Cover Photo by James Walsh on Unsplash
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Chapter 1
ABOUT THIS HANDBOOK

This handbook contains information of use specific to BCIT Civil Engineering students. Students taking regular daytime studies courses will find information on:
- The BCIT Civil Engineering program
- Department Faculty
- Student resources
- Student conduct
- Academic policies and procedures
- Extra-curricular activities
- Civil Engineering and Civil Engineering Technologist careers

What is NOT in the Handbook?

The handbook does NOT contain information that is more generally applicable to the overall BCIT student population and that may be found elsewhere, for example:
- Admissions
- Fees & Financial Aid
- Student Services
- General BCIT Policies

For these and other more general pieces of information refer to the BCIT website: bcit.ca

Much of the information in the handbook is either not available elsewhere or only available on the BCIT Civil Engineering website:
bcit.ca/study/programs/8660beng

Use the Current Version

Note the date on the front cover. This handbook only applies to the academic year in which the handbook is published.

In the event of any conflict between this booklet and other sources of information, BCIT Policies govern.

To learn about the resources that can help you succeed during your time at BCIT, check out bcit.ca/studentservices
Chapter 2
THE BCIT CIVIL ENGINEERING PROGRAM

- The BEng in Civil Engineering is composed of four years of full-time academic study.
- You will receive a Diploma in Civil Engineering credential upon successful completion of the first two years of academic study within this degree program.
- Students who meet the continuation requirements and successfully complete a further two years of full-time study will earn a BEng in Civil Engineering.

The following pages contain the program course flowchart: a full diagram of the required courses and course prerequisites.

- Program course lists and outlines are available online: [bcit.ca/study/programs/8660beng#courses](bcit.ca/study/programs/8660beng#courses)

Program Objectives

The program was developed with the following objectives in mind:

- Academically prepare engineering students for professional practice through coverage of the broad and varied aspects of the engineering industry, with particular emphasis on Civil Engineering.
- Teach skills of direct practical benefit to the industry with the flexibility to adapt to particular situations and the appreciation of the limitations of their abilities.
- Develop individuals who understand the effects of engineering on society, who can relate technological matters to broader social impacts, and are aware of their responsibilities in this area as a practicing professional.
- Develop individuals with strong technical understanding.
- Foster skills related to
  - teamwork,
  - co-operation,
  - communication,
  - leadership,
  - independence, and
  - innovation
- Develop an approach to learning and self-development that will continue after graduation from the program.
Graduate Attributes

In keeping with the requirements of accreditation by the Canadian Engineering Accreditation Board (CEAB) the program strives to instill B.Eng. graduates with the following attributes at the time of graduation:

- **A knowledge base for engineering** – Demonstrated competence in university level mathematics, natural sciences, engineering fundamentals, and specialized engineering knowledge appropriate to the program.

- **Problem analysis** – An ability to use appropriate knowledge and skills to identify, formulate, analyze, and solve complex engineering problems in order to reach substantiated conclusions.

- **Investigation** – An ability to conduct investigations of complex problems by methods that include appropriate experiments, analysis and interpretation of data, and synthesis of information in order to reach valid conclusions.

- **Design** – An ability to design solutions for complex, open-ended engineering problems and to design systems, components or processes that meet specified needs with appropriate attention to health and safety risks, applicable standards, economic, environmental, cultural and societal considerations.

- **Use of engineering tools** – An ability to create, select, apply, adapt, and extend appropriate techniques, resources, and modern engineering tools to a range of engineering activities, from simple to complex, with an understanding of the associated limitations.

- **Individual and team work** – An ability to work effectively as a member and leader in teams, preferably in a multi-disciplinary setting.

- **Communication skills** – An ability to communicate complex engineering concepts within the profession and with society at large. Such abilities include reading, writing, speaking and listening, and the ability to comprehend and write effective reports and design documentation, and to give and effectively respond to clear instructions.

- **Professionalism** – An understanding of the roles and responsibilities of the professional engineer in society, especially the primary role of protection of the public and the public interest.

- **Impact of engineering on society and the environment** – An ability to analyse social and environmental aspects of engineering activities. Such abilities include an understanding of the interactions that engineering has with the economic, social, health, safety, legal, and cultural aspects of society; the uncertainties in the prediction of such interactions; and the concepts of sustainable design and development and environmental stewardship.

- **Ethics and equity** – An ability to apply professional ethics, accountability, and equity.

- **Economics and project management** – An ability to appropriately incorporate economics and business practices including project, risk and change management into the practice of...
engineering, and to understand their limitations.

- **Life-long learning** – An ability to identify and to address their own educational needs in a changing world, sufficiently to maintain their competence and contribute to the advancement of knowledge.

Course outlines are published for each course within the program and contain learning outcomes for each course. Each learning outcome in turn lists the graduate attribute that it develops. [bcit.ca/study/programs/8660beng#courses](http://bcit.ca/study/programs/8660beng#courses)

---

### Levels

Each academic year consists of two academic levels. As students progress through the program they will advance to higher term levels. Odd number levels occur in the fall term, and even number levels occur in the winter term. Term durations differ between Year 1 and 2 as compared to Year 3 and 4. The months in attendance at school are summarized as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Level</th>
<th>Term Length (weeks)</th>
<th>Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>15</td>
<td>Sept – Dec.</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>20</td>
<td>Jan. – May</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>15</td>
<td>Sept – Dec.</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>20</td>
<td>Jan. - May</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>15</td>
<td>Sept.-Dec.</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>15</td>
<td>Jan. – April</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>15</td>
<td>Sept. – Dec.</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>15</td>
<td>Jan. – April</td>
</tr>
</tbody>
</table>
**Term Calendar**

The BCIT website contains a full calendar: [bcit.ca/calendar/](http://bcit.ca/calendar/)

Some significant dates for BCIT Civil Engineering in the 2018/19 academic year:

**Fall 2018 Term**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday, September 4, 2018</td>
<td>Year 1 Orientation</td>
</tr>
<tr>
<td>Wednesday, September 5, 2018</td>
<td>Fall term classes start</td>
</tr>
<tr>
<td></td>
<td>Year 1 CSCE Welcome barbecue</td>
</tr>
<tr>
<td>Monday, October 8, 2018</td>
<td>Thanksgiving Day Holiday (no classes)</td>
</tr>
<tr>
<td>Tuesday, November 6, 2018</td>
<td>Last day to drop courses and receive a W on transcript</td>
</tr>
<tr>
<td>Monday, November 12, 2018</td>
<td>Remembrance Day observed (no classes)</td>
</tr>
<tr>
<td>December 7 (TBC) - 14, 2018</td>
<td>Exam week</td>
</tr>
<tr>
<td>Saturday, December 22, 2018</td>
<td>Fall Marks available</td>
</tr>
</tbody>
</table>

**WINTER 2019 Term**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wednesday, January 2, 2019</td>
<td>Winter term classes begin</td>
</tr>
<tr>
<td>Monday, February 18, 2019</td>
<td>Family Day Holiday (no classes)</td>
</tr>
<tr>
<td>March 11 – 15, 2019</td>
<td>Spring Break (no classes)</td>
</tr>
<tr>
<td>Monday, April 8, 2019</td>
<td>Level 2, 4 last day to drop courses and receive a W on transcript</td>
</tr>
<tr>
<td>Wednesday, April 17, 2019</td>
<td>End of Level 6, 8 examinations</td>
</tr>
<tr>
<td>Friday, April 19, 2019</td>
<td>Good Friday (no classes)</td>
</tr>
<tr>
<td>Monday, April 22, 2019</td>
<td>Easter Monday (no classes)</td>
</tr>
<tr>
<td>May 16 – 24, 2019</td>
<td>Level 2, 4 exam week</td>
</tr>
<tr>
<td>Saturday, June 1, 2019</td>
<td>Level 2, 4 marks available</td>
</tr>
</tbody>
</table>

- A calendar with important program-related dates is available here: [https://commons.bcit.ca/civil/calendar.html](https://commons.bcit.ca/civil/calendar.html)
- Set reps for each year are responsible for maintaining the calendars for their peers (look under schedules): [https://commons.bcit.ca/civil/resources.html](https://commons.bcit.ca/civil/resources.html)
Chapter 3
DEPARTMENT AND FACULTY ROLES

Engineering Programs at BCIT
You are not alone. BCIT offers four full-time Bachelor’s degrees in Engineering:
- Civil Engineering
- Electrical Engineering
- Mechanical Engineering
- Mining and Mineral Resource Engineering

Civil Engineering and Mining and Mineral Resource Engineering are located in the BCIT School of Construction and the Environment:
- Dean: Wayne Hand, P.Eng.
- Associate Dean: TBC

Department Contacts
Most of your contact will be with faculty and staff within the Department of Civil Engineering. A Departmental Contact List for the fall 2018 term is provided at the end of this Chapter and includes Departmental Faculty as well as external Instructors

Department Roles:
You will be interacting with the course Instructor(s) for each of the individual courses you take. The Department has assigned certain Faculty to additional roles in addition to their teaching responsibilities. The Fall 2018 term roles are as follows:

**Program Head**
Paul Thurston, P.Eng.
pthurston@my.bcit.ca
- Day-today program issues
- Longer term program planning
- Dept. meeting coordination/Chair

**Program Coordinator**
Sudip Talukdar, P.Eng.
stalukdar1@my.bcit.ca
- Lab Safety coordination
- Lab Coordination (maintenance, supplies, equip. purchase prioritization)
- Department budget coordination
- Capital equipment list maintenance
- Facilities (classrooms, chairs, etc.)
- Assist with course loadings
- Student club coordinator
- Assist with admissions
- WHMIS coordination
- Swipe card access coordination

**Student Coordinator**
Mike Baumert, P.Eng.
mbaumert@my.bcit.ca
- Student registration issues
- Elective selection and counselling
- Arranging student photos
- Set rep coordination
- Assist with marks meeting prep
- Student counselling re: progression
- Level 5 admissions
- Work experience tracking
- Re-admission enquiries (all levels)
- Liaise with Timetabler re: PTD conflicts
Curriculum Coordinator
Ron Krpan, P.Eng.
rkrpan@my.bcit.ca

- Curriculum Committee Chair
- Mobilizing effective Curriculum Committee
- Defining faculty expectations for CEAB accreditation maintenance
- Course credit processing

Admissions Coordinator
Renata Wood, P.Eng.
Civil_Adm_Coord@bcit.ca

- 1st year application processing
- Responding to applicant enquiries
- BIG Info participation

Student Club Faculty Sponsors

Canadian Society for Civil Engineering (CSCE) Student Club:
- Martin Bollo, P.Eng. and
- Renata Wood, P.Eng.

Women in Engineering (WiE) Student Club:
- Phyllis Chong, P.Eng.

American Concrete Institute (ACI) Student Club:
- Sudip Talukdar, P.Eng.

Other Engineering clubs on campus include:

- Engineers Without Borders
- The BCIT Engineering Student Society (ESS)
- The Bridge Building Competition Club
- Structural Engineers Association of British Columbia (SEABC)

For more information on these and other engineering clubs on campus, refer to Chapter 7 or contact the BCIT Student Association: bcitsa.ca/campus-life/clubs/
### Department of Civil Engineering

<table>
<thead>
<tr>
<th>Name</th>
<th>Office</th>
<th>Phone</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paul Thurston, P.Eng.</td>
<td>SW3-2084</td>
<td>604-451-6852</td>
<td>Program Head</td>
</tr>
<tr>
<td>Ron Krpan, P.Eng.</td>
<td>SW3-3096</td>
<td>604-451-6854</td>
<td>Curriculum Coordinator</td>
</tr>
<tr>
<td>Aiden Kiani, P.Eng.</td>
<td>SW3-2639</td>
<td>604-432-8422</td>
<td>Timetabler</td>
</tr>
<tr>
<td>Michael Baumert, P.Eng.</td>
<td>SW3-3096</td>
<td>604-451-7117</td>
<td>Student Coordinator</td>
</tr>
<tr>
<td>Sudip Talukdar, P.Eng.</td>
<td>SW3-2082</td>
<td>604-456-1064</td>
<td>Program Coordinator</td>
</tr>
<tr>
<td>Renata Wood, P.Eng.</td>
<td>SW3-3098</td>
<td>604-412-7424</td>
<td>Admissions Coordinator</td>
</tr>
<tr>
<td>Kristin Maxom</td>
<td>SW3-2086</td>
<td>604-456-1259</td>
<td>Admin. Assistant, Full-Time Program</td>
</tr>
<tr>
<td>Poureya Bazargani, P.Eng.</td>
<td>SW3-2087</td>
<td>604-453-4010</td>
<td></td>
</tr>
<tr>
<td>Jan Bielenberg, P.Eng.</td>
<td>SW3-2082</td>
<td>604-456-1228</td>
<td></td>
</tr>
<tr>
<td>Martin Bollo, P.Eng.</td>
<td>SW3-2080</td>
<td>604-432-8802</td>
<td></td>
</tr>
<tr>
<td>Colleen Chan, P.Eng.</td>
<td>SW3-2080</td>
<td>604-412-7406</td>
<td></td>
</tr>
<tr>
<td>Phyllis Chong, P.Eng.</td>
<td>SW3-2088</td>
<td>604-451-6853</td>
<td></td>
</tr>
<tr>
<td>Ray Daxon, Dipl.T.</td>
<td>SW3-2087</td>
<td>604-432-8849</td>
<td></td>
</tr>
<tr>
<td>Jacquie Gaudet, P.Eng.</td>
<td>SW3-2085</td>
<td>604-456-1047</td>
<td></td>
</tr>
<tr>
<td>Kian Karimi, P.Eng.</td>
<td>SW3-2088</td>
<td>604-451-6957</td>
<td></td>
</tr>
<tr>
<td>Anna Ovanesova, P.Eng.</td>
<td>SW3-2081</td>
<td>604-412-7544</td>
<td></td>
</tr>
<tr>
<td>Bishnu Pandey, Ph.D.</td>
<td>SW3-2088</td>
<td>604-432-8579</td>
<td></td>
</tr>
<tr>
<td>David Wong, P.Eng.</td>
<td>SW3-2081</td>
<td>604-451-6969</td>
<td></td>
</tr>
</tbody>
</table>

### Part-Time Studies

<table>
<thead>
<tr>
<th>Name</th>
<th>Office</th>
<th>Phone</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ken Zeleschuk, AScT.</td>
<td>SW3-2087</td>
<td>604-456-1066</td>
<td>Alternate Studies Coordinator</td>
</tr>
<tr>
<td>Kristi Obradovic</td>
<td>SW3-2086</td>
<td>604-431-4969</td>
<td>Program Assistant, PTS, DE and SEMAC</td>
</tr>
</tbody>
</table>

### Other Faculty teaching into the Civil Engineering Program for Fall 2018:

#### 1st Year

<table>
<thead>
<tr>
<th>Name</th>
<th>Office</th>
<th>Phone</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erika Crema</td>
<td>SW2–216</td>
<td>604-451-7171</td>
<td>Mathematics Department</td>
</tr>
<tr>
<td>Kevin Dunphy</td>
<td>SW3-4079</td>
<td>604-451-7136</td>
<td>Physics Department</td>
</tr>
<tr>
<td>Kim Nishimura</td>
<td>SW2 -231</td>
<td>604-451-7173</td>
<td>Mathematics Department</td>
</tr>
<tr>
<td>John Storm</td>
<td>SW2–245</td>
<td>604-431-4983</td>
<td>Communication Department</td>
</tr>
<tr>
<td>Robert Scott</td>
<td>SW2-313</td>
<td>604-432-8627</td>
<td>Geomatics Department</td>
</tr>
<tr>
<td>Christopher Griffith</td>
<td>SW2-311</td>
<td>604-431-4943</td>
<td>Geomatics Department</td>
</tr>
</tbody>
</table>

#### 2nd Year

<table>
<thead>
<tr>
<th>Name</th>
<th>Office</th>
<th>Phone</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deanna Levis</td>
<td>SW2-257</td>
<td>604-451-6855</td>
<td>Communication Department</td>
</tr>
<tr>
<td>Andrew McConnell</td>
<td>SW2–237</td>
<td>604-451-7179</td>
<td>Mathematics Department</td>
</tr>
</tbody>
</table>

#### 3rd Year

<table>
<thead>
<tr>
<th>Name</th>
<th>Office</th>
<th>Phone</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scott Hagan</td>
<td>SW2-223</td>
<td>604-451-7174</td>
<td>Mathematics Department</td>
</tr>
</tbody>
</table>

#### 4th Year

<table>
<thead>
<tr>
<th>Name</th>
<th>Office</th>
<th>Phone</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elspeth Barnes</td>
<td>SW1-2570</td>
<td>604-451-7105</td>
<td>Natural Resources Department</td>
</tr>
<tr>
<td>Scott Hagen</td>
<td>SW2-223</td>
<td>604-451-7174</td>
<td>Libs/ Math Department</td>
</tr>
<tr>
<td>Michelle Hawkens</td>
<td>SW2- 233</td>
<td>604-451-7107</td>
<td>Liberal Studies Department</td>
</tr>
<tr>
<td>Megan Murphy</td>
<td><a href="mailto:mmurphy67@bcit.ca">mmurphy67@bcit.ca</a></td>
<td></td>
<td>Liberal Studies Department</td>
</tr>
</tbody>
</table>
Website
The Department website bcit.ca/study/programs/8660beng contains extensive information relevant to the program. Current students may refer to the following relevant sections:
- Overview
- Program Entry
- Costs & Supplies
- Courses
- Program Details
- Graduating & Jobs
- Faculty, Advisors and Staff
- Contacts

Students will find the following pages linked to from the BCIT Civil Engineering Commons site:
commons.bcit.ca/civil
- Student Resources
- Civil Engineering Research
- Civil Lab Facilities
- CSCE Student Chapter
- eduFacts

Email
Every BCIT student receives an email account of the form abcde12@my.bcit.ca

IMPORTANT: Please make sure your my.bcit.ca account is linked with any other email account (gmail, Hotmail, etc.) you use frequently, as it is the principle means for out-of-class communication from Faculty. The Learning Hub (see below) also has email functionality which may be used by instructors for course related communication. This email should also be linked.

Textbooks
First year students will be provided with a list of textbooks required for the first term (list can be found at the end of this chapter). Do not buy any texts prior to receiving this list, as requirements may change from year to year. Use caution if purchasing used texts, as publishers may update the textbook edition.

Bring Your Own Device – BYOD
All Civil Engineering students are required to bring their own computing device for classroom use. More details can be found here: bcit.ca/files/construction/civil/pdf/civil_engineering_byod

Minimum requirements:
- 14” screen
- Minimum resolution of 1280x1024
- Wireless standard 802.11n or 802.11ac
- Integrated keyboard
- Current Chrome/Safari/Firefox installed web browser
- Power chord for recharging
- Recommended minimum 2-hour or greater battery life

Virtual Desktop
Students can connect through a web browser to a BCIT managed “virtual desktop” containing computing applications for your courses: https://workspace.bcit.ca
BCIT Learning Hub
The Learning Hub (formerly known as D2L) is BCIT’s online learning environment. Individual instructors may use it to distribute course materials, conduct quizzes, collect assignments, etc. 
[learn.bcit.ca](http://learn.bcit.ca)

BCIT Knowledge Base
If you encounter problems with software in the labs or online, check out the BCIT Knowledge Base – a repository for help and how-to documentation maintained by BCIT IT Services. There is a gold mine of information there! 
[kb.bcit.ca](http://kb.bcit.ca).

In addition, check out the IT services website to manage access to various software packages: 
[bcit.ca/its/software/](http://bcit.ca/its/software/)

**Calculator Requirements**
For tests and exams you may only use non-programmable calculators. Cell phones will not be allowed. 
Suggested: 
1. Casio fx-260 solar or TI 30XA ~ $15 on campus 
2. Sharp EL-520XB or TI 30XiiS ~ $25 on campus

**Classrooms and Faculty Offices**
Most classes in the civil engineering program are scheduled in buildings SW03 and SW01. Civil Engineering Faculty offices are located in SW03.

A building map is available at 
[https://www.bcit.ca/map/](https://www.bcit.ca/map/)

The most common classrooms used for civil classes, labs, and tutorials are listed as follows.

<table>
<thead>
<tr>
<th>Room Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW01-1021*</td>
<td>Large lecture hall</td>
</tr>
<tr>
<td>SW01-1025</td>
<td>Large lecture hall</td>
</tr>
<tr>
<td>SW01-1068, 60 &amp; 70</td>
<td>Structures Lab</td>
</tr>
<tr>
<td>SW01-1080</td>
<td>4^th/3^rd year classroom or tutorial room</td>
</tr>
<tr>
<td>SW03-1650</td>
<td>Construction materials and dirty soils lab</td>
</tr>
<tr>
<td>SW03-1655</td>
<td>Hydraulics lab</td>
</tr>
<tr>
<td>SW03-1690</td>
<td>“Clean” soils lab</td>
</tr>
<tr>
<td>SW03-1750</td>
<td>Large lecture hall</td>
</tr>
<tr>
<td>SW03-1710</td>
<td>Large lecture hall</td>
</tr>
<tr>
<td>SW03-2665/2675</td>
<td>Computer lab</td>
</tr>
<tr>
<td>SW03-2695</td>
<td>Computer lab</td>
</tr>
<tr>
<td>SW03-3695</td>
<td>Tutorial room or 3/4^th year classroom</td>
</tr>
<tr>
<td>SW03-3675</td>
<td>Tutorial room or 3/4^th year classroom</td>
</tr>
<tr>
<td>SW03-3660</td>
<td>3/4^th year classroom or tutorial room</td>
</tr>
</tbody>
</table>

*There is a blue map on the wall at the east ground level entrance to SW03 that shows the rooms on all floors of SW01 and SW03.

*The BCIT convention for numbering rooms is according to building name and then room number. The four digit room numbers contain further insight into their location: the first digit is the building floor number and the second digit represents a hallway number. So for example, SW3 3695 means the room is located in building SW3, on the third
floor, in the hallway that has all room numbers starting with 36xx. This means, however, that a room numbered 3695 could be in an entirely different hallway than a room numbered 3705.

**Lockers**

Locker usage in our area of BCIT is on a first come first served basis; put a lock on it and it is yours. The best location is on the 3rd floor of building SW3 near room 3675. Note that locker contents must be cleared at the end of the school year.

**Safety Equipment**

Students are required to provide the following safety equipment:

- **Clear safety glasses w/side protectors $5—$10.** Available for purchase on campus.
- **Steel toed boots:** Must be CSA-certified with a “Green Triangle” indicating it has sole puncture protection as well as Grade 1 toe impact protection. Either steel or composite toes or plates are acceptable. Estimated cost = $100-$200

**Cabinets**

There are a number of hallway glass cabinets containing information specific to the Civil Engineering program:

- **Department Information Board** (employment opportunities sent directly to the Department, timetables, scholarships, etc.): next to SW3 3695.
- **Student projects cabinet between SW3 2087 and 2088.**
- **CSCE Student Chapter:** next to SW3 3096.
- **Women in Engineering (WiE):** next to SW3 2083.
- **ACI cabinet next to SW3 1655.**
- **Cabinet next to SW1 1080.**
# Level 1 Textbook List Fall 2018

<table>
<thead>
<tr>
<th>Course</th>
<th>Instructor</th>
<th>Req/Opt</th>
<th>Book Title</th>
<th>Author</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CIVL 1011</strong></td>
<td>Jacquie Gaudet, Kim Nishimura &amp; Phyllis Chong</td>
<td></td>
<td>No textbook required</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introduction to Civil Engineering</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CIVL 1020</strong></td>
<td>Sudip Talukdar &amp; Bishnu Pandey</td>
<td>Required</td>
<td>Engineering Mechanics: Statics Si Ed W/Access Code Pkg.</td>
<td>Hibbeler</td>
<td>$139.50</td>
</tr>
<tr>
<td>Statics</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>CIVL 1024</strong></td>
<td>Jacquie Gaudet &amp; David Wong</td>
<td></td>
<td>No textbook required</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graphical Communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CIVL 1060</strong></td>
<td>Jan Bielenberg</td>
<td>Required</td>
<td>CIVL 1060 Applied Hydrology Course Materials (Sept 2018)</td>
<td>Bielenberg</td>
<td>$15.95</td>
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<tr>
<td>Applied Hydrology</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Optional</td>
<td>Fundamentals Of Hydraulic Engineering Systems</td>
<td>Houghtalen</td>
<td>$199.95</td>
</tr>
<tr>
<td><strong>COMM 1142</strong></td>
<td>John Storm</td>
<td>Optional</td>
<td>Quick Access Reference for Writers 5th Ed. (digital or print version)</td>
<td>Troyka</td>
<td>$93.95</td>
</tr>
<tr>
<td>Communication for Civil Engineering 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Optional</td>
<td>Bare Essentials Plus, 9th Ed. Text/Wkbk Pkg</td>
<td>Norton</td>
<td>$75.95</td>
</tr>
<tr>
<td><strong>MATH 1422</strong></td>
<td>Erika Crema</td>
<td>Required</td>
<td>Calculus Early Transcendentals 7th Ed. Text/Sol Man Pkg</td>
<td>Edwards</td>
<td>$209.95</td>
</tr>
<tr>
<td>Differential Calculus for Civil Engineering</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PHYS 1192</strong></td>
<td>Kevin Dunphy</td>
<td>Required</td>
<td>Physics For Scientists &amp; Engineers W/Modern Physics &amp; Mastering Physics 4th Ed.</td>
<td>Giancoli</td>
<td>$217.95</td>
</tr>
<tr>
<td>Physics for Civil Eng. 1</td>
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<td></td>
<td></td>
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<tr>
<td><strong>SURV 1130</strong></td>
<td>Robert Scott &amp; Christopher Griffith</td>
<td></td>
<td>No Required Text</td>
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<td></td>
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<tr>
<td>Surveying for Civil Eng. 1</td>
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<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

*Prices may be adjusted by the BCIT bookstore at any time. Used books may also be available at a discount.*
Chapter 5
POLICIES AND PROCEDURES - STUDENT CONDUCT

BCIT Policies

BCIT has a number of policies that govern all students on campus, available online:
bcit.ca/about/administration/policies

The policies listed in this handbook are designed to conform to BCIT policy, but where there is any discrepancy, BCIT policies will supersede the policies in this handbook.

Conduct Expectations

You are in a professional program, and are expected to conduct yourself as such. Your behaviour should replicate that of a professional setting.

- In all settings, be respectful and ensure a harassment-free environment.
- In working tutorials, conduct yourself as you would in an office environment.
- Treat your classmates in the same (or better) professional manner as you would expect to treat coworkers in the workplace.
- Treat the Faculty in the same (or better) professional manner as you would treat a Manager or Supervisor at your workplace.
- Conduct yourself at all times as would be expected by the Codes of Ethics that govern the Engineering and Engineering Technology professions (see below).

- Group work and learning is an important part of our program. It is expected however that individual submissions and exams will represent your own effort.
- Please refer to the document at the end of this chapter regarding student conduct during exams.

Engineering is a well-respected profession and it is the duty of all of us to maintain the public’s confidence.

Engineers & Geoscientists BC and ASTTBC Code of Ethics

Engineers and Geoscientists BC and ASTTBC (Association of Scientists, Technologists and Technicians of British Columbia) are the two professional organizations governing our graduates. Their Codes of Ethics are essentially the same, and the full wording of the Engineers & Geoscientists BC Code of Ethics is contained in Chapter 8 of this handbook.

The first paragraph of the Engineers & Geoscientists BC Code of Ethics summarizes how students in the BCIT Department of Civil Engineering need to act:

Members and licensees shall act at all times with fairness, courtesy and good faith to their associates, employers, employees and clients, and with fidelity to the public needs. They shall uphold the values of truth, honesty and trustworthiness and safeguard human life and welfare and the environment.
Emergencies

Emergency concerns should be brought to the immediate attention of BCIT Safety and Security. Phones for internal use are available in the hallways; look for the signage.

<table>
<thead>
<tr>
<th>Non-Emergency</th>
<th>Emergency</th>
</tr>
</thead>
<tbody>
<tr>
<td>604-451-6856</td>
<td>2248 (internal only)</td>
</tr>
</tbody>
</table>

BCIT has an emergency warning alert system – BCIT ALERT – designed to keep the BCIT community connected to key information, and to ensure the continued safety of students and staff at the institute. Students are automatically registered for this free service. See this page to customize your alerts: bcit.ca/safetyandsecurity/emergency/alert

BCIT has a safety app called Safety Wise that features emergency contacts, safety tips, a personal safety toolbox, extensive maps, and much more! Download it here: bcit.ca/safety/app

Issues and Concerns

Student/Faculty issues and concerns should first be brought to the attention of the Faculty member delivering the course. The Student Coordinator or Program Head may get involved if a resolution cannot be made. Issues and concerns between students should be brought to the attention of the Student Coordinator or Program Head.

Lab Policies

The Department has developed a Laboratory Use Policy: https://commons.bcit.ca/civil/students/2018_2019_Department_of_Civil_Engineering_Safety_Policy_V5.pdf

The purpose is to ensure protection of people and property while using Civil Engineering Laboratory Facilities for student projects and course lab work. It is your responsibility to ensure you have read and understood this policy prior to conducting any activities in the Civil Engineering Laboratories.

WHMIS

All Civil Engineering students are required to complete WHMIS – Workplace Hazardous Materials Identification System – training. The instructions for completing this online module will be provided to you in the CIVL 1011 classroom. Laboratory work required for courses cannot be completed until the training has been completed.

Student Use of Rooms

Students are encouraged to work together after school hours on course work, projects, etc. However, it is understood that after hours use of BCIT classroom facilities is a privilege. Classrooms must be left in perfect condition at the end of the each night. Desks and chairs must be left in an orderly, organized manner and no garbage of any kind should be left in a classroom at the end of the day. Classrooms must be kept in clean, hygienic conditions at all times. Students found to be misusing this
privilege will not be permitted to work in classrooms after hours.

Student Conduct During Exams

The BCIT Civil Engineering Department has developed a procedure for student conduct before, during and after the writing of exams. The full procedure is included as a stand-alone page at the end of this section.

Absences

BCIT Policies

Institute policies on absences can be accessed online and are also referenced on course outlines. In particular, note that there will be no makeup tests, exams or quizzes.

If you miss a test, exam or quiz, you will receive zero marks. Exceptions may be made for extenuating circumstances or for medical reasons documented by a BCIT Student Medical Certificate: bcit.ca/files/healthservices/pdf/studentmedicalcertificate.pdf.

- In such a case, it is the responsibility of the student to inform one of the course instructors immediately.
- Students’ Medical Certificates are to be brought to the Student Coordinator, who will coordinate and advise instructors regarding make-up tests, etc.
- Exceptions will not be made for personal events such as vacations, weddings, or travel arrangements.

Student Competitions

- Absences for participation in student competitions must be coordinated with each impacted Faculty member well in advance of the anticipated competition date.
- It is up to the sole discretion of each Faculty member as to whether any allowances can be made, but it is generally up to the student to decide if they are willing to miss a class activity without accommodation.

Counselling and Student Development

If you're a full-time or part-time student at BCIT, your counsellors are here to help you:

- Sort through personal concerns, like anxiety, depression, relationships, assertiveness, and more
- Enhance your educational performance and maximize your success as a student
- Build decision-making and problem-solving skills
- Work toward your educational, personal, and career goals

Contact the Counselling and Student Development Office at:
https://www.bcit.ca/counselling/
SE16-128 (co-located with Student Health Services near the Burnaby campus Recreation Centre).
Appointment Phone: 604-432-8608
Virtual Appointment Phone: 604-432-8608

Student Conduct During Exams
1. Arrive at your exam on time. If you are late, you will not be permitted to write the exam if another student has already left.

2. When you arrive, place everything you will not be using to write your exam (books, bags, jackets, hoodies, etc.) at the front or back of the room as directed by the invigilator. Any pencil cases, notes or other belongings not specifically authorized for use during the exam, including your silenced cell phone, must be in your securely closed bag. Remove hats, toques, hoods, etc. (other than religious head coverings) and leave these with the rest of your personal gear. You may not retrieve your belongings until you have turned in your paper and are about to leave the room. Better yet, leave all this in your locker.

3. Place the items you will need to write your exam on the desk or table. These may include pens, pencils, drafting instruments, permitted calculators, water bottle, and other materials as may be specifically permitted by your instructor.

4. Leave an empty seat between yourself and neighbouring students if the room layout permits. Additionally, you may be asked by the invigilator to change seats during the exam for any reason.

5. Once the exam has started, you may not leave the room for any reason before you have turned in your paper. Once you have left, you may not return.

6. Do all work on the provided test material. No scrap paper is permitted; if you need more paper, the invigilator will provide it.

7. The invigilator will post times on the board if the room does not have a clock. If you finish your exam with more than 5 minutes remaining, you may hand in your paper and leave promptly and quietly. Otherwise, remain quietly seated until the invigilator has collected all the papers.

8. When the invigilator announces that time is up, immediately cease writing and remain quietly seated until the invigilator has collected all the papers.

9. No electronic devices are permitted except as specifically authorized. Electronic devices include, but are not limited to: phones, laptops, calculators other than models specifically permitted, MP3 players, electronic dictionaries, smart watches and smart glasses. Headphones/ear buds may not be used during an exam.

10. If you are suspected of any of the following during the exam, or of any similar practices, the invigilator will submit a report and you may be subject to disciplinary action:
    - communicating with other students, unless otherwise authorized;
    - purposely exposing written papers to the view of other students or imaging devices;
    - purposely viewing the written papers of other students;
    - using or having visible any unauthorized materials or electronic devices.
Chapter 6
POLICIES AND PROCEDURES - ACADEMIC

Requesting Course Credit

Course credit/exemption may be granted when an equivalent course has been previously completed. With two exceptions noted below, you may only apply for course credit at the beginning of the term in which you are registered in the course. Use the following procedure:

1. Obtain a Course Credit/Exemption form from BCIT Student Records. bcit.ca/files/pdf/admission/course_credit_exemption.pdf
2. Complete one form per course.
3. Submit an official transcript along with the form within 14 days of start of term. You only need to submit each official transcript (hard copy, in a sealed envelope) once. Note that you were not required to submit official transcripts with your application to BCIT but they are required for BCIT to grant credit for a course taken at another institution.
4. Once processed, you will be notified via myBCIT of your course assessment status.

Continue to attend class until you have been notified that credit has been granted.

The two exceptions are CHEM 6020 and MATH 6010. You may apply for transfer credit for either or both of these courses during the term you expect to complete Level 3. If granted, you may then take CIVL 4024 or CIVL 4053 in Level 4 without affecting your eligibility for Level 5.

In electing to apply for transfer of credit, you are advised to consider:

- Carrying a transfer credit may prevent you being considered for a provisional pass in the term that the transfer credit applies.
- The grades for the courses in which credit has been obtained in Levels 2, 3 and 4 will be factored into the calculation of your continuation GPA for applying to 3rd year.
- BCIT grades are based on a numerical system – when letter grades are submitted for transfer credit, the low end of the respective numerical range is selected as the equivalent numerical grade.

Dropping Courses

- See the BCIT Calendar and the term schedule in this Handbook for the term deadlines for withdrawing from courses and obtaining a W on your transcript.
- Withdrawals may jeopardize your chances of being able to take courses in subsequent terms and may extend the duration of your program.
- Due to scheduling, it might not be possible to take lower level and upper level courses in the same term.
- Where academic credit has been granted within a full-time studies program a student’s course load will be reduced, however full-time tuition will not be reduced. So it may be in the student’s interest to take the course anyway.
• Arrange to meet with the Department’s Student Coordinator to discuss your options and gain a better understanding of the implications of dropping courses.

Failed Courses

After course grades have been released, the Department of Civil Engineering will contact any students who have failed courses and provide instruction on next steps. For those who are eligible to continue in the program, a modified schedule will be developed that takes into consideration the following:
• Required course prerequisites
• Course scheduling
• Student objectives
• Other considerations affecting workload

Upon failing and/or withdrawing from courses the option for a student to continue in the Program is subject to an evaluation process conducted after the end of each term. The Department of Civil Engineering has developed Guidelines to assist in recommending an outcome. For level 1 students, there are four possible outcomes:
1. Pass everything and move to term 2 as a full-time student.
2. Be removed completely from the program and consider a different career path. This generally applies if you have 3 or more failures or 2 failures and a GPA below 55%.
3. Course-by-course registration (partial load). This generally applies if you have 1 failure (or 2 failures with a GPA above 55%). You will then take three years to complete the Diploma and will take roughly 2/3 of a full course load each term.
4. Provisional Pass. You will continue as a full time student with some conditions. This is not an option for students who have received Transfer Credits.

Modified Schedules

Students who continue in the program after failing or withdrawing from courses will follow a Modified Program. These students are classified as Part Time Day (PTD) – also known as course-by-course students.
• Tuition fees are calculated on the basis of a certain amount per credit once the number of credits drops below a certain threshold.
• Arrange to meet with the Department’s Student Coordinator to develop and register for a Modified Program.
• This may not be an option for students who have received transfer credits.

Progression to 3rd Year

Progression to 3rd year Civil Engineering is coordinated by the Department Student Coordinator. The minimum requirements to be considered for progression are as follows:
• A completed BCIT Diploma in Civil Engineering.
• A minimum 70% continuation GPA under a full-time program load. This is calculated using grades obtained in your first attempt of all courses from Levels 2, 3, and 4, excluding CIVL 4024 and CIVL 4053, but including CHEM 6020 and MATH 6010.
• If you complete Levels 2, 3, and 4 in a mode other than full-time, you may also be considered for continuation into Level 5 if you meet
the 70% continuation GPA requirement.
• Complete 300 hours of post-diploma practical work experience.
• Submit a completed Practical Work Experience Form [pdf] attachment to the Department Student Coordinator, within the first two weeks of classes in Level 5 and Level 7.

Progression to Year 3 includes:
1. Continuation (rollover); and
2. Re-admission after an absence of greater than three months.

**Continuation (rollover) is based on seat availability.** If the number of students seeking to enter Level 5 exceeds available seats, BCIT will select those deemed to have the best opportunity for success.

Applications for re-admission after an absence of greater than three months are accepted from November 1st* to June 1st*. If you are a Level 5 re-admission student with questions about the process, please contact Michael Baumert, student coordinator.

Working for a full year between 2nd and 3rd year is common and has been found to be beneficial by many students. Taking more than 1 year away from studying is not recommended because students tend to struggle when returning to third year, in particular due to forgotten math skills. Such a path may jeopardize chances for admission to 3rd year.

* Or next business day
Chapter 7
EXTRA-CURRICULAR ACTIVITIES AND INTERNATIONAL OPPORTUNITIES

Student Clubs
The BCIT Department of Civil Engineering supports student participation in Engineering-related clubs as a supplement to the education students receive in the classroom. There are a number of Engineering-related clubs active on campus.

To have student club activities, events, talks and competitions posted on the BCIT Civil Calendar commons.bcit.ca/civil/calendar.html located on the Civil Engineering Commons, please email:
Kristin_Maxom@bcit.ca

Canadian Society for Civil Engineering (CSCE)
facebook.com/cscebcit
commons.bcit.ca/civil/students/csce/president@bcitcsce.ca

The BCIT Student Chapter of the Canadian Society for Civil Engineering (CSCE) is one of the most active student clubs on campus. Some highlights:
• Largest / most active Chapter in Canada (out of 26 schools).
• 2017, 2016, 2014 and 2011 CSCE President’s Award winner for Best Student Chapter in Canada.
• Close to 100% Membership across entire Civil Engineering Program.
• Responsible for events throughout the academic year:
  ○ Student competitions
  ○ Civil sports teams
  ○ Technical talks from Industry Professionals
  ○ Social events with other disciplines and industry
  ○ Networking events
• Linked to Vancouver Section and CSCE National.

This year the CSCE Chapter will be holding a Welcome Barbeque for all first year students:
• Wednesday September 5, 2018
• 12:30 – 3:30 pm behind SE16 (gym)
• Bring $5 membership fee for signup and burger ticket
• Signup forms provided at BBQ and on Facebook page
• Bring appropriate attire for dodgeball and other activities

The Faculty Advisors for the CSCE for 2018/19 are Renata Wood, P.Eng. and Martin Bollo, P.Eng.

American Concrete Institute (ACI)
facebook.com/acibcitchapter

The BCIT student chapter of the American Concrete Institute (ACI) operates as a subset of the CSCE Chapter and participates in student competitions at the ACI Conferences. See below for information about this year’s ACI competitions.

The Faculty Advisor for the 2018/19 academic year is Sudip Talukdar, P.Eng.
BCIT Women in Engineering – WiE
commons.bcit.ca/wie/
wie.bcict@outlook.com

WiE represents Women in Engineering. The club is a strong community of female engineering students who strive to empower one another to lead, to inspire young females to pursue engineering and to influence views towards women in engineering. Through WiE gender inclusive organized events - such as networking, symposiums, and panel discussions - we aim to bridge the gap between being a student and a working professional, by exposure to valuable insights in the engineering industry. The WiE mentorship program aims for easier integration of first-year female engineering students into student life. This program cultivates a lasting bond between the mentor and mentee.

The WiE faculty advisor for 2018-2019 is Phyllis Chong, P.Eng. (Civil Engineering)

BCIT Engineering Student Society (ESS)
facebook.com/bcitess
bcit.ess@gmail.com

The BCIT Engineering Students’ Society (BCIT ESS) is a partnership between Mechanical, Electrical and Civil engineering students, brought together to enrich the life of all BCIT engineering students by coordinating social events, interdisciplinary projects, competitions, and professional seminars. The Society sponsors student participation in the Western Engineering Competition (WEC). BCIT hosted the 33rd Western Engineering Competition in January, 2018.

Engineers Without Borders (EWB)
facebook.com/ewb.bcit
bcit@ewb.ca

The EWB BCIT chapter is committed to bringing positive social change to BCIT. By raising awareness on important issues such as development and fair trade, this club will help create more globally minded individuals. The EWB is also committed to bridging the gap between different engineering disciplines, as well as bring students together from different programs which may not be engineering related.

The Bridge Building Competition Club (BBCC)
instagram.com/bcit_troitsky
bcittroitskyteam@gmail.com

The BBCC is a group of passionate engineering students that participate in the Troitsky Bridge Building Competition every year. BCIT students compete with other universities around Canada to design and build the most efficient bridge. This bridge is built using only white glue, popsicle sticks, and dental floss. BBCC is an opportunity for students to collaborate with each other and obtain new skills that will support them in their engineering careers.

Structural Engineers Association of British Columbia (SEABC)
www.seabc.ca

The Structural Engineers Association of British Columbia (SEABC) is an association that promotes the interests of structural engineers in British Columbia. Activities of the SEABC include seminars and discussion on technical matters relating to structural engineering. Student membership is free and a BCIT Civil Engineering student typically acts as a student liaison to the SEABC Board.
Student Competitions

Troitsky Bridge

The Department of Building, Civil & Environmental Engineering at Concordia University in Montreal hosts an annual competition named the Troitsky Bridge Building Competition. The Bridge Building Competition club coordinates the BCIT Civil Engineering entries into the competition. See the website [troitsky.ca](http://troitsky.ca) for more information.

Presentation Idol

Formerly named Engineering Idol, current BCIT engineering and technology students, who have taken at least one BCIT Communication Department course, are invited to deliver a six- to eight-minute oral presentation on a technology-related topic. Students are encouraged to showcase and/or comment on innovation in engineering and technology, for instance by presenting their own designs, or exploring and commenting on new frontiers. Up to 32 participants can enter the first round, and eight proceed to the final round. Registration is on a first-come basis. [bcit.ca/idol](http://bcit.ca/idol)

Engineers & Geoscientists BC Popsicle Stick Bridge Building Competition

Many of the individual branches of Engineers & Geoscientists BC host an annual popsicle stick bridge building competition in February, March or April of each year. Many of the competitions are timed to coincide with National Engineering and Geoscience Month (NEGM) in March. See [egbc.ca](http://egbc.ca) for more details.

ACI Competitions

In 2019, the BCIT ACI Student Chapter plans to compete in the ACI – Composites Competition. The competition will be held on March 24, 2019 in Quebec City, Canada. The competition challenges students to design, construct, and test a concrete structure with fiber reinforced polymer (FRP) to achieve the lowest cost-load ratio. Cost is defined as the calculated batch cost for concrete materials and chemical admixtures plus the cost of the FRP used to reinforce the structure; adjusted for forming costs for more complicated geometries and reduced by credits given for implementation of sustainable design concepts. Watch video from the 2017 ACI Student Competition: [Youtube.com/watch?v=rjn8xQ5Se80](https://www.youtube.com/watch?v=rjn8xQ5Se80)

WEC

The Western Engineering Competition (WEC) was founded in 1985 and brought together the leading students from across Western Canada to practice and exhibit their problem solving, team-building, and communication skills in seven different events. WEC 2019 will be held in Winnipeg at the University of Manitoba January 16-20, 2019. More info at [wec2019.ca](http://wec2019.ca).

2-day challenge

The BCIT School of Construction and the Environment 2-day challenge is a collaborative initiative that brings together students from different programs in teams to solve a real-world issue in 48 hours and present their solutions to a panel of industry, government and indigenous judges. [commons.bcit.ca/2daychallenge](http://commons.bcit.ca/2daychallenge)
Other Competitions

In addition to the above, in which our students regularly compete, there are opportunities to participate in other engineering competitions:

- CSCE Concrete toboggan
- ASCE Concrete canoe
- CISC Steel bridge
- EERI Shake Table Contest
- STEM Spotlight Competition
- And others....

Funding

Students who plan to participate in student competitions are encouraged to begin the planning process for how to fundraise and who to approach as early as possible during the academic year. The different competition groups are encouraged to coordinate with each other to ensure the same employers and companies are not being repeatedly solicited for funds.

The Institute does make limited funds available for students to access each year via the ESS and CSCE Student Chapters. Student competition groups who plan to make use of these funds should contact Program Coordinator, Sudip Talukdar, P.Eng. as early as possible during the academic year.

International Opportunities for BCIT Civil Engineering Students

There are two international opportunities open to BCIT Civil Engineering students:

- Exchanges with Biberach University of Applied Sciences in Germany
- Volunteer summer work in Nepal

Information about each of these is provided as follows.

Exchange Opportunities with Biberach University of Applied Sciences (HBC)

BCIT Civil Engineering has a formal exchange agreement in place with HBC, under which a limited number of students may attend the partner institution each term. Due to the differing structures of the programs, visiting students from HBC generally register in a selection of courses from all four years of the BCIT Civil Engineering program, while BCIT students attending HBC are limited to courses taught in English unless they have demonstrated proficiency in German. Information on HBC summer school programs is also presented below.

The Civil Engineering contact for the HBC exchanges is Jan Bielenberg.

Application forms and other information are available at https://www.bcit.ca/construction/exchange/.

A. Spend a Term in Germany

If you are interested in this opportunity, you should attend the presentation by returned students in January. The deadline for applications is February 15 for the following academic year.

A few pertinent facts:

- The program structure at HBC is different than at BCIT but so are the terms. The terms are so different that participating in the exchange requires you to take a year away from BCIT. This works well following second year because you can use the remaining months to obtain the work experience required to continue into third year.
- The terms at HBC run from October to February (the Winter Semester)
and from March to July (the Summer Semester).
- You are expected to take at least 12 credits at HBC including the mandatory course German Language and Culture (3 credits).
- Transfer credits are available for equivalent BCIT courses in most cases.
- Further information will be available after the presentation in January.
- Applications will be accepted from students in Level 4 (preferred) or Level 6. Considerations for nomination to the exchange will include GPA and involvement in extra-curricular activities at BCIT.
- Scholarships are available. See https://www.bcit.ca/construction/exchange/scholarships.shtml for more information.

B. Summer School Exchanges
In addition to the formal agreement, HBC offers two different Summer Schools in English which BCIT students are invited to attend. Note that these programs vary from year to year and specific information is not usually available before April. Please contact Jan for further information.
- **Six-Week Summer School at HBC and/or CalPoly.** This program was developed by HBC and California Polytechnic State University and first ran in 2017. The first year it took place entirely in Germany but in 2018 it included 3 weeks in Germany and 3 weeks in California. It runs from mid-July through mid-August and the students are a mix from HBC and CalPoly (plus BCIT if any of you decide to go). The program includes two 3-credit CalPoly courses and BCIT transfer credit may be possible. BCIT students will not be charged tuition (other than a small amount due to BCIT) so the cost to you would include flights, room & board, and fees for activities and tours. This program is open to all students who have completed second year.
- **Two-week Summer School at HBC.** This program is offered with the University of Nebraska-Lincoln in May (so only possible for third-year students). The courses vary from year to year so transfer credit would be determined on a case-by-case basis.

Volunteer Summer Work in Nepal
Following the 2015 earthquake in Nepal, two BCIT Civil Engineering instructors participated in the reconnaissance team sent by The Canadian Association for Earthquake Engineering. Dr. Svetlana Brzev has since retired from BCIT but Dr. Bishnu Pandey is still here and involved in assisting in Nepal’s recovery. With support from BCIT’s School of Construction and the Environment, Dr. Pandey took a leave through 2017 and spent it in Nepal, working with the Government of Nepal and other agencies.

In 2017, two BCIT Civil Engineering students spent their summer between third and fourth year working with Earthquake Safety Solutions in Kathmandu. Two more students followed in the summer of 2018. This program is still in development and future opportunities will be announced to third- and fourth-year students during the winter term.
Chapter 8
BECOMING AN ENGINEER OR TECHNOLOGIST

Regulatory Bodies
Engineers and Geoscientists BC and ASTTBC (Association of Scientists, Technologists and Technicians of British Columbia) are the two professional organizations governing our graduates. Completing your educational qualification is the first step in satisfying the educational, professional experience, suitability of character, and professional examination requirements of becoming a P.Eng. or A.Sc.T. See the Association websites for more information:
Engineers & Geoscientists BC: www.egbc.ca
ASTTBC: asttbc.org

Student Memberships
Engineers & Geoscientists BC
An Engineers & Geoscientists BC Student Membership is available to help you connect with your future professional association and ease the transition from student life to professional life.

Membership is FREE for BCIT Engineering students. Gain access to financial benefits, networking opportunities and professional development resources.
egbc.ca/Member-Programs/Students/Student-Membership
Email: students@egbc.ca

ASTTBC
ASTTBC offers free membership to BCIT Civil Engineering students. Along with membership to ASTTBC as a Student

Technologist or Student Technician, you’ll be kept up to date on association activity, initiatives, and events as well as access to the Canadian Technical Employment Network:
asttbc.org/careers/students/student_app
Email: techinfo@asttbc.org

Code of Ethics
The Engineers & Geoscientists BC and ASTTBC Codes of Ethics are essentially the same, and the full wording of the Engineers & Geoscientists BC Code of Ethics is repeated here:

Engineers & Geoscientists BC Code of Ethics
14 (a) The purpose of the code of ethics is to give general statements of the principles of ethical conduct in order that members and licensees may fulfill their duty to the public, to the profession and their fellow members and licensees. Members and licensees shall act at all times with fairness, courtesy and good faith to their associates, employers, employees and clients, and with fidelity to the public needs. They shall uphold the values of truth, honesty and trustworthiness and safeguard human life and welfare and the environment. In keeping with these basic tenets, members and licensees shall:

1) Hold paramount the safety, health and welfare of the public, the protection of the environment and promote health and safety within the workplace;

2) Undertake and accept responsibility for professional assignments only when qualified by training or experience.
3) Provide an opinion on a professional subject only when it is founded upon adequate knowledge and honest conviction;

4) Act as faithful agents of their clients or employers, maintain confidentiality and avoid a conflict of interest but, where such conflict arises, fully disclose the circumstances without delay to the employer or client;

5) Uphold the principle of appropriate and adequate compensation for the performance of engineering and geoscience work;

6) Keep themselves informed in order to maintain their competence, strive to advance the body of knowledge within which they practice and provide opportunities for the professional development of their associates;

7) Conduct themselves with fairness, courtesy and good faith towards clients, colleagues and others, give credit where it is due and accept, as well as give, honest and fair professional comment;

8) Present clearly to employers and clients the possible consequences if professional decisions or judgments are overruled or disregarded;

9) Report to their association or other appropriate agencies any hazardous, illegal or unethical professional decisions or practices by members, licensees or others; and

10) Extend public knowledge and appreciation of engineering and geoscience and protect the profession from misrepresentation and misunderstanding.

The Iron Ring

The Iron Ring has been registered and may be worn on the little finger of the working hand by any engineer who has been obligated at an authorized ceremony of the Ritual of the Calling of the Engineer. The ring symbolizes the pride which engineers have in their profession, while simultaneously reminding them of their humility. The ring serves as a reminder to the engineer and others of the engineer’s obligation to live by a high standard of professional conduct. It is not a symbol of qualification as an engineer - this is determined by the provincial and territorial licensing bodies. (ORIGINAL TEXT BY CAMP NO. 1, TORONTO) 91.07

BCIT Civil Engineering students may participate in The Ritual of the Calling of an Engineer in their fourth year of study. This Obligation Ceremony is organized in Vancouver by Camp #5 of The Corporation of the Seven Wardens Inc. The Ceremony is usually held in March at the Queen Elizabeth Theatre in downtown Vancouver. ironring.ca

Employment Information

There are several BCIT-wide sources of information on employment opportunities. Both job sites listed below allow students and alumni to register online to receive email alerts for relevant job postings.

- BCIT Student Association Career Services
  www.bcitsa.ca/careerservices/
- BCIT Student Employment Services
  www.bcit.ca/ses/students/
**Department Job Board**

Employers will often contact the department directly with information on employment opportunities. Remember to check the Department Information Board next to SW3 3695 frequently.

**CSCE Professional Night**

The BCIT CSCE Student Chapter hosts its annual Professional Night each year – usually in February. This event is a great opportunity to network with Industry professionals, right on campus. No resumes, though – please! While the focus is on networking and making industry connections, possible employment opportunities are appropriately and tactfully handled with a follow-up email.

**Engineers & Geoscientists BC & ASTTBC Student and Industry Networking Night**

Engineers & Geoscientists BC and ASTTBC organize a networking night on campus and all students from all of the BCIT Engineering programs are invited to attend.

**BCIT SA Industry Days**

Industry Days Career Fairs are industry-specific recruitment events where BCIT students and alumni can connect to employers of choice. As well, the BCITSA offers quick and easy “How To” courses several times a week. Check with the BCITSA for updates on their plans for 2018/19.

**Salary Guidelines**

Engineers & Geoscientists BC and ASTTBC conduct regular salary surveys of their membership and publish the results. While every situation is different, these results can be a useful reference for engaging in salary negotiations with employers. Based on the most recent surveys conducted,

- The Median annual salary for ASTTBC members with under 2 years of experience was approximately $48,000.
- The Median annual salary for Engineers & Geoscientists BC members with under 2 years of experience was approximately $60,000.

Salaries are dependent on responsibility level and other factors, but can be expected to increase with experience.

- The Median salary for ASTTBC members with 10 years of experience was $78,500.
- The Median salary for ASTTBC members with 20 years of experience was $81,000.
- The Median salary for Engineers & Geoscientists BC members with 10 years of experience was approximately $90,000.
- The Median salary for Engineers & Geoscientists BC members with 20 years of experience was approximately $113,700.

Source: egbc.ca/Compensation-Survey-2016

Be sure to consult the surveys for more details and context.
Chapter 9
CLOSING REMARK

This handbook was developed specifically for BCIT’s Civil Engineering students. In putting it together it quickly became evident that there was a lot of specific information that we needed to get to our students. We hope this Handbook is useful for you.

Updates

This edition of the Handbook is specific to the particular academic year on the cover. It will (need to) be updated each year.

If you would like to recommend changes or additions please contact Kristin at Kristin_Maxom@bcit.ca

Some Advice

We would like to leave you with the following eight pieces of advice. They are the thoughts and opinions of the author and not necessarily ‘official BCIT material’. Consider their meaning and justification in making your own assessment of their merit.

#1: Good Habits

“We are what we repeatedly do. Excellence, then, is not an act but a habit” – Aristotle.

This saying applies to all facets of life, but within the context of your education and time at BCIT, you should consider it as a guideline for how you approach your studies. Get in the habit of behaving in a professional manner, just like the graduate engineer or technologist you will be after graduation.

#2: Self-care

Your body is an incredible piece of machinery. But it needs looking after. Endeavour to give it the fuel it needs, and the necessary tune-ups from time-to-time. This means making sure you get enough rest, eat well, exercise, and maintain and develop your relationships with friends and family. Look after yourself!

#3: Well-roundedness

Be well-rounded. Yes, employers want someone who possesses the specialized technical knowledge that you learn through your studies at BCIT, but they also want people who can communicate, who can problem-solve, who work well both individually and in teams, and who can be a leader. Consider ways to become that well-rounded individual; some ideas to improve outside of the classroom could include being active in a student club or volunteering.

#4 On Marks

What do marks mean? Yes, they are an indicator of achievement in a particular class, but they are by no means an end-
all. Don’t catch yourself chasing marks at the expense of learning. And chasing after more marks – also known as marks-grubbing – can get you a reputation you don’t want to have follow you. More on that below.

#5 Network, Network/ It Is a Small World

You’ve probably heard it already – it is not just WHAT you know, but also WHO you know. Take advantage of the myriad opportunities available to you to get to know your classmates and members of industry; it will serve you well. Engineering is a small world, and you will cross paths with people over and over again. On that note, be aware that how you act at BCIT can follow you well after graduation. Someone who cheats or otherwise acts unethically or unprofessionally will carry that label with them, even if they are not necessarily caught while at BCIT.

#6 Keep Everything in Perspective

The BCIT Civil Engineering program is intense, and includes a lot of hard work. It is important that you keep everything in perspective (and perhaps as a motivating tool). Whether you bombed a test, failed a course, or had some unfortunate event happen to you, try to keep it all in perspective by considering whether anyone got hurt (hopefully not!). It is all part of your education, and learning to bounce back (resiliency) is an important life skill. We are so lucky to be living in Canada, with shelter over our heads and food on our plates; sometimes thinking about the challenges that others across the globe or in history have faced can help you feel better. It is always a good idea to talk to someone if you are having trouble recovering from a set-back.

#7 Walk in the Other guy’s Shoes

WOGS, or Walk in the Other Guy’s Shoes is a piece of advice that was given to me and made a lasting impression. Whether it is trying to figure out what is intended in a particular assignment, conducting a job search, or even just trying to understand someone else’s opinion on something, it is always useful to try to understand things from the other person’s perspective.

#8 Be good. Be proud.

Engineers are held in high esteem by society because by and large they do a good job and hold themselves to the high standards expected by the Code of Ethics. Be a good person and be proud of being an engineer (proud yet modest; not boastful!). Even when not actively ‘engineering’, conduct yourself in a professional manner. You represent the profession to all the non-engineers you meet and interact with.

Engineering is an admirable career. Make the most of it - for yourself, for society, and for our planet Earth.

By Martin Bollo, P.Eng.
June, 2017
PROFESSIONAL NIGHT

Attend a grand, one-night networking event with refreshments and catering featuring many engineering and contracting firms in attendance.

TECHNICAL TALKS

Attend seminars featuring local practicing engineers and/or technologists from industry.

INTRAMURALS

Join the “Civengers” intramural teams for basketball, futsal, and/or our undefeated dodgeball team.

WELCOME

The CSCE BCIT Student Chapter is a club dedicated to all BCIT Civil Engineering students. The goal of CSCE at BCIT is to bridge the gap between being a student and being a professional in an enjoyable and educational manner. Last year, BCIT came in 3rd place out of all Canadian schools due to our enrolment numbers and program participation in club activities. That is why we welcome and encourage everyone to participate and help keep the tradition going strong!

The CSCE BCIT Student Chapter helps facilitate most extra-curricular activities that occur in our program.

We hope to see everyone at our events this coming year either as a member or as part of the committee. Watch out for CSCE news coming up!