narrative.

- Similar to the above, a university may request that the CEC consider the level of math foundation students had upon entering university when reviewing exam passing rates. Students who are unable to complete differential and integral calculus within their first year of study may not be able to attain the same level of success as those who complete these studies earlier. For universities whose entrance requirements have lower levels of math experience (more common in the U.S.) it is

acceptable to provide separate exam passing data on students who meet the following criteria:

- Are graduating with an undergraduate degree; and
- Completed differential and integral calculus (typically Calculus I and II) in their second year or later of university or any post-high school studies.

Criterion B.1 – High Quality Graduates Table provided for guidance purposes		
Suggested benchmarks	Adequate	Exceptional
Job placement data	50% of graduates obtained jobs with traditional/financial sector employers	75% of graduates obtained jobs with traditional/financial sector employers
Success in examinations (fully earned UEC credit may also be counted)	50% of graduates have passed two or more examinations by graduation	75% of graduates have passed two or more examinations by graduation
Employer attendance at university sponsored career fairs (or similar events)	Employers attend university sponsored career fairs or similar events; several of these employers do so annually	Employers attend university sponsored career fairs or similar events; several of these employers do so annually. University also is able to add new employers to career fair on a regular basis.
Graduates are credentialed actuaries	40% of graduates become credentialed actuaries within 10 years	70% of graduates become credentialed actuaries within 10 years
Testimonials from employers/ graduates	Able to provide testimonials from employers who consistently hire students, interns and/or graduates	Able to provide testimonials from employers who consistently hire students, interns and/or graduates
Alumni in leadership positions in business or academia	Several alumni hold leadership positions within business (partner, C-suite, chief actuary) or academia (head of department)	Alumni are well represented in leadership positions at the major consulting firms and insurance companies or as heads of academic departments

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Criterion B.2: There must be an **appropriate integration** with other relevant fields, particularly those developing business skills, EQ/AQ skills, and communication.

Universities must demonstrate how they integrate business skills, emotional and adaptability quotient (EQ/AQ), and communications into the students' education. Factors that will be considered could include, but would not be limited to, whether business courses are offered or integrated into the program (particularly courses focusing on strategy, leadership and organization); the presence of co-op or internship programs (including whether current students are in demand as summer interns); and the extent to which the curriculum includes teamwork and/or case studies. Courses do not have to be a degree requirement to be considered appropriate integration, provided they are taken by a significant number of actuarial students.

Examples of EQ/AQ skills include negotiation, interpersonal, creativity, leadership, initiative-taking, adaptability, and continuous learning. These skills can be incorporated into other business courses or built into team projects and other classroom activities. Additional guidance on EQ/AQ skillsets is provided in the CAE EQ/AQ Guidance document.

Required Documentation

- Universities will provide a narrative and supporting documentation showing how they integrate business skills, EQ/AQ, and communications into the students' education. If preferred, the EQ/AQ Worksheet may be completed.

- Completion of the Appendix D Criterion A.3, B.1 and B.2 worksheet is strongly encouraged. Otherwise, a similar reporting of the number of graduates who completed internships or co-op programs prior to graduation is needed. Student names are not required.

Guidance

Criterion B.2 – Appropriate Integration with Other Relevant Fields Table provided for guidance purposes		
Suggested benchmarks	**Adequate**	**Exceptional**
Business courses offered/ integrated	Graduates are encouraged to, and regularly, take business courses as electives; at least one business course is integrated into curriculum	Business courses are integrated into curriculum, and may be required for graduation. Students can take courses on strategy, negotiation, adaptability, initiative-taking, leadership, organization.
Co-op	Co-op program in existence with a steady stream of	Co-op program in existence with a significant majority of students

Criterion B.2 – Appropriate Integration with Other Relevant Fields Table provided for guidance purposes		
	students and employers who participate	participating and strong and consistent support from employers
Internship programs	Students are being interviewed for and offered internships	Majority of students seeking internships attain one; internships offered to many students entering penultimate and ultimate year of study. University has formal program to place students as interns
Curriculum includes team work, case studies	Curriculum gives students limited opportunities to present work, participate in case studies or work in teams, generally for students in penultimate or ultimate year of study	Curriculum consistently integrates teamwork, case studies and presentations across most years of study. Students understand the importance of strong EQ/AQ skills for future career success.

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B-Level Criteria

Criterion B.3: There is a connection to industry through activities such as an advisory board, campus speakers, career center, internship program, and others.

Required Documentation

- Universities will provide a narrative and supporting documentation showing how their program connects to industry through activities that could include, but would not be limited to, an advisory board, campus speakers, career center, internship program, and actuarial club.

- Completion of the Appendix D Criterion A.3, B.1 and B.2 worksheet is strongly encouraged. Otherwise, a similar reporting of the number of graduates who completed internships or co-op programs prior to graduation is needed. Student names are not required.

Guidance

Criterion B.3 – Connection to Industry Table provided for guidance purposes		
Suggested benchmarks	**Adequate**	**Exceptional**
Actuarial club	Actuarial club on campus that connects to outside resources which occasionally offers programming such as invited speakers, exam preparation, recruitment of high university students and/or providing career guidance	Strong actuarial club on campus with a robust program that regularly invites speakers, offers exam preparation, recruits high university students and/or provides career guidance
Outside speakers	A few outside speakers invited at least annually to present to students	Wide variety of outside speakers regularly integrated into events
Internships	Students are being interviewed for and offered internships	Majority of students seeking internships attain one; internships offered to many students entering penultimate and ultimate year of study. University has formal program to place students as interns.

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Criterion B.3 – Connection to Industry Table provided for guidance purposes		
Suggested benchmarks	Adequate	Exceptional
Employer/Industry Advisory Board	Advisory board exists; meets on ad-hoc basis, as needed	Advisory board regularly meets and is actively involved in program through actuarial club, recruiting activities, placing outside speakers, curriculum assistance (e.g., case studies)
Faculty actuarial experience	Faculty includes one or more members with practical actuarial work experience	Faculty includes two or more members with practical actuarial work experience amounting to over 10 years
Alumni/industry donations	Alumni regularly earmark donations to the program. Industry provides small but regular gifts to the program (e.g., support for career fair, awards for student projects)	Alumni or industry provide significant gifts to the program in the form of scholarships, endowed chairs, course support, major equipment purchases or other gifts that significantly affect program
Student research	Students participate in ad hoc research projects.	The university has an ongoing student research program
Faculty non-publishable industry related research	Faculty includes at least one member who participates in non-publishable industry research	Faculty includes two or more members who participate in non-publishable industry research
Professionalism/Ethics Topics covered	Presentations on Professionalism/Ethics topics are regularly offered to students (e.g. as part of employer visits).	Professionalism/Ethics topics are covered as a part of one or more required courses.

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Criterion B.4: The program should be producing peer-reviewed academic research and be taking steps to advance the actuarial profession. Programs must meet both part A., related to academic research, and part B., related to advancing the profession and professional leadership activities. The criterion will be applied at the program level, not per faculty member.

Universities will demonstrate the program's commitment to research and professional contributions by meeting both items A. and B. below to the level indicated over the previous four years.

The expectation is that universities will meet both A and B below as outlined. However, the university may request consideration of a different balance between parts A and B.

A. Peer-reviewed publications in a refereed academic journal. The expected minimum level for this requirement includes 1) at least two faculty members regularly publishing in peer-reviewed journals, with at least one of those being a member of the core actuarial faculty as defined in criterion A.4, and 2) an average of one publication in a peer-reviewed publication per year over four years from the actuarial faculty (in total).

B. Commitment to multiple activities demonstrating leadership in the actuarial profession and that serve to advance the profession, including but not limited to:
    - Industry research (including non-publishable research). Industry research includes research done for the SOA or another actuarial organization.
    - Encouraging high school students to become actuaries
    - Encouraging and supporting high school and university students from diverse backgrounds to become actuaries
    - Volunteering with the profession, including education, professional development, research, Sections, Board service, the Actuarial Teaching Conference (presenting or organizing), Actuarial Research Conference (presenting or organizing)
    - Serving as an editor for an actuarial science research journal (see list)
    - Promoting the profession with business, media, government officials, etc.

<u>Required Documentation</u>

- Universities will provide a narrative and supporting documentation demonstrating the program's commitment to research and professional contributions. Research publications in support of part A. should appear on faculty CVs (required documentation for Criterion A.4).

- For part A., universities will provide a list of publications and activities they believe can be used to satisfy this criterion. Publications in the list of actuarial journals below are always acceptable. For other publications universities must indicate why the paper is relevant to an actuarial audience (which could include the published abstract, if it sufficiently describes the paper's relevance to an actuarial audience).

- For part B., universities may use the faculty CV (to demonstrate volunteer contributions) as well as descriptions of events and measures of success.

Guidance

- This criterion is evaluated based on the faculty as a whole, not for each individual faculty member.

- Universities must show a commitment to the activities in both Parts A and B above. The CAE Evaluation Committee reviews the most recent four years in making this assessment.

- For part A., papers published in the following actuarial science and insurance journals are always acceptable for inclusion in the count for Part A., due both to the quality of the journals and the journals' focus on actuarial research.

    - *Annals of Actuarial Science*
    - *Asia-Pacific Journal of Risk and Insurance*
    - *ASTIN Bulletin*
    - *European Actuarial Journal*
    - *Geneva Papers on Risk and Insurance: Issues and Practice*
    - *Geneva Risk and Insurance Review*
    - *Insurance: Mathematics and Economics*
    - *Journal of Insurance Issues*
    - *Journal of Insurance Regulation*
    - *Journal of Pension Economics and Finance*
    - *Journal of Risk and Insurance*
    - *Journal of Risk and Uncertainty*
    - *North American Actuarial Journal*
    - *Risk Analysis*
    - *Risk Management and Insurance Review (Featured Articles only)*
    - *Risks*
    - *Scandinavian Actuarial Journal*
    - *Variance*

    Papers published in journals from various domains, included but not limited to applied statistics, business, data science, economics, predictive analytics, and

statistics journals may also be considered as appropriate for Part A. In these cases, an abstract should accompany the papers so the CEC can confirm the topics are relevant to actuarial science.

Finally, papers published in other journals may also be accepted for Part A. These papers will be assessed with regard to the journal's refereeing process, the audience for the journal, and the topic's relevance to actuarial research. Any paper submitted as support for B.4 should be actuarial in focus or relevant to the actuarial profession. An abstract or copy of the paper should be included with the submission.

- Papers that have been submitted to a peer-reviewed journal (but not accepted) are not considered. Papers that have been accepted by a peer-reviewed journal but that are awaiting publication are considered.

- For the purposes of meeting this criterion some non-core faculty members' research may be counted for Part A. Eligible non-core faculty are those who may meet fewer of the criteria listed in criterion A.4 for core faculty, but for whom the program can demonstrate a reasonable ongoing connection to the actuarial program.

  The professional activities requirement in Part B above can be met by participating in activities that promote the actuarial profession. Volunteer activities with the SOA or any other actuarial organization are accepted. Activities to recruit high school students can include summer programs, high school career days, sponsoring scholarships, and organizing students to tutor mathematics in high school classrooms. Activities that are used to recruit students to your actuarial science program can also count if they balance your program's offerings with helping students understand the profession.

- Professional activities related to the industries in which actuaries play a significant or emerging role (e.g., insurance, pension consulting, risk management, ERM, broader financial services) are appropriate for Part B. However, this does not generally include industries where actuaries have no or an extremely limited presence.

- Service to the university (i.e., serving on university committees) is not considered for Part B.