

Western Canada's Electronics Engineering Technology Articulation Meeting

Minutes

BCIT 3700 Willingdon Ave, Burnaby, BC
SW1 - 3188

June 7 – 8, 2018

Attended by:

Member	Institution	Contact
Joe Carey	Red River College	jcarey@RRC.CA
David Williams	Okanagan College	DWilliams@okanagan.bc.ca
Alan Duncan	Camosun College	duncana@camosun.bc.ca
Tim Schneider	SaskPolyTech	SCHNEIDER@saskpolytech.ca
Matt Tracy	NAIT	MATTHEWT@nait.ca
Jeff Bloemink	BCIT	jbloemink@bcit.ca
Chris Goetz	BCIT	Chris_Goetz@bcit.ca
Craig Cowan	BCIT	Craig_Cowan@bcit.ca
Visitors:		
David Leversage (Program champion, industrial network security)	BCIT	David_Leversage@bcit.ca
Rich Beketa (First year program head)	BCIT	Rich_Beketa@bcit.ca
Bob Gill (Telecom program head)	BCIT	Bob_Gill@bcit.ca
Forrest Tittle (Dean, School of Energy)	BCIT	forrest_tittle@bcit.ca

Thursday, June 7

1. 9:45 Call to Order

2. Introductions/welcome

- New Members/Guests: Jeff Bloemink, Chris Goetz – BCIT
Matt Tracy - NAIT
- Regrets: SAIT

3. Approval of Agenda

Moved by Chris Seconded Jeff
Carried

4. Approval of Previous Minutes of the Articulation Committee meeting of June 16 – 17, 2017

Moved by: Tim, Seconded: Jeff
Carried

5. Business Arising from Previous Minutes

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11:00-13:00 School of Energy Lunch

The School of Energy is having an employee appreciation lunch and everyone is invited to meet and socialize with other faculty. This will feature an inspirational story of grit, resilience and teamwork as Martina and Tania Halik (mother and daughter) recount their epic six month ski traverse of BC's Coast Range from Squamish to Skagway, a distance of 2300 km.

Tacos were served

6. 14:30 Institutional reports

Institution/Name: Okanagan College / David Williams

- The enrollment is steadily growing
- At full capacity of 34 students (2 sections of 17 students)
- Of the six spots reserved for international students, only one used (those not used are taken by domestic applicants).
- Have a significant program redesign they are beginning (which has required some release for instructional staff). Targeting a curriculum redesign in 2018.
- Still accredited by CTAB but did decide to go through TAC accreditation process sooner rather than later. The value of feedback from TAC has been useful so far. The audit process was a full day and included interviews with faculty, students, and lab inspections. It is recommended that institutes perform the TAC accreditation process all at once for all technology programs rather than individually as there are many efficiencies that can be created this way.
- College is really pushing applied research within the electrical field
 - e.g. IoT applied to sustainable agriculture is an area of interest

7. 15:30 – 17:00 Technical Tour

Schneider Electric Solar Division – this facility is a short walk from campus.

Tour provided by John Vail, laboratory manager and former student Amrit Nagi. Tour was focused on reliability testing facilities and assembly floor for 2 MW inverter units (used for large solar farms/plants) as opposed to other solar business lines targeting residential/commercial and mobile applications.

Friday June 8

8:45 - 9:00 Gather and socialize (Coffee, tea and muffins)

8. 9:00 Institutional reports

Institution/Name: BCIT / Chris Goetz, Jeff Bloemink

- BCIT is still evaluating at the institute level which accreditation option to pursue but for the time being remains unaccredited.
- International: BCIT caps International enrollment at 20% per department – ECET is appx at this level
- A Diploma Curriculum Committee has been struck to manage change requests for shared first-year courses. The first year is shared among three 2-year Diploma options and the 4-year BEng. All First Year courses' learning outcomes were reviewed to better reflect what was being covered and taxonomy was standardized to indicate depth of learning for each outcome.
- The industrial network security program being developed was mentioned and later discussion was had with the program champion, David Leversage

9. 10:00 Institutional reports

Institution/Name: Camosun College / Alan Duncan

- Have recently purchased less expensive Rigol equipment (MSO1104Z 100 MHz 'scope) to replaced 20+ year old HP/Agilent scopes in 5 labs.
- Design for manufacturing course includes 3D printing. We now have 6 units in a separate labs space which students can also use in their projects course.
- Finding technical support staff (technologists) with the right mix of skills (both IT and electronics) has been a challenge and they are still searching
- Camosun is also looking at a new VR/AR content development program.
- Have been running some industry services courses for DND and looking at maintenance staff training courses for staff at dockyard.
- Starting a marine electrical program, sharing first year.

12:00 - 13:00 Catered Lunch

10. 13:00 - 14:00 Tour of ECET lab facilities

Several of BCIT's ECET laboratory facilities were toured: telecom and wireless communications laboratories, automation and instrumentation, machines lab, manufacturing course laboratory, integrated grid laboratory and the unit operations (heat exchanger) lab.

11. 14:00 Discussions topics

- a. Coverage of basic analog devices like the BJT, JFETS, and MOSFETs

General feeling was that discrete devices are still useful for teaching analog circuit concepts such as superposition, small signal amplification, and for understanding different power amplifier classes. BJTs and sometimes JFETs tend to be better for small signals and therefore lend themselves to coverage in amplifier applications, where as MOSFETs are typically covered in switching (on/off) applications by most institutions.

Most indicated that other semiconductor devices (IGBTs, SCRs, Triacs) are saved for power electronics courses as opposed to introductory device courses.

That said, it was mentioned that analog circuit development (as described by TAC) could include IC integration as opposed to building transistor-level devices which suggests a relaxed requirement with respect to training and knowledge of discrete devices.

- b. TAC – Safety

Relating to TAC audits and safety, it was indicated by those institutes now familiar with the process that the students understanding of safety is important and during the laboratory tours that auditors will tend to look at safety issues. There was not much direct discussion (with faculty) about safety issues encountered in industry during site visits, however this may have been addressed in student interviews.

- c. Industrial Data Comm. & Network Security

The new program being developed by BCIT jointly with the School of Energy and School of Computing was introduced and discussed by David Leversage. David will have release to develop this program during the next academic year and hopes to start intakes in Sept. 2019.

12. Next year's meeting location

Victoria (Camosun)

13. Review of action items and meeting adjournment.

Motion to adjourn: David, 2nd: Jeff

Carried.

(AI) Jeff, Chris to organize notes/minutes and send out to all for approval/additions