

122nd MEETING OF THE CANADIAN ENGINEERING QUALIFICATIONS BOARD

SATURDAY, April 1st, 2023

8:30am – 5:00pm ET

Hybrid meeting and workshop held at Delta Ottawa, Ottawa and via Zoom

AGENDA

	Agenda item	Scheduled time	Presenter
1	Opening of the meeting	8:30 a.m.	Margaret Anne Hodges
1.1	Call to order and introduction of attendees		
1.2	Approval of the agenda <i>Motion: That the agenda for the 122nd meeting of the Qualifications Board be approved as distributed.</i>		
1.3	Declaration of conflict of interest (attachment 1.3)		
2	Consent agenda (Attachment 2.2)	9:00 a.m.	Margaret Anne Hodges
2.1	CEQB members may request that an item be removed from the consent agenda for debate and deliberation. THAT the consent agenda motions listed below (i.e. 2.2 to 2.5) be approved in one motion.		
2.2	Approval of minutes of the previous meeting (attachment 2.2) <i>Motion: That the minutes from the 121st meeting of the Qualifications Board held on January 30, 2023, be approved as distributed.</i>		
2.3	Approval of the Complementary studies syllabus <i>Motion: That the revised Complementary studies syllabus be approved for publication on the Engineers Canada website.</i>		
2.4	Approval of the Chemical engineering Syllabus <i>Motion: That the revised Chemical engineering syllabus be approved for publication on the Engineers Canada website.</i>		
2.5	Approval of the Mechatronics engineering syllabus <i>Motion: That the revised Mechatronics engineering syllabus be approved for publication on the Engineers Canada website.</i>		

3	Review of action items from last meeting		Ryan Melsom
4	Committee and task force updates		Margaret Anne Hodges
4.1	Continuing Competence Committee	9:15 a.m.	Anil Gupta
4.2	Practice Committee	9:30 a.m.	Sam Inchasi
4.3	Syllabus Committee	9:45 a.m.	Kamran Behdinin
4.4	Admission Issues Committee	10:15 a.m.	Qing Zhao
4.5	Task Force on Software Engineering	10:30 a.m.	Ian Sloman
	<i>Motion: That the Task Force on Software Engineering be stood down, with gratitude.</i>		
5	National groups		Margaret Anne Hodges
5.1	National Admissions Officials Group update	11:00 a.m.	Amit Banerjee
5.2	National Discipline & Enforcement Officials Group update	11:30 a.m.	Patrick Marcoux
5.3	National Practice Officials Group update	11:45 a.m.	Delee Silvius
5.4	Comments from the regulators		Margaret Anne Hodges
	BREAK (12:00 p.m. – 1:30 p.m.)		
6	Information and discussion items from other Engineers Canada groups		Margaret Anne Hodges
6.1	Engineers Canada strategic priorities updates	1:30 p.m.	Stephanie Price / Jeanette Southwood
6.2	Report from the Canadian Engineering Accreditation Board	2:30 p.m.	Allan Stewart
6.3	Report on Engineers Canada Board activities and decisions	2:45 p.m.	Sudhir Jha
7	Other Qualifications Board business		Margaret Anne Hodges

MINUTES OF THE 122nd MEETING

1. Opening of the meeting

The chair welcomed everyone to the meeting.

1.1. Call to order and introduction of attendees:

<u>Canadian Engineering Qualifications Board Members</u>	Margaret Anne Hodges, FEC, FGC (Hon.), P.Eng., PMP	Chair
	Frank Collins, FEC, P.Eng.	Vice-chair
	Frank George, MBA, FEC, FGC (Hon.), P.Eng.	Past chair
	Anil Gupta, FEC, FGC (Hon.), P.Eng.	Alberta Representative
	Amy Hsiao, PhD, MBA, P.Eng.	Atlantic Provinces Representative
	Marcie Cochrane, MBA, P.Eng.	Member-at-Large Representative
	Kamran Behdinan, PhD, FAAAS, FASME, FCAE, FEIC, P.Eng.	Member-at-Large Representative
	Roydon Fraser, PhD, FEC, P.Eng.	Ontario Representative
	Samer Inchasi, P.Eng., PMP	Member-at-Large Representative
	Nadia Lehoux, ing., PhD	Québec Representative
	Ian Sloman, M.Eng., P.Eng.	Saskatchewan, Manitoba Representative
	Karen Savage, FEC, P.Eng.	British Columbia Representative
	Qing Zhao, PhD, P.Eng.	Member-at-Large Representative
Engineers Canada Board Appointee	Sudhir Jha, M.Eng., FEC, P.Eng. Marisa Sterling, FEC, P. Eng.	
Engineers Canada Board	Danny Chui, FEC, P.Eng.	
Canadian Engineering Accreditation Board	Allan Stewart P. Eng.	
Engineers Canada Staff	Stephanie Price, P.Eng., CAE	Executive Vice President, Regulatory Affairs

	Jeanette Southwood	Vice President, Corporate Affairs and Strategic Partnerships
	Ryan Melsom, PhD	Manager, Qualifications and CEQB Secretary
	Isabelle Flamand	Specialist, Qualifications
	Alison Peverley	Coordinator, Qualifications
	Mya Warken	Manager, Accreditation
	Elise Guest	Assistant Manager, Accreditation
National Admissions Officials Group	Amit Banerjee P. Eng.	APEGA
	Jason Ong	Engineers and Geoscientists BC
National Discipline & Enforcement Officials Group	Patrick Marcoux, ing.	OIQ
National Practice Officials Group	Delee Silvius, MBA, P.Eng., PMP	APEGS
Observers:	Adam Wallace P. Eng.	Tetra Tech
	Natasha Skea P. Eng.	APEGS
	Shanice Bryce	Engineers Nova Scotia

1.2 Approval of the agenda

Motion: That the agenda of the 121st Meeting of the Qualifications Board be approved as distributed was moved by Anil Gupta and seconded by Marisa Sterling. None were opposed. The agenda was approved.

- A CEQB member requested that the approval of the complementary studies syllabus be removed from the consent agenda.
- The CEQB Chair added item Section 8.1 discussing training opportunities that Engineers Canada can help the CEQB with.

1.3 Conflict of interest

CEQB members have an ongoing obligation to conduct themselves in an ethical, professional, and lawful manner, and to identify and disclose actual, reasonably perceived, and potential conflicts of interest. These obligations are set out in case law and are also codified in statute, under the *Canada Not-for-profit Corporations Act* ("CNCA"). Members that cannot act in the best interests of Engineers Canada or are conflicted should recuse themselves from the relevant part of the meeting, and they shall not vote on the decision at hand. Members must support the legitimacy and authority of CEQB decisions, regardless of their personal position on the issue, and shall not publicly discuss the varying opinions of individual members.

2. Consent agenda (attachments 2.2)

Motion: THAT the consent agenda motions listed below (2.2) be approved in one motion was moved by Kamran Behdinan and seconded by Amy Hsiao. None were opposed. The motion carried.

2.2 Approval of minutes of the previous meeting

A few minor edits to the minutes were sent ahead of time and will be made for the final version of the September minutes.

Motion: THAT the minutes from the 121st meeting of the Qualifications Board held on January 30th, 2023, be approved as distributed.

2.4 Approval of the Chemical engineering Syllabus

Motion: That the revised Chemical engineering syllabus be approved for publication on the Engineers Canada website.

Send the revised Chemical engineering syllabus for publication on the engineers Canada Website (**action item 122.1**).

2.5 Approval of the Mechatronics engineering Syllabus

Motion: That the revised Mechatronics engineering syllabus be approved for publication on the Engineers Canada website.

Send the revised Mechatronics engineering syllabus for publication on the engineers Canada Website (**action item 122.1**).

3. Review of action items from last meeting

	Action item	Assigned to	Status
121.1	Publish the Electrical and Mechanical Engineering syllabi on the Engineers Canada Website.	Secretariat	Complete
121.2	Send the CEQB Guideline on Indigenous consultation and engagement to the Engineers Canada Board for approval.	Secretariat	Complete
121.3	Send the CEQB Feasibility study on alternative methods of academic assessment for non-CEAB applicants to the Engineers Canada Board for approval.	Secretariat	Complete
121.4	Stand down the CEQB Task Force on Alternative Methods of Academic Assessment for Non-CEAB Applicants.	Secretariat	Complete
121.5	Send the Revised CEQB Guideline on good character to the Engineers Canada Board for approval.	Secretariat	Complete
121.6	Send the draft General direction for a guideline on duty to report be approved for regulator consultation.	Secretariat	Complete

121.7	CEQB members to submit 2024 work plan items by March 1, 2023.	Members	Complete
121.8	Distribute electronic approval of Engineers Canada paper on software engineering.	Secretariat	Complete
121.9	Distribute electronic approval of Amy Hsiao as EIT Committee Chair.	Secretariat	Complete

4. Committee and Task Force reports

4.1 Continuing Competence Committee

Anil Gupta, Committee Chair, presented:

Committee met on March 8 to review outline of the fitness to practice workshop to be held April 2nd.

- Focus will be on collecting information required to form the draft general direction.
- Among its topics, the guideline will likely cover:
 - Human rights considerations.
 - Protection of individuals' privacy.
 - Legislative and regulatory mandates and limitations.
 - Guideline/practice followed by other regulatory and organisations.
 - Recommendations for procedures for treatment of fitness to practice cases.
- While the final form is yet to be determined, the guideline may end up involving two phases:
 - A Regulator guideline, which would lay out the considerations for jurisdictions' guidance in this area.
 - A Public resource offering guidance on identifying and supporting fitness to practice issues (built on and in respect of the document's guidance).

4.2 Practice Committee

Sam Inchasi, Committee Chair, presented:

Final Guideline for engineers and engineering firms on Indigenous consultation and engagement will be presented to the Engineers Canada Board for final approval at their meeting in May.

- Presentations on the guideline at EG Manitoba's Ingenium conference (Oct 22) and at the AISES national gathering (Mar 23) were well received.
- In particular, the guideline's focus on relationship-building as a critical element for successful consultation is seen as a good step forward on addressing the TRC Calls to Action and UNDRIP (esp. calls for "free prior and informed consent (FPIC)").
- Plans are underway for a promotion/outreach strategy and a long-term improvement strategy following the publication in May/June.

A CEQB Member asked for more details on the Indigenous consultation and engagement strategy. While still in the early stages, we are currently planning to create quick guides in consumable, readable formats, and are considering creating supplementary documents, as well as promoting at conferences and gatherings.

Ongoing work items in 2023:

- Development of a Guideline on duty to report
- Review of the Guideline on conflict of interest
- Review of the Guideline on code of ethics
 - Regulators surveyed in January on key areas for improvement.

New work item assigned to the Practice Committee in 2023:

- Review of the 2014 regulator Guideline on principles for character investigations (Q3)

4.3 Syllabus Committee

Kamran Behdinan, Committee Chair, presented:

- Syllabi continue to be one of the most widely used CEQB products, presenting significant value for regulators.
 - CEQB regularly receives detailed feedback on syllabi, indicating a high level of engagement and value.
- All 2022 work is wrapping up with today's approvals:
 - Complementary studies syllabus
 - Chemical engineering syllabus
 - Mechatronics engineering syllabus
- All 2023 reviews are now underway:
 - 2007 Building engineering
 - 2017 Industrial engineering
 - 2017 Petroleum engineering

Many syllabi (7) could potentially come up for review in 2024:

- May need to be prioritized based on regulator feedback on other work items.
- Discussion at last Syllabus Committee meeting on how best to capture areas of knowledge that are advanced/applied (i.e. not basic studies), but that are being increasingly used across engineering disciplines (e.g. machine learning, AI)
 - Adding such cross-disciplinary topics to every syllabus increases potential for overlap and inconsistency as syllabi are reviewed and updated.
 - A related question, given the rate of change and numerous emerging fields, is whether it makes sense to keep thinking in terms of discrete disciplines long term.

A CEQB member asked about use of French textbooks. Syllabi guidelines request French textbooks when possible but they are not always available. **(Action item 122.2)**

2.2 Complementary Studies Syllabus

Kamran Behdinan, Syllabus Committee Chair and Amy Hsiao, working group Chair, presented:

The Syllabus Committee tasked a reviewer with expert knowledge to determine the extent of revision needed, and it was determined that an expert panel was required to contribute to the review. These experts were selected based on their experience as past Canadian Engineering Accreditation Board visitors and as Canadian HEI faculty members with knowledge of complementary studies. They conducted their review of the syllabus in summer/fall of 2022.

Panel revisions focused on clarification of description language; addition of content pertaining to effective communication; and improvements to descriptions of the human, social, economic, and

political factors that shape engineering decisions. These revisions were incorporated into the existing introduction and bodies of knowledge, rather than being introduced as additional bodies. Textbooks and web resources were revised and updated throughout.

Following the Syllabus Committee approval for consultation in December 2022, the revised syllabus was sent to the National Admission Officials Group (NAOG) and individual regulators for regulator consultation in January-February 2023. Several minor changes were suggested by regulators, and these have been incorporated into the syllabus presented today.

A correction to the feedback table was requested. **(Action item 122.3)**

Motion: That the revised Complementary studies syllabus be approved for publication on the Engineers Canada website was moved by Karen Savage and seconded by Sudhir Jha. None were opposed. The motion carried.

4.4 Admissions Issues Committee

Margaret Anne, CEQB Chair, presented on behalf of Qing Zhao, Committee chair:

- The revised Guideline on good character was approved by the CEQB in January and will be presented to the Engineers Canada Board for final approval at their meeting in May.
- The development of an Engineers Canada paper on emerging disciplines was assigned to the Admission Issues Committee as part of the CEQB's 2023 work plan.

4.5. Task Force on Software Engineering

Ian Sloman, Taskforce Chair, presented:

- Paper was unanimously approved by electronic vote in February.
- We are pursuing an expedited approval by the Engineers Canada Board on April 5 due to the paper's relevance to a pending legal case.
- Given that the work is complete, task force is ready to be stood down.

The CEQB had a discussion on how often this paper should be reviewed with the example that AI is advancing so quickly. It was requested that the Software task force identify gaps to be considered in the software papers next revision. **(Action item 122.4)**

Motion: That the Task Force on Software Engineering be stood down, with gratitude was moved by Ian Sloman and seconded by Karen Savage. None were opposed. The motion carried.

4.6 Executive Committee

Margret Anne Hodges, CEQB Chair, presented:

- Met in February to develop April CEQB meeting agenda and events, CEQB communications strategy, 2023 work progress, term limits.
- Recent presentations given to CEQB stakeholder groups:
 - Engineers Canada Board

- Canadian Engineering Accreditation Board
- National Admissions Officials Group
- National Discipline and Enforcement Officials Group
- National Practice Officials Group

5. National Groups

5.1 National Admission Officials Group

Amit Banerjee, NAOG Chair, presented:

NAOG met in September 2022 to discuss items such as:

- Challenges and new happenings (roundtable updates)
- Qualifications Board/Accreditation Board consultations and updates
- EGBC/PEO/APEGA online technical exam pilot
- Competency Based Assessment System updates and potential improvements
- Refugee considerations, and more

Other NAOG/Admissions related updates and advancements since September 2022:

- The new and improved National Membership Database (NMDB) was launched in October 2022
- A new NAOG sub-group called the “Time Based Experience Group” was formed to share ideas, information, research and opportunities for potential changes or reductions of the current time based experience requirements that are part of the licensure assessment process in Canada.

At their upcoming meeting, discussions will include:

- Roundtable updates, including an overview of the substantial changes being introduced at PEO
- Updates and consultations from CEAB, CEQB, EC Strategic Priorities work, and more
- Updates from the “Time-Based Experience Group”
- Competency Based Assessment features and updates
- Other operational items

5.2 National Discipline and Enforcement Officials Group

Patrick Marcoux, NDEOG Chair, presented:

NDEOG has virtually met twice since the last update (in November 2022 and in March 2023). Discussions have included:

- Regulator roundtables, current case volumes and activities
- CEQB updates and consultations
- Title enforcement practices, messaging for proper licensure requirements for engineer job posts, discipline case triaging and more

A sub-group of NDEOG, termed the “Software Engineering Collaboration Group” has been meeting monthly to discuss and identify opportunities to reduce the ongoing misuse of title in the software engineering industry.

5.3 National Practice Officials Group

Delee Silvius, NPOG Member, presented:

The Practice officials met in person in November 2022 and virtually in March 2023. Discussions included:

- Roundtable updates
- CEQB updates and consultations
- Potential for increased alignment of corporate registration requirements
- New regulator CPD programs implementations, and best practices for CPD program components
- Different processes for the identification, development, and approval of new regulator guidelines and standards

5.4 Comments from the regulators

- APEGA and EGBC provided updates regarding steps towards prioritizing immigration and removing barriers across all professions.

Farewell and Thank you to outgoing CEQB Members

Margaret Anne Hodges, CEQB Chair, presented:

The CEQB thanked outgoing members:

- Sudhir Jha
- Roydon Fraser
- Frank George

6. Information and discussion items from other Engineers Canada groups

6.1 Engineers Canada 2022-2024 Strategic Priorities

Stephanie Price, Executive Vice-President, Regulatory Affairs and Jeanette Southwood, Vice-President, Strategic Partnerships and Corporate Affairs, presented.

There was a presentation on Engineers Canada's current Strategic priorities.

6.2 Canadian Engineering Accreditation Board report

Allan Stewart, CEAB Member, presented:

Visits:

- 2022/2023 cycle: 81 programs at 25 institutions
- 2023/2024 cycle: 30 programs at 13 institutions

2023 workplan

- *Temporary exemption for students going on international exchange* approved February 2023. Implementation underway.
- Other policy work paused until 2025 while Strategic Priority 1.1 is underway. Wrapping up work-in-progress:
 - 30 by 30 consultation report (target: June)
 - Alternative methods for quantifying curriculum content (target: June)
- Training documentation and resources
 - Role descriptions for visiting team members and CEAB assignments

- Decision-making tools and processes
- Re-refresh of visit tools and templates (visiting schedule template, visit report working file, Exit statement, etc.)
- Implement Tandem (web-based accreditation data management system) targeted for 2024/2025 visit cycle

Revised IEA Graduate Attributes

- Engineers Canada is a signatory of the Washington Accord
- *International Engineering Alliance (IEA) Graduate Attribute and Professional Competency Framework* is a foundational document for the Accord
 - Signatories must demonstrate ‘substantial equivalency’ to the IEA Framework
 - CEAB Graduate Attributes must be substantially equivalent to those of the IEA
- 2019 working group with members from the IEA, the World Federation of Engineering Organizations (WFEO), and UNESCO updated the framework.
 - Professional competencies now include digital literacy, data analysis
 - References United Nations’ Sustainable Development Goals (UNSDGs)
 - New emphasis on cultural competence, inclusivity, and continuing professional development

2023 CEAB Workplan

- Study the new Framework and map current CEAB Graduate Attributes to new framework
- Gap analysis and implementation plan by end of 2023
 - Report on-going progress to the IEA
- Example of 2021 IEA Framework revision

6.3 Report on Engineers Canada Board

Sudhir Jha, Board appointee. Presented:

Approved at the February 23, 2023 meeting:

- 2023 CEO objectives
- CEAB’s ‘Temporary exemption for students going on international exchange’

Upcoming – Board will consider approval of 4 major CEQB documents

- Revised Engineers Canada paper on the professional practice of software engineering (April 5)
- New Guideline for engineers and engineering firms on Indigenous consultation and engagement (May)
- Feasibility study on alternative methods of academic assessment for non-CEAB applicants (May)
- Revised Guideline on good character (May)

7. Other Qualifications Board business

Margaret Anne Hodges, CEQB Chair, presented:

7.1 Overview of current CEQB work

An overview of current CEQB work was provided.

7.2 Key Trends Affecting Professions

Key trend affecting professions were discussed.

7.2 2024 priorities discussion

Proposed topics:

- Marcie Cochrane
 - New public Guideline on fundamentals of consultation and engagement
- Qing Zhao
 - New public Guideline on the use of new technologies in engineering
- Amy Hsiao
 - New public Guideline on the assessment of organizational and team performance
 - New Engineers Canada paper on principles for a sustainable engineering profession

The CEQB members voted and the new public Guideline on fundamentals of consultation and engagement and the new public Guideline on the use of new technologies in engineering received the most votes.

Motion: That the new public Guideline on fundamentals of consultation and engagement and the new public Guideline on the use of new technologies in engineering be put on the 2024 priorities list and distributed for consultation was moved by Ian and seconded by Kamran. None were opposed. The motion carried. (Action item 122.5)

A CEQB member requested that we keep a record of proposed workplan items to re-visit each year so that proposed items that were not included on CEQB work plans can be revisited in following years.

(Action item 122.6)

7.3 Vice-chair election process

Sudhir Jha, Board Director, presented:

- The upcoming vice-chair role will run from July 1, 2024 to June 30, 2025.
- While this position is for one-year only, the successful candidate will be expected to remain for the chair, and past chair positions (pending Engineers Canada Board approval), for a total of three years.
- Nominations due to Ryan by June 15, 2023.

8. Items added to the agenda

8.1 CEQB Training opportunities supported by Engineers Canada

The group brainstormed:

- Myers Briggs, MBTI, NEO and VIA or similar types of training.
- What is Machine Learning VS. AI
- Sending CEQB members to 30 by 30
- Would like to get recommendations from Coeuraj: who are guiding the Futures of Engineering and Accreditation on what they think would benefit the CEQB.

9. Comments from observers

- An observer requested that we include reference numbers on agenda book documents **(Action item 122.7)**.
- An observer requested slides be distributed prior to the meeting going forward **(Action Item 122.8)**.

9. Future Meetings

CEQB Spring meeting: April 1-2, 2023 (Ottawa)

CEQB Teleconference call: July 2023 (Date to be determined by Doodle poll)

CEQB September meeting: September 17-18, 2023 (Edmonton)

CEQB January meeting: January 2024 (Date to be determined by Doodle poll)

10. Review of action items of 121st Qualifications Board meeting

Action item		Assigned to
122.1	PUBLISH chemical, complementary, and mechatronics syllabi on the website.	Secretariat
122.2	Syllabus Committee to: • CONSIDER Improving process around finding French textbooks. • DISCUSS syllabus reflection at next committee meeting.	Secretariat
122.3	CORRECT item 1.12 in the Complementary studies feedback table.	Secretariat
122.4	REQUEST that the Software task force identify gaps to be considered in the software paper's next revision.	Secretariat
122.5	SEND 2024 CEQB work plan priorities for consultation.	Secretariat
122.6	KEEP A RECORD of past workplan proposal items going forward.	Secretariat
122.7	INCLUDE reference numbers on agenda book documents.	Secretariat
122.8	DISTRIBUTE slides prior to the meeting going forward.	Secretariat
122.9	DISTRIBUTE documents requested at the meeting, where available: ○ Regulators guideline on the use of syllabi ○ Managing transitions guideline ○ Washington Accord information ○ 30 by 30 virtual session sign up' ○ Engineers Canada paper on autonomous systems ○ Benchmarking accreditation report ○ Current and Emerging Practices in Engineering Education	Secretariat

10. Conclusion

The meeting concluded.

Recording of meeting are deleted once meeting minutes are approved.

Prepared by: Alison Peverley, Coordinator, Qualifications on behalf of:



Margaret Anne Hodges, FEC, FGC (Hon),
P.Eng., PMP
Chair, Canadian Engineering Qualifications
Board



Ryan Melsom, PhD
Secretary, Canadian Engineering
Qualifications Board