



Report on the 2019 consultation on the  
Curriculum content measurement: Beyond the AU  
paper recommendations

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## 1. Introduction

### 1.1. The Accreditation Unit and engineering curriculum measurement

The curriculum content measurement criteria specified within the Canadian Engineering Accreditation Board (CEAB) Accreditation criteria and procedures, section 3.4 *Curriculum content and quality* fulfil two objectives:

- they specify the overall length of an acceptable engineering degree through a minimum total measure, and
- they specify the mix of the broad curriculum components of mathematics, natural sciences, engineering science, engineering design, and complementary studies.

The former objective defines the minimum length of an engineering degree program as the expected norm of four years. The length of time is a significant differentiator between an acceptable four-year engineering degree and, for example, a three-year diploma.

The latter objective specifies the mix of curriculum components that defines the essence of an engineering degree without imposing a detailed, discipline-specific curriculum. A key component of an engineering degree is a broad foundation in mathematics and natural sciences. These minima prevent over-specialization in the specific technical subject matter of the curriculum. They also ensure that the program provides sufficient exposure to non-technical areas, to develop “an understanding of the environmental, cultural, economic, and social impacts of engineering on society.” As well, the emphasis on engineering sciences and engineering design differentiates an engineering degree from say an applied science degree.

The Accreditation Unit (AU) is the curriculum content measurement unit. The definition of an AU is found at criterion 3.4.1.1 and reads as follows:

*“Accreditation units (AU) are defined on an hourly basis for an activity which is granted academic credit and for which the associated number of hours corresponds to the actual contact time between the student and the faculty members, or designated alternates, responsible for delivering the program:*

- *one hour of lecture (corresponding to 50 minutes of activity) = 1 AU*
- *one hour of laboratory or scheduled tutorial = 0.5 AU*

*This definition is applicable to most lectures and periods of laboratory or tutorial work. Classes of other than the nominal 50-minute duration are treated proportionally. In assessing the time assigned to determine the AU of various components of the curriculum, the actual instruction time exclusive of final examinations should be used.”<sup>1</sup>*

Criterion 3.4.6 requires that “The program must have a minimum of 1,950 Accreditation units that are at a university level.”<sup>2</sup>

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<sup>1</sup> Canadian Engineering Accreditation Board, *2018 Accreditation Criteria and Procedures*, pp. 18  
<https://engineerscanada.ca/sites/default/files/accreditation/Accreditation-criteria-procedures-2018.pdf>

<sup>2</sup> Canadian Engineering Accreditation Board, *2018 Accreditation Criteria and Procedures*, pp. 20  
<https://engineerscanada.ca/sites/default/files/accreditation/Accreditation-criteria-procedures-2018.pdf>

The current minimum curricular component requirements, as specified in criteria 3.4.2–3.4.5, are:

- Mathematics: 195 AUs
- Natural sciences: 195 AUs
- Mathematics and natural sciences: 420 AUs
- Engineering science: 225 AUs
- Engineering design: 225 AUs
- Engineering science and engineering design: 900 AUs
- Complementary studies: 225 AUs<sup>3</sup>

Given a minimum total AU count of 1,950, at least 405 AUs (20.8%) remained unspecified as other curriculum content.

## 1.2. The AU Task Force and the learning unit

In response to the increasing discussion about the AU's shortcomings as a measurement method in relation to newer education delivery approaches, the Accreditation Unit (AU) Task Force was established in February 2017 by the Executive Committee of the Accreditation Board. Its mandate is to:

- consider the definition of an AU in its present form (criteria 3.4.1.1) and to identify the advantages, disadvantages and ramifications of any definition change on existing criteria; and
- envisage how curriculum content requirements could be linked to student outcomes/graduate attributes whatever system of AU counts is used.

In February 2018, the task force submitted their report which was received by both the Canadian Engineering Accreditation Board and the Engineers Canada Board and included four recommendations:

1. Define a learning unit as an additional method for measuring curriculum.
2. Equate one learning unit as equal to 2.5 hours of learning time.
3. Consult with accreditation stakeholders on recommendations 1 and 2.
4. Continue the initiative to explore the linking of Accreditation Units to Graduate Attributes.<sup>4</sup>

A consultation was executed from March 21, 2018 to June 3, 2018 and culminated in the AU Task Force Consultation Report, which was considered by the Engineers Canada Board at their September 2018 meeting. The accreditation stakeholder feedback received through the consultation process was reasonably consistent across respondents. After analysis, the task force identified four primary themes:

1. Stakeholders anticipate that the learning unit, as described, has the potential to offer sufficient flexibility to measure curriculum content that is not actual contact time between student and faculty members.
2. There is general support from stakeholders to execute a learning unit verification project.
3. Several stakeholders expressed caution around the auditability of the learning unit as defined in the task force recommendations.

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<sup>3</sup> Canadian Engineering Accreditation Board, *2018 Accreditation Criteria and Procedures*. 2018 pp. 19 <https://engineerscanada.ca/sites/default/files/accreditation/Accreditation-criteria-procedures-2018.pdf>

<sup>4</sup> AU Task Force, *AU Task Force report to Engineers Canada*. February 2018 pp. 7-8 <https://engineerscanada.ca/sites/default/files/accreditation/Report-of-the-AU-Task-Force-FINAL-EN.pdf>

4. Several stakeholders expressed caution around implementing any approved changes too quickly. Some recommended establishing an upper limit on the number of courses to which the LU could be applied (some have suggested 10%).<sup>5</sup>

### 1.3. The CEAB's paper: Curriculum content measurement: Beyond the AU

Throughout the consultation on the AU Task Force report and discussions around a possible learning unit verification project, concerns about the minimum number of AUs that a program must have to meet criterion 3.4.6 (currently 1,950) was raised regularly. Given this issue was outside of the task force's initial mandate, the AU Task Force supported the development of the CEAB's paper, [Curriculum content measurement: Beyond the AU](#).

Accepted by the CEAB at their June 2019 meeting, the paper served as the basis for a national consultation from August 6 to November 15, 2019.

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<sup>5</sup> AU Task Force, *AU Task Force report to Engineers Canada*. December 2018 pp. 8  
<https://engineerscanada.ca/sites/default/files/accreditation/au-taskforce-consultationreport-2018-final.pdf>

## 2. 2019 Consultation scope and methodology

### 2.1. Consultation objectives

The primary objective of the consultation on the 2019 paper *Curriculum Content Measurement: Beyond the AU* was to:

1. Inform stakeholders that a reduction in the minimum program total in criterion 3.4.6 from 1,950 to 1,850 AUs is being considered.
2. Inform stakeholders that replacing the AU definition for the minimum curriculum elements in criteria 3.4.2–3.4.5 with the percentages as proposed in the paper is being considered.
3. Investigate stakeholder reaction to the report recommendations.
4. Consolidate and synthesize stakeholder feedback with the objective of putting forward a list of recommendations for implementation.
5. Identify barriers to change if the report recommendations are adopted.
6. Develop a reasonable implementation plan that accommodates the diverse viewpoints of stakeholders.

The consultation process had four guiding principles:

1. Be inclusive of all relevant stakeholder groups.
2. Be transparent.
3. Be procedurally fair.
4. Encourage feedback (both positive and constructive).

### 2.2. Consultation approach

In at their June 2-3, 2019 meeting, the CEAB instructed the Policies and Procedures (P&P) Committee to consult with the stakeholders that would be affected by the adoption of the paper's recommendations. After considering industry-standard approaches to consultation in relation to the available time and resources to execute the plan, the consultation team used a focus group methodology accompanied by a general call for comments. Focus groups allowed the consultation team to focus on the specific questions of interest with targeted stakeholders of accreditation. Focus groups were largely conducted by webcasting technology but where time and budget resources allowed, face-to-face meetings were held.

To standardize the consultation meetings as much as possible, the planning team developed the following materials:

- An invitation to participate which describes the process by which stakeholder feedback will be collected and how it will be used, and explains that feedback will be summarized and made available to stakeholders (Appendix A).
- [Curriculum content measurement: Beyond the AU paper](#)
- A presentation slide deck which will be used at every consultation (Appendix B).
- Engineers Canada [web content](#) to inform readers about the consultation process and outcomes.

Stakeholders were made aware of the consultation process through the Engineers Canada bi-weekly [newsletter](#) and the weekly update email from Engineers Canada's CEO. Additionally, a web page dedicated to the consultation was hosted on the Engineers Canada [website](#).

The consultation period opened on August 6, 2019. All stakeholders were invited to participate in two introductory webinars, which were recorded and shared on the Engineers Canada [website](#) and were publicly accessible. The webinars provided:

- background on the paper's development,
- an overview of the paper recommendations; and
- the ways by which we will consult with each stakeholder group.

The English introductory webinar was held on September 9 with nine participants. The French introductory webinar was held on September 10 with four participants.

All stakeholders were then invited to:

1. Participate in a 1-hour webinar or in-person meeting to provide feedback on the recommendations.
2. Submit written feedback.

### 2.3. Website statistics

Page/Item	Unique page views	Average time spent	Number of downloads
2019 Consultation on the Curriculum content measurement: Beyond the AU paper recommendations <a href="#">webpage</a>	765	1m49s	n/a
Consultation de 2019 sur les recommandations du livre blanc Mesure du contenu des programmes d'études, au-delà des UA <a href="#">webpage</a>	110	1m56s	n/a
<a href="#">Curriculum content measurement: Beyond the AU paper</a>	n/a	n/a	81
<a href="#">Mesure du contenu des programmes d'études, au-delà des UA</a>	n/a	n/a	13

### 2.4. Stakeholders

The following stakeholders were invited to participate in consultation meetings

- Regulators
  - councils
  - boards of examiners
  - academic review committees
  - admissions officials
- Higher education institutions
- Engineering Deans Canada (EDC) (formerly the National Council of Deans of Engineering and Applied Science or NCDEAS)
  - EDC's Dean's Liaison Committee (DLC)
- Engineers Canada
  - Accreditation Board
  - Qualifications Board
- Canadian Federation of Engineering Students

Given the diverse structure of each stakeholder group, the primary contact within each organization was invited to identify the name(s) of the individual(s) who were to be invited to participate in a consultation meeting.

### 2.5. Key questions asked of each stakeholder

Each stakeholder was asked to respond to the following questions:

1. On reducing the minimum program total in criterion 3.4.6 from 1,950 to 1,850 AUs: Can the model program schedule proposed in section 6.1 be considered an adequate minimum for an engineering program for accreditation processes?

2. On replacing the AU definition for the minimum curriculum elements in criteria 3.4.2–3.4.5 with the percentages from section 6.2:
  - a. Does this added flexibility in determining the mix of curriculum elements address concerns raised by the HEIs regarding the use of the AU as the sole measure of curriculum content?
  - b. Would the regulators have confidence that all students from any program in compliance with the new criteria would be satisfactory for licensure?
  - c. Does the use of percentages in specifying what is an acceptable engineering program help in the assessment of non-CEAB applicants for licensure?
  - d. Are there further concerns or issues that such a change would raise?



### 3. Findings

#### 3.1 List of stakeholders that provided feedback

Table 1 lists the stakeholders that provided feedback, the method by which feedback was provided, and the date it was received.

*Table 1: List of stakeholders that provided feedback*

Stakeholder	Feedback method	Date received
<b>Organizations external to Engineers Canada</b>		
Canadian Federation of Engineering Students (CFES)	Written	November 14, 2019
National Admissions Officials Group (NAOG)	Written	September 26, 2019
Engineering Deans Canada (EDC) (formerly National Council of Deans of Engineering and Applied Science or NCDEAS)	Written	November 15, 2019
<b>Engineers Canada committees</b>		
Canadian Engineering Accreditation Board	Meeting minutes, written	June 2, 2019
Canadian Engineering Qualifications Board	Written	November 19, 2019
<b>Regulators*</b>		
Ordre des ingénieurs du Québec	Written	June 1, 2019
<b>Higher Education Institutions</b>		
Université de Moncton	Written	October 31, 2019
Université du Québec à Trois-Rivières	Written	November 6, 2019
University of Waterloo	Written	October 7, 2019
York University	Written	October 10, 2019
<b>Individuals</b>		
Dwight Aplevich, former CEAB Chair	Written	September 9, 2019
Claude Laguë, Educator in residence, Engineers Canada	Written	August 20, 2019
Group of former CEAB Chairs (Genanne Beck, André Biron, Les Russell)	Written	October 10, 2019

\* The following regulator indicated that their feedback was captured in the NAOG response:  
Association of Professional Engineers and Geoscientists of Alberta (APEGA)

## 3.2 Feedback themes

A variety of feedback was received throughout the consultation period. There was a range of opinion on the paper's two recommendations, the reduced total AU count and the percentage approach for curriculum elements, for which input was specifically requested. Additional commentary was received that was beyond the scope of the consultation, including feedback on the third recommendation, the investigation into learning time measures.

### **Recommendation 1: Consider reducing the minimum program total in criterion 3.4.6 from 1,950 to 1,850 Accreditation Units.**

Most of the submissions expressed no significant concerns with the recommendation to reduce the total AU count to 1850 including. Some noted that as the proposed reduction of 100 AUs corresponded to only approximately two fewer courses so the impact of the proposed reduction was not significant. The ECD did not agree with this reduction but proposed a further reduction by an extra 50 AUs to 1800 instead. Some submissions argued that accreditation should remove all curriculum measurement criteria ("input") and move to a system based solely on graduate attributes ("outcomes") thus rendering the reduction in the total AU count irrelevant.

### **Recommendation 2: Consider replacing the AU definition for the minimum curriculum elements in criteria 3.4.2–3.4.5 with the percentages from section 6.2 in the paper.**

The recommendation to move to a percentage method of specifying the various curriculum elements garnered the full gamut of opinion. Those who noted that it essentially left the current criteria unchanged concurred with the recommendation because it was equivalent (e.g., NAOG and OIQ). Some considered that this change could provide flexibility for the institutions to measure curriculum using their own systems. Others also suggested that a percentage approach could help align the assessment methods used by the regulators for both internationally educated applicants and CEAB applicants. Some concern, though, was expressed with the uncertainty such flexibility would introduce to the minimum path analysis. Others expressed concern with the introduction of another approach to curriculum measure, saying that the existing criteria already provides flexibility. Again, as some submissions argued for a move to a strictly outcomes accreditation system, they objected to any use of curriculum measurement methods including the current absolute AU numbers or the proposed percentage approach. Two such notable submissions were from EDC and the EC educator-in-residence, who strongly argued against the proposed modifications to the current system, as they do not include the removal of the minimum-path curriculum measure criteria.

### **Recommendation 3: Perform an analysis with HEIs that use student-learning time in their definition of academic credit to consider establishing a learning time specification as an alternative minimum program total for criterion 3.4.6.**

While the communication with the stakeholders for consultation specifically stated that feedback was not being solicited for the third recommendation on exploring learning time measures, a range of feedback was nonetheless received. One interesting observation was that two of the submissions that considered a move to learning time favourably were from places where HEIs use learning time in their definition, namely the university system in Quebec (OIQ) and l'Université de Moncton.

## 4. Definitions

**Accreditation Unit (AU):** “Accreditation units (AU) are defined on an hourly basis for an activity which is granted academic credit and for which the associated number of hours corresponds to the actual contact time between the student and the faculty members, or designated alternates, responsible for delivering the program:

- one hour of lecture (corresponding to 50 minutes of activity) = 1 AU
- one hour of laboratory or scheduled tutorial = 0.5 AU

This definition is applicable to most lectures and periods of laboratory or tutorial work. Classes of other than the nominal 50-minute duration are treated proportionally. In assessing the time assigned to determine the AU of various components of the curriculum, the actual instruction time exclusive of final examinations should be used.<sup>6</sup>”

**Accredited engineering program:** An accredited engineering program consists of studies in engineering leading to a bachelor’s degree that fulfills the academic requirement for licensure with Canada’s engineering regulators.

**CEAB, AB:** The Canadian Engineering Accreditation Board, or simply the Accreditation Board. Though referred to as a ‘Board’ the CEAB is technically a committee of the Board of Directors of Engineers Canada.

**Engineers Canada Board:** The Board of Directors of Engineers Canada.

**Flipped classroom:** An instructional method where the course material is available outside of the classroom (typically on-line) and the classroom time is spent engaging with this material where the instructor acts as a mentor or coach.

**Higher education institution, HEI:** A post-secondary institution, which would refer to an institution offering educational programming after high school.

**K factor:** One method for determining an equivalent measure in AU is a calculation on a proportionality basis. This method relies on the use of a unit of academic credit defined by the institution to measure curriculum content. Specifically, a factor, K, is defined as the sum of AU for all common and compulsory courses for which the computation was carried out on an hourly basis, divided by the sum of all units defined by the institution for the same courses.

Then, for each course not accounted for on an hourly basis, the number of AU is obtained by multiplying the units defined by the institution for that course by K.<sup>7</sup>

$$K = \frac{\sum AU \text{ for all common and compulsory courses for which the computation was carried out on an hourly basis}}{\sum \text{units defined by the institution for the same courses}}$$

<sup>6</sup> Canadian Engineering Accreditation Board, *2018 Accreditation Criteria and Procedures*, pp. 18

<https://engineerscanada.ca/sites/default/files/accreditation/Accreditation-criteria-procedures-2018.pdf>

<sup>7</sup> Canadian Engineering Accreditation Board, *2018 Accreditation Criteria and Procedures*, pp. 19

<https://engineerscanada.ca/sites/default/files/accreditation/Accreditation-criteria-procedures-2018.pdf>

**Mandate:** The functional scope of the committee/task force approved by the CEAB.

**Regulators:** The provincial and territorial associations established under law to regulate the practice of professional engineering within their respective jurisdictions, and who are the Members of Engineers Canada, as defined in the Articles of Continuance.

**Task force:** For the purposes of this report, a task force is a subcommittee operating for a defined period with a specific task. Task forces may include members who are not members of the committee or Board that created the task force.

## 5. Appendices

### Appendix A: Invitation to participate in the consultation (template)

[sent via email from [accreditation@engineerscanada.ca](mailto:accreditation@engineerscanada.ca)]

DATE

NAME

TITLE

ORGANIZATION

CITY, PROV, POSTCODE

August 13, 2019

**Re : Consultation on the CEAB's 2019 paper "Curriculum content measurement: Beyond the AU"**

Dear Mr. NAME,

At their June 1-2, 2019 meeting, the Accreditation Board directed the Policies and Procedures Committee to consult stakeholders on the recommendations contained within their 2019 paper "Curriculum content measurement: Beyond the AU". As a stakeholder of the accreditation system, APEGS is invited to provide comments on the recommendations contained within the report. The consultation period will be between August 12 and October 4, 2019.

#### **Who should participate**

Given the diverse structure of each provincial regulator, we invite you to identify the name(s) of the individuals with whom we should work to schedule a one-hour session to be offered via webinar. The CEAB has identified engineering regulators' councils, boards of examiners, and/or academic review committees as potential participants in this process. However, there may be other individuals within your organization who should be invited.

**Please respond to this email and provide the name, title, and email address of the individual(s) who would be best suited to participate in this session. You should also forward this email to those individuals as it contains important instructions and information.**

#### **How to participate**

##### 1. Introduction to the consultation process - webinar

Any individual within your organization who may be interested is invited to attend one of our scheduled introduction webinars. By clicking their preferred option below, participants will be provided with instructions on how to register:

- [Monday, September 9, 2019: 12:30pm – 1:30 pm Eastern \(English\)](#)
- [Tuesday, September 10, 2019: 1:00pm – 2:00 pm Eastern \(French\)](#)

The introduction webinar will provide an overview of the paper development process, highlight the recommendations contained within the paper, and define the ways by which we will consult each stakeholder group. Any individual who is not able to participate in the live webinar will be able to access the webinar recording on the [Engineers Canada website](#).

##### 2. Webinar meeting with organization officials

We will work with the individuals you identify to schedule a one-hour meeting held via webinar to collect their feedback on the paper's recommendations.

### 3. Submit written feedback

Stakeholders are invited to participate in the consultation through any of the means listed above. Additionally, you are invited to submit a formal written response. Written responses should be directed to [accreditation@engineerscanada.ca](mailto:accreditation@engineerscanada.ca) or by mail to:

CEAB  
c/o Mya Warken  
Engineers Canada  
300-55 Metcalfe St.  
Ottawa, ON K1P 6L5

Written responses must be received by **October 4, 2019**.

#### **How your feedback will be used**

Following each meeting, we will synthesize the feedback you have given and provide it to our primary contact at your organization for validation. All feedback from all stakeholders will be collected and presented to the Policies and Procedures Committee, CEAB, and Engineers Canada Board of Directors. A summary of all feedback received will be circulated to stakeholders and posted on the Engineers Canada website.

#### **Background**

While the Accreditation Unit (AU) has been an integral part of the Canadian Engineering Accreditation Board (CEAB) criteria for almost 25 years, it may be time to consider alternative methods of curriculum measure as curriculum delivery methods evolve. As the engineering profession is regulated through an exclusive right-to-practice licence in order to safeguard public safety, the regulators establish rigorous academic standards for admission to the profession. While other professions rely on standardized technical exams to ensure that each individual meets the admission requirements, the engineering regulators in Canada have the confidence that the minimum path requirements within the CEAB criteria achieve the same end. As a result, CEAB graduates are not assigned additional technical exams when applying for their licence.

While the CEAB criteria includes criteria related to a program in general, 2019 white paper *Curriculum Content Measurement: Beyond the AU* is concerned with the minimum path curriculum content criteria. The criteria serve two purposes: they define both the minimum program length and the mix of the broad curriculum elements—natural sciences, mathematics, engineering science, engineering design, and complimentary studies. The method of measuring curriculum for both these purposes has evolved from the use of the academic year before 1995 to the current contact time-based AU.


The paper proposes that the curriculum measurement for the two purposes be decoupled. To determine the program length, a model four-year program schedule is proposed that could be used a reference when considering alternative measures. Under the existing AU analysis, this reference program is 1,850 AUs in length. Similar analysis can be done with a proposed learning unit (LU). The mix of curriculum elements alternatively can be specified as percentages of the minimum total. The institution would be free to choose a consistent method of determining the percentage of each element as appropriate which may include their own academic credit or even the existing AU. If these proposals still provide the regulators sufficient confidence in the rigour of the accreditation process while also allowing educators further freedom to innovate in their delivery of curriculum, then their adoption within the criteria should be considered.

On behalf of the Policies and Procedures Committee, the Accreditation Board, and Engineers Canada, thank you for considering this invitation. Should you have any questions, please do not hesitate to contact me at [mya.warken@engineerscanada.ca](mailto:mya.warken@engineerscanada.ca) or at 1-877-408-9273 extension 206.

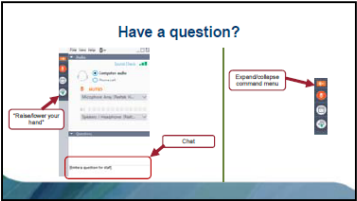
## Appendix B: Consultation slide deck (sample)

**Curriculum content measurement: Beyond the AU**  
2019 Consultation

Bob Dony, FEC, P. Eng.  
Chair, Policies and Procedures Committee  
September 9, 2019



**Have a question?**



**Outline**

- 1 Background
- 2 White paper timelines
- 3 White paper recommendations
- 4 National consultation objectives, process, and timelines
- 5 Next steps

**The purpose of accreditation**

"To identify to the member engineering regulators of Engineers Canada those engineering programs whose graduates are academically qualified to begin the process to be licensed as professional engineers in Canada."


-CEAB Accreditation Criteria and Procedures

**An "engineering program"**


"The engineering profession expects of its members competence in engineering as well as an understanding of the effects of engineering on society. Thus, accredited engineering programs must contain not only adequate mathematics, science, and engineering curriculum content but must also develop communication skills, an understanding of the environmental, cultural, economic, and social impacts of engineering on society, the concepts of sustainable development, and the capacity for life-long learning."

-CEAB Accreditation Criteria and Procedures

**3.4 and curriculum content measurement**




**Timelines**



**White paper**

- Submitted to all accreditation stakeholders for consultation
- Three recommendations

Available on Engineers Canada's website



**About the white paper**

- Provides a contextual examination of professional engineering in Canada (i.e. right-to-practice license, admission and exams, the minimum path) and where CEAB accreditation fits within this context.
- Documents the historical evolution of the CEAB's curriculum measurement criteria.
- Outlines challenges to the current approach to curriculum measurement and offers an alternate approach to:
  - Curriculum mix
  - Program length

**Recommendation 1**

Consult with regulators and other stakeholder groups to consider reducing the minimum program total in criterion 3.4.6 from 1,950 to 1,850 Accreditation Units.

**Program length: A model 4-year program**

- 8 semesters
  - 12.5 weeks of instruction per semester
    - 5 courses per semester
    - 3 hours of lectures per week per course
- Two modes of course delivery:
  - Standard lecture course (approx. 60% or 3 of 5 on average)
    - 3 hours of lectures and 1 hour of tutorials per week
  - Lab course (approx. 40% or 2 on 5 on average)
    - 3 hours of lectures and 2 hours of labs per week

**Our questions**

Recommendation #1  
On reducing the minimum program total in criterion 3.4.6 from 1,950 to 1,850 AUs:

- Can the model program schedule proposed in section 6.1 of the white paper be considered an adequate minimum for an engineering program for accreditation purposes?

**Recommendation 2**

Consult with HEIs, regulators, and other stakeholder groups to consider replacing the AU definition for the minimum curriculum elements in criteria 3.4.2–3.4.5 with the percentages from section 6.2 in the white paper.

**Curriculum mix: A percentage approach**

- Mathematics (M): 10%
- Natural sciences (NS): 10%
- Mathematics and natural sciences (M+NS): 22.5%
- Engineering science (ES): 12.5%
- Engineering design (ED): 12.5%
- Engineering science and engineering design (ES + ED): 50%
- Complementary studies (CS): 12.5%
- Other unspecified (O): 15%

**Our questions**

Recommendation #2  
On replacing the AU definition for the minimum curriculum elements in criteria 3.4.2–3.4.5 with the percentages from section 6.2:

- Does this added flexibility in determining the mix of curriculum elements address concerns raised by the HEIs regarding the use of the AU as the sole measure of curriculum content?
  - Would the regulators have confidence that all students from any program in compliance with the new criteria would be satisfactory for licensure?
  - Does the use of percentages in specifying what is an acceptable engineering program help in the assessment of non-CEAB applicants for licensure (as substantially equivalent to CEAB applicants)?
  - Are there further concerns or issues that such a change would raise?

### Recommendation 3

Perform an analysis with HEIs that use student-learning time in their definition of academic credit to consider establishing a learning time specification as an alternative minimum program total for criterion 3.4.6.

**National consultation**

The flowchart shows the following steps:
 

1. National consultation
2. Stakeholder consultation
3. Stakeholder consultation
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### National consultation: objectives

1. Inform stakeholders that a reduction in the minimum program total in criterion 3.4.6 from 1,950 to 1,850 AUs is being considered.
2. Inform stakeholders that replacing the AU definition for the minimum curriculum elements in criteria 3.4.2–3.4.5 with the percentages as proposed in the paper being considered.
3. Investigate stakeholder reaction to the report recommendations.
4. Consolidate and synthesize stakeholder feedback with the objective of putting forward a list of recommendations for implementation.
5. Identify barriers to change if the report recommendations are adopted.
6. Develop a reasonable implementation plan that accommodates the diverse viewpoints of stakeholders.

### Stakeholders to be consulted

- CEAB members
- CEQB members
- Canadian Federation of Engineering Students
- Dean's Liaison Committee of the NCDEAS
- Engineering regulators' councils/Boards of examiners/Academic review committees
- Higher Education Institutions
- National Admissions Officials Group (NAOG)
- National Council of Deans of Engineering and Applied Science (NCDEAS)

### Consultations: What to expect

- > We are working with stakeholders to schedule 1-hour webinars or face-to-face meetings with stakeholders.
- > During the consultations we will:
  - a) Paper's three recommendations
  - b) Ask 5 questions about recommendations 1 and 2
  - c) With your permission, audio record our conversation
  - d) Address your questions, hear your feedback, and consider your point-of-view
- > Notes from each meeting will be provided to stakeholder groups for verification

### Next steps

- We are scheduling meetings with groups of stakeholders
- This webinar has been recorded and will be available on our website:

Written responses can be submitted to: [accreditation@engineerscanada.ca](mailto:accreditation@engineerscanada.ca)

or by mail to:

elo Mya Warren  
Engineers Canada  
305-55 Metcalfe St.  
Ottawa, ON K1P 6L5

Submission deadline: October 4, 2019

2019 Consultation on the Curriculum content measurement: Beyond the AU white paper recommendations

<https://engineerscanada.ca/accreditation/consultation/AU-task-force>

### Have a question?

Stakeholder hub

Chat

Expand/collapse content items

### Thank you

For more information:  
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[engineerscanada.ca/accreditation](http://engineerscanada.ca/accreditation)