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## MINUTES

### ACADEMIC REQUIREMENTS COMMITTEE (ARC)

Friday, December 7, 2018

#### PRESENT

##### Members

Leila Notash, Chair  
R. Subramanian, Vice-Chair  
Remon Pop-Iliev  
Amin Rizkalla  
Sanjeev Bhole  
John Yeow  
Joe Lostracco  
Amir Fam  
Shamim Sheikh  
Stelian George-Cosh  
Judith Dimitriu

Jüri Silmberg  
Ian Marsland  
Waguih ElMaraghy  
Medhat Shehata  
Michael Hulley  
Bob Dony  
Ross Judd  
Roydon Fraser  
Allen Stewart  
Gosha Zywno

##### Staff

Michael Price  
Moody Farag  
Pauline Lebel  
Faris Georgis  
Anna Carinci Lio  
Esther Kim  
Irene Zdan  
Claire Riley

##### Regrets

Meilan Liu  
Barna Szabados

George Nakhla  
Magdi Mohareb

##### Guests

President David Brown  
David Kiguel, ERC Chair  
Changiz Sadr, ERC Vice-Chair

#### 1. Call to Order and Chair's Remarks

The meeting was called to order by Chair Leila Notash at 10:30 AM. She welcomed everyone to the meeting. She thanked the Committee members and PEO staff for their support over the past 3 years and said that it was a pleasure to serve as the ARC Chair. She congratulated the newly elected Chair Ramesh Subramanian and Vice-Chair Waguih ElMaraghy who will begin their term in January 2019. Members applauded the Chair in recognition of her dedication and invaluable contribution to the ARC and PEO.

The Chair reminded members about Certify, PEO's online system for reporting volunteer expenses. The system has been accessible since the summer of 2018 to conveniently accommodate submitting expenses online. There is also an app available for upload to cellphones. The chair encouraged members to use the Certify system.

She acknowledged three ARC members who received volunteer service awards for their commitment and contributions to PEO and the ARC: John Yeow with 10 years of volunteerism experience, and Al Stewart and Medhat Shehata with 5 years.

President Dave Brown joined the meeting and was welcomed by the Chair. PEO pins and certificates of recognition were presented to the award recipients and their photos were taken with both President Brown and the Chair. President Brown remained at the meeting for a few minutes citing that he wants to sit in on committee meetings to observe how each functions.

**2. Approval of the Agenda**

Another item was added to the agenda: Item 8.9 – Motion for Experience Since Graduation to be presented by Roydon Fraser.

**MOTION**

It was **moved by** Waguih ElMaraghy and **seconded by** Ramesh Subramanian that the agenda be approved as amended by unanimous consent.

**CARRIED**

**3. Approval of the November 23, 2018 Minutes**

David Kiguel referred to bullet 4 of Item 8.8 – the Experience Requirements Committee (ERC) Report. The Competency-Based Assessment Presentation by Pauline Lebel, Manager, Licensure, will be included as part of the ERC training workshop on December 13, 2018, and not presented following the workshop.

**MOTION**

It was **moved by** Bob Dony and **seconded by** Jüri Silmberg that the minutes of the November 23, 2018 meeting be approved as amended by unanimous consent.

**CARRIED**

**4. Matters Arising from the Minutes**

There were no matters to discuss.

**5. Chair's Report**

The Chair said she had reported on items in her opening remarks and that there was nothing further to report.

## 6. Deputy Registrar's Report

Deputy Registrar Michael Price reported the following:

PEO received a letter, dated November 13, 2018, from Christopher Rosati, Acting Director, Office of the Ontario Fairness Commissioner (OFC). Mr. Rosati raised the issue that there are 4 outstanding items resulting from the OFC's 2017 assessment of PEO and that if PEO did not respond to these issues within a certain time frame, the OFC could issue a Compliance Order under their Legislation.

PEO senior staff met with the OFC Acting Director Christopher Rosati and Compliance Analyst Peter Youssef on December 3, 2018 to discuss the 4 items. Presently, the OFC is asserting that PEO has not met the compliance requirements outlined for the following items:

1. ***Develop a policy to ensure internal review of applicant files are not completed by the same assessor who completed the initial review.*** From discussion with the OFC, it seems that the policy is not simplified enough for them to comprehend. The OFC is considering asking PEO to either modify the existing policy or request a summary-type document that describes the policy.

The first two components of internal interviews are straightforward, and the OFC seems to agree.

- a) If an applicant wants a review of their assessment, providing the applicant has new information, the assessment will go back to the original assessor because they were not initially reviewed as having as full a file as with the new information.
- b) If an applicant is unsatisfied with their assessment but does not have new information and wants another assessor to review their assessment, PEO will seek to provide a new assessor in the applicant's particular discipline. However, in the case of having only one assessor – the initial assessor – in the applicant's discipline, the file would be provided to the ARC Chair or Vice-Chair who will then discuss the file with the full Committee after their review.

The OFC did not think that the policy was worded as clearly as one not familiar with the process. The OFC will work with PEO's Communications Department to create a document that is acceptable.

2. ***Engage a psychometrician to review the PPE to confirm validity.*** PEO issued a Request for Proposals and signed a contract to have an assessment completed by mid-January 2019. By engaging a psychometrician, PEO will have fulfilled this particular OFC requirement. The OFC requested a copy of the contract signed between PEO and the psychometrician. PEO will evaluate the assessment and determine whether there are any potential PPE changes to initiate.
3. ***Implement guidelines for decision-makers that include clear direction on what to do if they find themselves in a situation of potential bias.*** Previously, PEO provided policies that both the ARC and ERC approved on

this issue last year. However, the OFC is requesting “**remedial action to be taken to record what constitutes bias, types of bias and the need to avoid bias in appropriate policy documents and training manuals.**”

The ERC documents refer to the Ontario Human Rights Code. The Deputy Registrar opined that the OFC may be looking at matters of systemic bias, which is not referenced in either of the ARC or ERC documents submitted. Since PEO is not clear as to what the OFC identifies as “types of bias,” the OFC will provide PEO with what the OFC views as the types of biases they want articulated in PEO policies. Once the OFC identifies these specific biases, they will be presented to the ARC and ERC for resolution at their February 2019 meetings and incorporated into whichever documents deemed necessary.

4. **Develop and articulate timelines for responding to applicants’ enquiries and requests in writing.** PEO discussed that this would be based on PEO having an actual monitoring system in place – which it does not have – specifically, the online licensing system. Upon further review, when PEO looks at the original recommendation that the OFC brought forth in 2017: **The OFC understand that PEO will establish timelines and take measures to follow and monitor adherence following the implementation of the online licensing system.**

The Deputy Registrar opined that this OFC request seems premature relative to the recommendation from 2017 since PEO has not implemented an online licensing system. Although, the OFC has the right under its Legislation to instruct PEO to provide responses to applicants’ enquiries within a reasonable time frame. PEO suggested posting the time frames that it had previously communicated to the OFC on these types of enquiries on its website. The OFC has taken this under advisement.

The original monitoring concept was based on PEO having an online licensing system, so it would know when documents are received, when applicants are contacted, and to have the capability of sending applicants automated notices. Currently, PEO still has a very paper-intensive process. To put resources into reviewing 5,500 new applications each year to determine how quickly staff did or did not respond to applicant enquiries would require substantial staff and IT resources to capture this information since most of it is contained within paper files.

PEO is expecting to receive feedback from the OFC regarding the above-noted issues that it intends to relay to the ARC at its January 2019 meeting. Depending on the OFC feedback, the bias policy may have to be revised and, as well, the appeals process document may have to be modified.

## **Endorsements**

### **7.1 Reading Assignment of Technical Reports/Synopses**

There was one synopsis:

**Mechanical Engineering** — Title: Designing an IP6X Complaint [spelling error?] Electronic Device Enclosure Using Elastomer O-Ring Type Seals: submitted by applicant with File Number 100145333. It was reviewed by Waguih ElMaraghy and rejected. The reviewer stated that the synopsis was poorly written and there were several deficiencies in the analysis in terms of engineering methods and technical references. The assessment of the synopsis will be relayed to the applicant.

## **7.2 Issues Arising from ARC/Deputy Registrar Recommendations**

There were no issues to report.

## **7.3 Issues Arising from ERC Recommendations for Applicants Referred by ARC**

There were no issues to report.

## **8. Procedural and Related Matters**

### **8.1 Licensing Committee (LIC) Update**

The LIC Chair Barna Szabados was not present, however, there was no LIC meeting since the November 2018 ARC meeting.

### **8.2 Canadian Engineering Accreditation Board (CEAB) Update**

Bob Dony reported the following:

- Ramesh Subramanian will be the new PEO Representative on the CEAB as of December 10, 2018 for a three-year term.
- On behalf of the CEAB, he attended the Annual Graduate Attribute and Curriculum Improvement Process Summit at the University of Toronto on December 6, 2018.
- Moody Farag reported that the CEQB is splitting the Biochemical and Biomedical syllabi and will focus on developing a new Biomedical syllabus. The CEQB will eliminate the Biochemical and Structural Engineering syllabi as there are no such programs in Canada. They will also take this approach with any syllabus that comes up for review and they find there is no CEAB program in the particular discipline, they will not move forward with a review. Members discussed the implications of the CEQB eliminating certain syllabi. As well, reference was made as to how splitting syllabi and board sheets could create potential barriers for applicants.

### **8.3 Canadian Engineering Qualifications Board (CEQB) Update**

Roydon Fraser reported the following:

- The CEQB is now looking at the syllabi with less rigidity in areas listed, e.g., years of knowledge, exams listed. As such, there is no need for transcripts to have an exact one-to-one match. The general concept is to consider the exams as a pool from which one can measure abilities at the different A and B exam levels. This concept will be useful when assessing nonconventional engineering programs that do not have adequate board sheets such as food engineering or aeronautical engineering.
- The CEQB has been tasked with coming up with a model guide on how to use the syllabi and he opined that this guide seems to be narrowing down to what is being done at the ARC. There are two issues of difficulty for which he is requesting input from the ARC.
  - a) What is compatible in the description of what a university curriculum looks like and what the ARC does with its current syllabi? When referring to A-level exams – core exams within university curriculums – assessors are having difficulty understanding how to identify A-level exams and the 6 areas of coherent, distinct areas of knowledge. What is core? How is this communicated to someone who is not familiar with designing curriculum?
  - b) How are the five, six, seven areas of A-levels, core subjects, that define an engineering discipline, specialization? How does one distinguish a core exam from a non-core area of study in engineering – and make it coherent?

Members discussed varying points of view.

- For example, the majority of civil engineers who graduate with a degree in civil engineering would be expected to have competency in the six areas that are defined by the A-level exams. There are more specialized courses in the B-level because someone in a 3rd or 4th year of study because they may have a specialized area of interest. These are areas not all civil engineers would be expected to know.
- Traditional civil engineering topics that have been in practice for years have not changed. Previously, the ARC, with a consensus of experts, took an A-level course and put it in the B-level group because of evolving disciplines. As an example, 15 years ago, an environmental course was not on the list of core exams, but it is today. Whereas transportation planning used to be on the list of core exams but was removed because it is becoming less relevant. The “core” is not static, it evolves with time.
- Roydon Fraser paraphrased member feedback: Emerging disciplines can present potential issues with regard to designing curricula; there is a need for a consensus of experts to define core courses; the syllabi have to communicate with fluidity and “flavour” and not rigidity. He welcomed more input from members and will keep the ARC updated on any syllabi changes initiated by the CEQB.

#### **8.4 Engineering Competency-Based Assessment Presentation**

In a comprehensive PowerPoint presentation, Pauline Lebel, Manager, Licensure, covered the following:

- **The Purpose of a Competency-Based Assessment:** Clarity; Transparency; Equity; Consistency; Defensibility.

**Background:** In 2010, Engineers Canada (EC) began development of a competency-based assessment process with input from engineers and associations across Canada. In 2012, Engineers and Geoscientists British Columbia (EGBC) launched an online competency-based assessment system for evaluating its engineering applicants. In 2016, EC partnered with EGBC to develop a new on-line system that allows applicants competencies to be assessed on-line.

- **EGBC Model:** the current model consists of 34 competencies divided amongst 7 competency categories: Technical; Communication; Project and Financial Management; Team Effectiveness; Professional Accountability; Social, Economic and Sustainability; and Personal Continuing Professional Development.
- **EC Model:** Seven competencies with indicators for each: Apply engineering knowledge, methods and techniques; Use engineering tools, equipment and technology; Protect the public interest; Manage engineering activities; Communicate engineering information; Work collaboratively in a Canadian environment; Maintain and enhance engineering skills and knowledge.
- **ERC Model:** The ERC approved five overall competencies with indicators for each: Application of Theory; Practical Experience; Management of Engineering; Communication skills; Social Implications of Engineering. The ERC is working on developing the implementation process. The competency model will be used during ERC interviews and will be the basis for developing a semi-structured process. Information on the competencies and indicators will be provided to applicants to help them prepare for the interview. A pilot on the process is scheduled for 2019.

At the end of the presentation, members engaged in discussion as to how the competencies and indicators apply to PEO's assessments of applicants, from the ERC interview stage to the experience stage; shared their comments relevant to the scope of the competency models. Pauline Lebel then addressed the Committee's questions. The presentation material also included a document expanding on the five competencies approved by the ERC; the EGBC list of 34 competencies and generic indicators; and the final 2012 EC report of the *Competency-Based Assessment of Engineering Work Experience Project*.

The Chair requested that an electronic copy of the presentation be emailed to members.

## 8.5 **ARC Distance Education (DE) Sub-Committee**

DE Subcommittee Chair Waguih ElMaraghy reported the following:

- The DE Sub-Committee did not hold a meeting prior to the ARC meeting because two members were not present.
- The Subcommittee will follow up on its March 2018 report at the January 2019 ARC meeting with a PowerPoint presentation. Members will answer questions about graduate attributes versus competencies, versus board sheets.

- He remarked that, according to a recent Harvard study, only 15% of the job responsibilities of engineers relate to the technical subjects. The CEAB has graduate attributes but the CEQB does not. How does a DE applicant get practical experience in the use of engineering tools? From the academic and credentials points of view, how will the ARC make these decisions related to what is expected of DE applicants? He asked members to think about these questions and to propose tentative answers.
- He thinks the current DE process will have to be revised and a framework agreed upon that will require consensus about direction and how the ARC will proceed in the case of a different DE process. He also suggests looking at a minimum set of competencies where there could be remedial work required by DE applicants.
- There was some discussion about treating DE applicants the same as all others, however, there was concern expressed regarding the verification of the veracity of the transcripts and documents submitted, a reduced risk of quality assurance in the accreditation process. Members also discussed the equivalency of foreign-trained applicants in comparison to the academics and attributes of CEAB graduates.

#### 8.6 **Ryerson University – Internationally Educated Engineers Qualification Bridging (IEEQB) Program**

Admissions Manager Moody Farag reported the following:

- The ARC originally worked with Ryerson University in 2007 on the development of the IEEQB Program. The program is intended specifically for licensure applicants to whom PEO has offered a Confirmatory Examination Program. When enrolled in the program, applicants are assigned 8 or 9 courses depending on their discipline. Upon successfully completing the program, applicants are deemed to have met PEO's academic requirements and are eligible to write the Professional Practice Examination (PPE).
- Since 2007, approximately 259 applicants completed the program. Currently, there are 51 applicants enrolled in the program at Ryerson University which takes between one to two years to complete depending on the availability of the courses. All of these courses are accredited CEAB courses.
- PEO regularly reviews and updates the syllabi and in some cases, it is just a matter of changing course codes or proposed combinations of courses. The content remains the same. He presented 2 courses for ARC approval of changes to course combinations and approval to add 3 new exams to the Computer Engineering Program. Motions were introduced for each.

#### **MOTION**

It was **moved by** Medhat Shehata and **seconded by** Ramesh Subramanian that the Ryerson University IEEQB Industrial Engineering Program course combinations be approved as amended by unanimous consent.

**CARRIED**



## **MOTION**

It was **moved by** Allen Stewart and **seconded by** Gosha Zywno that the Ryerson University IEEQB Environmental Engineering Program course combinations be approved as amended by unanimous consent.

**CARRIED**

Ryerson University sought ARC approval to add 3 exams to its IEEQB Computer Engineering Program. Moody Farag presented the information to Electrical and Computer Software ARC members Bob Dony, Barna Szabados and Jüri Silmberg. The feedback he received was positive.

## **MOTION**

It was **moved by** Bob Dony and **seconded by** Jüri Silmberg that Ryerson University add Examinations **17-Comp-B4**, **17-Comp-B12** and **17-Comp-B13** to its IEEQB Computer Engineering Program by unanimous consent.

**CARRIED**

### **8.7 Experience Requirements Committee (ERC) Report**

ERC Chair David Kiguel reported the following:

- The ERC did not have any meeting since the November 2018 ARC meeting.
- The next ERC meeting will be held on December 12, 2018. In the morning, there will be a training session for ERC members and others who wish to attend. The business meeting will take place in the afternoon.
- Council approved ERC member Bill Jackson's induction into the PEO Order of Honour at the Officer level. ERC member Rabiz Foda will also be inducted. Both members will be recognized at the PEO Order of Honour Awards Gala on May 3, 2019. He commented that it is a well-deserved recognition for the many years of volunteer service Messrs. Jackson and Foda have dedicated to PEO.
- In 2018, the ERC and the LIC approved a proposal to remove the requirement of the 30 hours of the physical presence of the monitors of the Engineer-in-Training (EIT's) working for companies that do not have a P.Eng. to supervise them. The guideline has a clause that requires monitors to be physically present at the EIT's workplace for 30 hours per month.

The ERC wrote a briefing note to Council to approve the motion to amend this guideline, however, on the advice of staff, President David Brown decided not to include the briefing note on Council's September 2018 agenda. Under President Brown's direction, the ERC was requested to seek peer review by the Professional Standards Committee (PSC). He wrote a letter to the PSC Chair in September and included it in their November 2018 meeting. He received a reply from the PSC Chair requesting the original documents which outline the purpose of the monitor process; and the original legal review obtained by the ERC regarding whether the current legislative framework permits

PEO to explore such policy alternatives as the monitor process. The ERC has yet to respond to the PSC's requests and will consider giving the briefing note once again to President Brown to present Council.

### **8.8 Motion to Clarify Referrals to the ERC – With Clock Starting at Time of Graduation**

Roydon Fraser commented on the following:

- When referring an applicant to the ERC, the Procedures Manual of the Academic Requirements Committee (the Red Book) states that the ARC may refer applicants to the ERC for an assessment of their academic knowledge, gained through five to tens years of engineering experience, to determine whether any basis exists for granting relief from examinations.
- In Section 5 of the Red Book, it states: *Council has approved a recommendation whereby only applicants with five or more years of experience may be invited to attend an ERC interview for a determination of possible relief from examinations based on experientially-gained engineering knowledge.*
- He suggests changing the wording from “5 years experience” to “5 years post-graduation” and to make this consistent throughout the Red Book. He opines that experience does not have to be work experience. A person who is not working could be participating in self-learning. As for academics, the ARC wants to know if one has the knowledge.
- To make this change, consideration would have to be given to how this would impact how the ERC conducts its interviews.
- If the ARC decides that this would be a policy direction, then the Committee would prepare a briefing note to be presented to Council. He would like to bring this forth at the next ARC meeting.

### **9. New Procedural Matter(s) for Discussion**

There were no items to discuss.

### **10. Other Business**

The Chair wished everyone happy holidays. And again, members applauded her for her term as ARC Chair and her years of dedication and commitment to the ARC.

### **11. Adjournment**

The meeting adjourned at 12:45 PM

**Next meeting: January 18, 2019**