

## **BOARD OF GOVERNORS**

### **PUBLIC SESSION AGENDA**

Friday, September 16, 2016

8:30 AM – UNBC Campus, Terrace

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**Members** - Hon. James Moore (Chancellor), Daniel Weeks (President and Vice-Chancellor), Karin Beeler (Faculty Member - CASHS), Kathy Lewis (Faculty Member – CSAM) Katherine LaForge (Order in Council), Ryan Matheson (Order in Council – Alumni - CHAIR), Harry Nyce, Sr. (Order in Council), C.E. Lee Ongman (Order in Council), Sean Simmons (Order in Council), Simon Yu (Order in Council), Tracey Wolsey (Order in Council – Alumni – VICE-CHAIR), Julie Ziebart (Order in Council), Wendel Schwab (Undergraduate Student), Mamie Ifem (Graduate Student), Carolee Clyne (Employee)

1. **Chair's Remarks**

2. **Approval of Agenda**

*That, the Agenda for the Public Session of the September 16, 2016 meeting of the Board of Governors be approved as presented.*

3. **Approval of Minutes**

- a. Public Session Minutes of March 18, 2016 – **page 4**  
*That, the Public Session Minutes of the March 18, 2016 meeting of the Board of Governors be approved as presented.*
- b. Public Session Minutes of May 5, 2016 – **page 11**  
*That, the Public Session Minutes of the May 5, 2016 meeting of the Board of Governors be approved as presented.*
- c. Public Session Minutes of May 20, 2016 – **page 13**  
*That, the Public Session Minutes of the May 20, 2016 meeting of the Board of Governors be approved as presented.*
- d. Public Session Minutes of May 26, 2016 – **page 16**  
*That, the Public Session Minutes of the May 26, 2016 meeting of the Board of Governors be approved as presented.*
- e. Public Session Minutes of June 17, 2016 – **page 19**  
*That, the Public Session Minutes of the June 17, 2016 meeting of the Board of Governors be approved as presented.*
- f. Public Session Minutes of July 15, 2016 – **page 23**  
*That, the Public Session Minutes of the July 15, 2016 meeting of the Board of Governors be approved as presented.*

4. **Special Presentation – “Regional Programs – Past, Present, Future”** (Dr. Mark Dale, Dean of Regional Programs & Drs. Phil Burton and Titi Kunkel, Regional Chairs) (apx. 45 min)

5. **Business Arising from Previous Public Session Minutes**

- a. Action item: Arising from the *Harassment & Discrimination Report* – B. Daigle to provide clarification re: respective roles of Managers and Human Resources in hiring, discipline and termination.

## 6. Mandatory Reporting and Motions for Approval

### a. **Quarterly Forecasts and Quarterly Reports** – R. Knight / C. Smith – **page 25**

- (i) General Operating Fund Report to June 30, 2016
- (ii) Consolidated Financial Report to June 30, 2016

### b. **Financial Information Act Report** (approval) – R. Knight – **page 41**

*That, on the recommendation of the Finance and Audit Committee, the Board of Governors approves the Financial Information Act Reports to March 31, 2016 as presented.*

### c. **Five Year Capital Plan** (approval) – R. Knight – **page 58**

*That, the Board of Governors approves the 2017/18 to 2020/21 Five Year Capital Plan for the University of Northern British Columbia, as presented.*

### d. **Undergraduate Engineering Programs – Approval of Programs in Principle** – D. Ryan - **page 82**

*That the Board of Governors approves the establishment of UNBC's Undergraduate Civil Engineering Program, subject to confirmation of funding, and that: the Board of Governors approves the establishment of UNBC's Environmental Engineering Program, subject to confirmation of funding.*

### e. **Delegation of Authority – Approval of Scholarships Bursaries and Awards** (approval) - D. Ryan

*That, the Board of Governors, on the recommendation of the Finance and Audit Committee, delegates to the President, the authority to approve the establishment of scholarships, bursaries and other awards, as may be recommended by Senate, and further directs that the regular reports to the Board on scholarships, bursaries and awards, are to be replaced with an annual report.*

## 7. Standing Reports - Public Session

### a. **Report of the President – D. Weeks**

#### (i) **Reports of the Vice-Presidents**

- Vice-President Academic and Provost
- Vice-President Finance and Business Operations
- Vice-President of Research
- Vice-President University Advancement – **page 112**

### b. **Reports of Committees:**

- (i) Human Resources Committee – C. Clyne, Chair
- (ii) Governance Committee – K. Lewis, Chair
- (iii) Finance and Audit Committee - S. Simmons, Chair

8. **Other Business**

9. **Adjournment**

BOARD OF GOVERNORS – PUBLIC SESSION

Approved for Submission:

A handwritten signature in black ink, appearing to read "Heather Sanford". The signature is written in a cursive style with a large initial 'H' and 'S'.

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Heather Sanford  
University Secretary

**3.a. Public Session Minutes of March 18, 2016**

**That, the Public Session Minutes of the March 18, 2016 meeting of the Board of Governors be approved as presented.**















**3.b. Public Session Minutes of May 5, 2016**

**That, the Public Session Minutes of the May 5, 2016 meeting of the Board of Governors be approved as presented.**



**3.c. Public Session Minutes of May 20, 2016**

**That, the Public Session Minutes of the May 20, 2016 meeting of the Board of Governors be approved as presented.**





**3.d. Public Session Minutes of May 26, 2016**

**That, the Public Session Minutes of the May 26, 2016 meeting of the Board of Governors be approved as presented.**







**3.e. Public Session Minutes of June 17, 2016**

**That, the Public Session Minutes of the June 17, 2016 meeting of the Board of Governors be approved as presented.**







**3.f. Public Session Minutes of July 15, 2016**

**That, the Public Session Minutes of the July 15, 2016 meeting of the Board of Governors be approved as presented.**





**6.a. Quarterly Forecasts and Quarterly Reports  
– R. Knight / C. Smith**

- (i) General Operating Fund Report to June 30, 2016**
- (ii) Consolidated Financial Report to June 30, 2016**

Please enter amounts received as positive amounts  
and amounts amortized to revenue as negative.

	Forecast	Projections		
	2016/17	2017/18	2018/19	2019/20
<b>Operating Contributions</b>				
<b>From Ministries</b>				
Contributions deferred from previous years	1,806	1,806	1,806	1,806
plus: Operating contributions from <b>AVED</b>	48,621	48,534	49,317	49,317
plus: Operating contributions from <b>other Ministries</b>	1,612	1,612	1,612	1,612
plus: <b>Routine Capital</b> (received through EFT) recognized as revenue	128	128	128	128
minus: Amounts amortized to revenue	(50,361)	(50,274)	(51,057)	(51,057)
Deferred contribution balance at the end of the year	1,806	1,806	1,806	1,806
<b>From Other Service Delivery Agencies</b>				
Contributions deferred from previous years	2,693	1,793	761	(406)
plus: Contributions received in the current year	5,718	5,718	5,718	5,718
minus: Amounts amortized to revenue	(6,618)	(6,750)	(6,885)	(7,023)
Deferred contribution balance at the end of the year	1,793	761	(406)	(1,711)
<b>From the Federal Government</b>				
Contributions deferred from previous years	1,964	1,964	1,964	1,964
plus: Contributions received in the current year	5,000	5,100	5,202	5,306
minus: Amounts amortized to revenue	(5,000)	(5,100)	(5,202)	(5,306)
Deferred contribution balance at the end of the year	1,964	1,964	1,964	1,964
<b>From Other Sources</b>				
Contributions deferred from previous years	9,339	8,639	8,639	8,639
plus: Contributions received in the current year	2,500	2,499	2,498	2,497
minus: Amounts amortized to revenue	(3,200)	(2,499)	(2,498)	(2,497)
Deferred contribution balance at the end of the year	8,639	8,639	8,639	8,639
<b>Endowment Deferred Contributions</b>				
Opening Balance	8,070	8,070	8,183	8,326
New endowment spend contribution (Endowment Matching)				
Unrealized gains/(losses)				
Realized gains/(losses)				
Transfers (to)/from Capitalization	800	1,013	1,043	1,074
Transfers to Stmt of Remeasurement				
Amortized/Transferred to revenue	(800)	(900)	(900)	(900)
Balance at end of period	8,070	8,183	8,326	8,500
<b>Deferred Capital Contributions</b>				
<b>From Ministries: Cash</b>				
Contributions deferred from previous years	139,817	134,596	128,923	123,307
plus: Certificates of Approval ( <b>COAs</b> ) received	409	-	-	-
plus: other ( <b>please specify nature in Notes</b> )	100	-	-	-
minus: Amounts amortized to revenue	(5,730)	(5,673)	(5,616)	(5,560)
Deferred capital contribution balance at the end of the year	134,596	128,923	123,307	117,747
<b>From Ministries: Depreciable Assets</b>				
Contributions deferred from previous years		-	-	-
plus: Contributions received in the current year		-	-	-
minus: Amounts amortized to revenue		-	-	-
Deferred capital contribution balance at the end of the year		-	-	-
<b>From the Federal Government: Cash</b>				
Contributions deferred from previous years	11,029	11,138	11,251	11,368
plus: Contributions received in the current year	500	500	500	500
minus: Amounts amortized to revenue	(391)	(387)	(383)	(379)
Deferred contribution balance at the end of the year	11,138	11,251	11,368	11,489
<b>From Other Sources: Cash</b>				
Contributions deferred from previous years	14,379	14,109	13,844	13,584
plus: Contributions received in the current year	250	250	250	250
minus: Amounts amortized to revenue	(520)	(515)	(510)	(505)
Deferred capital contribution balance at the end of the year	14,109	13,844	13,584	13,329
<b>From Other Sources: Depreciable Assets</b>				
Contributions deferred from previous years		-	-	-
plus: Contributions received in the current year		-	-	-
minus: Amounts amortized to revenue		-	-	-
Deferred capital contribution balance at the end of the year		-	-	-
<b>Contributed Surplus</b>				
<b>Cash</b>				
Contributed surplus from previous years		-	-	-
plus: Contributions received in the current year		-	-	-
minus: Amounts amortized to revenue		-	-	-
Contributed surplus balance at the end of the year		-	-	-
<b>Non-depreciable Assets</b>				
Contributed surplus from previous years		-	-	-
plus: Contributions received in the current year		-	-	-
minus: Amounts amortized to revenue		-	-	-
Contributed surplus balance at the end of the year		-	-	-
<b>Externally Restricted Assets</b>				
Opening balance	49,340	50,640	52,153	53,696
plus: Contributions received in the current year	500	500	500	500
Endowment transfers (to)/from other institutions/entities				
Transfers to/(from) Deferred Endowment Contributions to Stmt of Remeasurement Gains/Losses				
Transfers to/(from) Deferred Endowment Contribution (income permanently restricted for inflation protection)	800	1,013	1,043	1,074
Closing balance at the end of the year	50,640	52,153	53,696	55,270

Please report all debits as positive numbers and credits as negative numbers

	Forecast	Projections		
	<u>2016/17</u>	<u>2017/18</u>	<u>2018/19</u>	<u>2019/20</u>
----- \$thousands -----				
<b>Revenue - (credits)</b>				
Amortization of contributions:				
Operating contributions from Provincial Ministries	(50,361)	(50,274)	(51,057)	(51,057)
Operating contributions from Provincial Crown Corps & Agencies	(6,618)	(6,750)	(6,885)	(7,023)
Operating contributions from the Federal Government	(5,000)	(5,100)	(5,202)	(5,306)
Operating contributions from other sources	(3,200)	(2,499)	(2,498)	(2,497)
Deferred capital contributions from Province	(5,730)	(5,673)	(5,616)	(5,560)
Deferred capital contributions from Federal Government	(391)	(387)	(383)	(379)
Deferred capital contributions from Other Sources	(520)	(515)	(510)	(505)
Contributed surplus	-	-	-	-
Sales of goods and services to Provincial Ministries (including contracts)				
Sales of goods and services to Crown Corps & Agencies (including contracts)				
Sales of goods and services to others (contracts and other sales)		-	-	-
Sales of goods and services to others (Ancillary Services)	(8,650)	(8,823)	(8,999)	(9,179)
Domestic Tuition and Mandatory Fees	(16,200)	(16,605)	(17,020)	(17,446)
International Tuition and Mandatory Fees	(3,000)	(3,075)	(3,152)	(3,231)
Recognition of endowment investment income	(800)	(900)	(900)	(900)
Realized investment earnings (gains)/losses	-	-	-	-
Earnings from commercial subsidiaries (GBE's)				
Investment Earnings (not included above)	(1,200)	(1,200)	(1,200)	(1,200)
Other revenue (not included above)	(4,000)	(4,080)	(4,162)	(4,245)
Total Revenue	<u>(105,670)</u>	<u>(105,881)</u>	<u>(107,584)</u>	<u>(108,528)</u>
<b>Expenses - debits</b>				
Salaries and benefits	66,850	67,519	68,194	68,876
Cost of goods sold	1,730	1,747	1,764	1,782
Operating costs paid to Provincial Ministries				
Operating costs paid to Provincial Crown Corps & Agencies				
Other operating costs (less amortization & debt servicing)	28,000	28,280	28,563	28,849
Capital asset amortization expense	9,000	9,090	9,181	9,273
Capital asset write-downs				
Grants to Crown corporations and agencies				
Grants to third parties (Scholarships)	3,050	3,081	3,112	3,143
Grants to third parties (Foundations and Other)				
Debt service costs (net of sinking fund earnings)	270	270	270	270
Amortization of debt issue costs				
Other				
Total Expense	<u>108,900</u>	<u>109,987</u>	<u>111,084</u>	<u>112,193</u>
<b>Net (Revenues)/Expenses before extraordinary items</b>	<u>3,230</u>	<u>4,106</u>	<u>3,500</u>	<u>3,665</u>
(Gain) loss on sale of capital assets	-	-	-	-
<b>Net (Revenues)/Expenses</b>	<u>3,230</u>	<u>4,106</u>	<u>3,500</u>	<u>3,665</u>
Unallocated Pressures (use in Q1 only)			-	-
<b>Operating Net (Income) Loss (for Ministry)</b>	<u>3,230</u>	<u>4,106</u>	<u>3,500</u>	<u>3,665</u>
Endowment (restricted asset) contributions	(1,300)	(1,513)	(1,543)	(1,574)
<b>Net (Income) Loss (PSI)</b>	<u>1,930</u>	<u>2,593</u>	<u>1,957</u>	<u>2,091</u>

Please report all debits as positive amounts and credits as negative amounts

	Forecast	Projections		
	2016/17	2017/18	2018/19	2019/20
<b>Financial assets - debits</b>				
Cash and temporary investments	45,240	39,877	35,105	30,182
Accounts receivable (net):				
from Ministries				
from other Service Delivery Agencies				
other receivables	3,100	3,131	3,162	3,194
	<u>3,100</u>	<u>3,131</u>	<u>3,162</u>	<u>3,194</u>
Sinking Funds:				
Sinking funds on Fiscal Agency Loan program debt	3,035	3,035	3,035	-
Sinking funds on other debt		-	-	-
	<u>6,135</u>	<u>6,166</u>	<u>6,197</u>	<u>3,194</u>
Inventory held for resale	720	727	734	741
Loans, advances and mortgages receivable (net)				
Investments in commercial subsidiaries (GBE's)				
Investments - other (net)	16,000	16,320	16,646	16,979
<b>TOTAL FINANCIAL ASSETS</b>	<u>68,095</u>	<u>63,090</u>	<u>58,682</u>	<u>51,096</u>
<b>Liabilities - (credits)</b>				
Accounts payable (net):				
to Provincial Ministries				
to Provincial Crown Corporations and Agencies				
other payables (excluding current portion of debt and/or leases)	(9,200)	(9,292)	(9,385)	(9,479)
	<u>(9,200)</u>	<u>(9,292)</u>	<u>(9,385)</u>	<u>(9,479)</u>
Unfunded pension and other accrued liabilities				
Deferred income on externally restricted assets	(8,070)	(8,183)	(8,326)	(8,500)
Deferred contributions:				
deferred operating contributions - Ministries & SDAs	(3,599)	(2,567)	(1,400)	(95)
deferred operating contributions - Federal & Other	(10,603)	(10,603)	(10,603)	(10,603)
deferred capital contributions - Ministries	(134,596)	(128,923)	(123,307)	(117,747)
deferred capital contributions - Federal & Other	(25,247)	(25,095)	(24,952)	(24,818)
Deferred Tuition				
Deferred Other	(600)	(600)	(600)	(600)
Unearned lease revenue				
	<u>(174,645)</u>	<u>(167,788)</u>	<u>(160,862)</u>	<u>(153,863)</u>
Public debt (including current portion):				
Obligations under Capital Leases (including current portion)		-	-	-
P3 liabilities		-	-	-
Fiscal Agency Loan program debt	(3,000)	(3,000)	(3,000)	-
other debt		-	-	-
	<u>(3,000)</u>	<u>(3,000)</u>	<u>(3,000)</u>	<u>-</u>
<b>TOTAL LIABILITIES</b>	<u>(194,915)</u>	<u>(188,263)</u>	<u>(181,573)</u>	<u>(171,842)</u>
<b>Net assets/(liabilities)</b>	<u>(126,820)</u>	<u>(125,173)</u>	<u>(122,891)</u>	<u>(120,746)</u>
<b>Non-financial assets - debits</b>				
Inventory for operating purposes	95	96	97	98
Capitalized debt issue costs		-	-	-
Prepaid expenses and other deferred charges	1,467	1,482	1,497	1,512
Endowment Funds (restricted assets)	50,640	52,153	53,696	55,270
Capital assets (net of amortization)	206,333	200,564	194,766	188,940
<b>TOTAL NON-FINANCIAL ASSETS</b>	<u>258,535</u>	<u>254,295</u>	<u>250,056</u>	<u>245,820</u>
<b>Accumulated (surplus)/deficit - Operating</b>				
Share capital		-	-	-
Contributed surplus		-	-	-
Accumulated Surplus	(131,675)	(129,082)	(127,125)	(125,034)
Accumulated Remeasurement Gains and (losses)		-	-	-
<b>TOTAL ACCUMULATED (SURPLUS)/DEFICIT</b>	<u>(131,675)</u>	<u>(129,082)</u>	<u>(127,125)</u>	<u>(125,034)</u>
<b>Guarantees of Third Party Debt</b>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>

Please enter cash inflows as positive amounts and outflows as negative amounts

	Forecast	Projections		
	2016/17	2017/18	2018/19	2019/20
<b>Opening balance - cash &amp; temporary investments</b>	52,154	45,240	39,877	35,105
<b>Operating activities:</b>				
<b>Net (Income) Loss (PSI)</b>	(1,930)	(2,593)	(1,957)	(2,091)
Less:				
non-cash revenue	(71,820)	(71,198)	(72,151)	(72,327)
(gain) loss sale of assets	-	-	-	-
Add:				
non-cash expenses	9,000	9,090	9,181	9,273
cash received for operating contributions	63,579	63,591	64,475	64,578
Net change in working capital	(1,000)	54	55	55
Net change in investments	(1,000)	(320)	(326)	(333)
Net change in restricted assets & Deferred Endowment Contributor	(1,400)	(1,400)	(1,400)	(1,400)
Net change in other assets	(33)	(16)	(16)	(16)
	<u>(4,604)</u>	<u>(2,792)</u>	<u>(2,139)</u>	<u>(2,261)</u>
<b>Financing activities:</b>				
Cash received for deferred capital contributions	1,259	750	750	750
Cash received for contributed surplus	-	-	-	-
Capital Leases:				
New capital leases				
Capital lease payments				
P3 liabilities:				
Liabilities incurred (i.e. capitalized contract costs)				
Reduction in liabilities (impact of unitary payments)				
Fiscal Agency Loans:				
New borrowing under Fiscal Agency Loan program				
Repayment of existing Fiscal Agency Loan program debt				(3,000)
Sinking fund instalments - Fiscal Agency Loan program debt				3,035
Other Borrowing:				
New borrowing of other debt				
Repayment of other debt				
Sinking fund instalments - other debt				
Capitalized debt issue costs				
Dividends				
	<u>1,259</u>	<u>750</u>	<u>750</u>	<u>785</u>
<b>Capital asset activities:</b>				
Capital assets additions ( <b>with</b> Provincial funding)	(509)	(200)	(200)	(200)
Capital assets additions ( <b>without</b> Provincial funding)	(3,060)	(3,121)	(3,183)	(3,247)
Capital assets additions (including P3s and capital lease assets)	<u>(3,569)</u>	<u>(3,321)</u>	<u>(3,383)</u>	<u>(3,447)</u>
Capitalized interest (including IDC on P3 projects)	-	-	-	-
Proceeds from sale of capital assets	-	-	-	-
	<u>(3,569)</u>	<u>(3,321)</u>	<u>(3,383)</u>	<u>(3,447)</u>
<b>Closing balance - cash &amp; temporary investments</b>	<u>45,240</u>	<u>39,877</u>	<u>35,105</u>	<u>30,182</u>

(\$ thousands)	PSI					Variance Explanation (please focus commentary on changes between Current Quarter and Budget)
	Final Draft/ Audited Financial Stmts 15/16 (Note 1)	16/17 Budget	Current Quarter Forecast 16/17 *linked*	Variance PY to Current Quarter	Variance Current Quarter to Budget	
<b>Revenue - (credits)</b>						
Operating contributions from the Province	(50,314)	(49,803)	(50,361)	(47)	(558)	Primarily impact of ESD, increase in non capitalized Rc funding and research estimate
Operating contributions from Crown corporations and agencies	(5,845)	(6,120)	(6,618)	(773)	(498)	Updated based on budget prepared by NMP
Operating contributions from the federal government	(5,230)	(6,120)	(5,000)	230	1,120	Revised research estimate in line with 2015/16
Operating contributions from other sources	(2,482)	(2,499)	(3,200)	(718)	(701)	Revised research estimate in line with 2015/16
Recognition of DCC - Provincial sources	(5,719)	(5,610)	(5,730)	(11)	(120)	
Recognition of DCC - Federal sources	(465)	(391)	(391)	74	-	
Recognition of DCC - Other sources	(465)	(520)	(520)	(55)	-	
Contributed Surplus	-	-	-	-	-	
Sales of goods and services to the Province (including contracts)	-	-	-	-	-	
Sales of goods and services to Crown corporations and agencies (including contracts)	-	-	-	-	-	
Sales of goods and services to others (Contract Sales)	-	(1,020)	-	-	1,020	Corrected error
Sales of goods and services (Ancillary)	(8,839)	(8,874)	(8,650)	189	224	Revised based on unit budgets for 2016/17 and 2015/16 actual performance
Domestic Tuition and Mandatory Fees <i>Budget shows all tuition</i>	(15,859)	(17,238)	(16,200)	(341)	1,038	Revised estimate in line with 2015/16 and internal budget estimates
International Tuition and Mandatory Fees	(2,938)	(3,356)	(3,000)	(62)	356	Revised estimate in line with 2015/16 and internal budget estimates
Recognition of endowment investment income	(1,695)	(900)	(800)	895	100	
Realized investment (gains)/losses	-	-	-	-	-	
Earnings from Government Business Enterprises (GBEs) (Note 2)	-	-	-	-	-	
Investment earnings	(917)	(1,500)	(1,200)	(283)	300	
Other revenue (not included above)	(3,064)	(510)	(4,000)	(936)	(3,490)	Corrected error from sales above and updated based on 2015/16 results
<b>Total Revenue</b>	<b>(103,832)</b>	<b>(104,461)</b>	<b>(105,670)</b>	<b>(1,838)</b>	<b>(1,209)</b>	
<b>Expenses - debits</b>						
Salaries and benefits	65,373	63,630	66,850	1,477	3,220	Revised to correct error related to 2015 strike and in line with 2015/16 actual performance
Cost of goods sold	1,723	1,808	1,730	7	(78)	
Operating costs paid to the Province	-	-	-	-	-	
Operating costs paid to Crown corporations and agencies	-	-	-	-	-	
Other operating costs (less amortization & debt servicing)	27,732	26,673	28,000	268	1,327	Revised estimate in line with 2015/16 and internal budget estimates
Capital asset amortization expense	9,022	8,888	9,000	(22)	112	
Capital asset write-downs	(78)	-	-	78	-	
Grants to Crown corporations and agencies	-	-	-	-	-	
Grants to third parties (Scholarships)	3,279	2,626	3,050	(229)	424	Revised estimate in line with 2015/16 and internal budget estimates
Grants to third parties (Foundations & others)	-	-	-	-	-	
Debt service costs (net of sinking fund earnings)	248	270	270	22	-	
Amortization of debt issue costs	-	-	-	-	-	
Other	-	-	-	-	-	
<b>Total Expense</b>	<b>107,299</b>	<b>103,895</b>	<b>108,900</b>	<b>1,601</b>	<b>5,005</b>	
<b>Net (Revenues)/Expenses before extraordinary items</b>	<b>3,467</b>	<b>(566)</b>	<b>3,230</b>	<b>(237)</b>	<b>3,796</b>	
(Gain) loss on sale of capital assets	-	-	-	-	-	
<b>Net (Revenues)/Expense</b>	<b>3,467</b>	<b>(566)</b>	<b>3,230</b>	<b>(237)</b>	<b>3,796</b>	
Unallocated Pressures	-	-	-	-	-	
<b>Operating Net (Income) Loss (for Ministry)</b>	<b>3,467</b>	<b>(566)</b>	<b>3,230</b>	<b>(237)</b>	<b>3,796</b>	
Endowment (restricted asset) contributions	(1,957)	(1,477)	(1,300)	657	177	
<b>Net (Income) Loss</b>	<b>1,510</b>	<b>(2,043)</b>	<b>1,930</b>	<b>420</b>	<b>3,973</b>	

Capital Asset Additions	Forecast 2016/17	Forecast 2017/18	Forecast 2018/19	Forecast 2019/20
<b>Current Quarter 2016/17 *linked*</b>				
Capital assets additions (with Provincial funding)	(509)	(200)	(200)	(200)
Capital assets additions (without Provincial funding)	(3,060)	(3,121)	(3,183)	(3,247)
Total capital asset additions (including assets under capital lease)	(3,569)	(3,321)	(3,383)	(3,447)

Q3 2015/16 (Budget)	Forecast 2016/17	Forecast 2017/18	Forecast 2018/19
Capital assets additions with provincial funding	(200)	(200)	(200)
Capital assets additions without provincial funding	(3,060)	(3,121)	(3,183)
Total capital asset additions (including assets under capital lease)	(3,260)	(3,321)	(3,383)

Variance	Variance Explanation			
Capital assets additions with provincial funding	(309)	-	-	(200)
Capital assets additions without provincial funding	-	-	-	(3,247)
Total capital asset additions (including assets under capital lease)	(309)	-	-	(3,447)





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Fax: (250) 960-5794

July 20, 2016

Funding and Analysis Branch  
Ministry of Advanced Education

To Whom It May Concern:

This is to confirm that I have reviewed the 2016/17 first quarter forecast submitted by the University of Northern British Columbia with senior management of the University. I agree that the forecast has been prepared based on the assumptions and plans that are currently under consideration in the budget planning process.

Sincerely,

A handwritten signature in black ink, appearing to read 'RMB', is positioned above the printed name.

Ryan Matheson  
Chair, UNBC Board of Governors



GENERAL OPERATING FUND REPORT  
FOR THE PERIOD ENDED JUNE 30, 2016



Submitted by: Robert Knight  
Vice President, Finance & Business Operations



	2016/2017 Approved Budget	2016/2017 Revised Budget	Actual YTD	Variance from Budget	
	(000's) (Note 1)	(000's) (Note 2)	(000's)	(000's)	%
<b><u>OPERATING FUND REVENUES</u></b>					
<b>Revenue Generated</b>					
Provincial Government Grants	47,500	47,499	11,907	(35,592)	-74.93%
Federal Government Grant	1,145	1,075	269	(806)	-75.00%
Student Fees (Note 3)	17,748	17,713	1,834	(15,880)	-89.65%
Interest, Miscellaneous & Other	925	959	305	(655)	-68.23%
Ancillary Services (Note 4)	1,074	1,175	249	(925)	-78.76%
Internal Cost Recoveries	326	326	51	(275)	-84.32%
<b>Total Operating Revenues</b>	<b>68,717</b>	<b>68,748</b>	<b>14,615</b>	<b>(54,133)</b>	<b>-78.74%</b>

**Comments on Revenue Variances:**

The University of Northern British Columbia's fiscal year is April 1 - March 31. At June 30, it is expected that the variance from budget for most revenues would be in the range of 75% - 90%.

Provincial Government Grants	Within expected range.
Federal Government Grant	Within expected range. Indirect Cost of Research Grant is received in 4 instalments.
Student Fees	Within expected range.
Interest, Miscellaneous & Other	Within expected range. Interest income slightly higher than expected due to higher than predicted cash balances relating to research funding and the Northern Medical Program.
Ancillary Services	Within expected range.
Internal Cost Recoveries	Within expected range.

	2016/2017 Approved Budget	2016/2017 Revised Budget	Actual YTD	Committed	Budget Remaining	
	(000's) (Note 1)	(000's) (Note 2)	(000's)	(000's) (Note 5)	(000's)	%
<b><u>OPERATING EXPENDITURES</u></b>						
Salaries & Benefits (Note 5)						
President's Office / Executive Services	630	630	166	508	(44)	-6.9%
External Relations	1,086	1,134	230	844	59	5.2%
Academic Services	7,556	7,468	1,802	4,872	794	10.6%
Research	833	833	193	509	132	15.8%
Academic Programs	31,686	32,545	7,317	19,355	5,873	18.0%
Student Engagement	2,498	2,577	606	1,709	262	10.2%
Administrative Services	5,497	5,512	1,430	4,190	(108)	-2.0%
University Operations (Note 6)	2,749	2,030	199	104	1,728	85.1%
<b>Total Salaries and Benefits **</b>	<b>52,534</b>	<b>52,729</b>	<b>11,942</b>	<b>32,090</b>	<b>8,696</b>	<b>16.5%</b>
<b>Operating Expenditures</b>						
President's Office / Executive Services	223	206	106	1	99	48.1%
External Relations	269	269	75	58	135	50.3%
Academic Services	792	793	244	10	538	67.9%
Research	175	175	32	11	133	75.9%
Academic Programs	2,274	2,277	538	70	1,669	73.3%
Student Engagement	816	816	97	20	698	85.6%
Administrative Services	776	793	270	60	463	58.4%
University Operations (Note 6)	8,529	8,459	2,233	1,194	5,033	59.5%
<b>Total Operating Expenditures **</b>	<b>13,853</b>	<b>13,787</b>	<b>3,594</b>	<b>1,424</b>	<b>8,768</b>	<b>63.6%</b>
<b>Transfers to Other Funds (Note 8)</b>	<b>2,989</b>	<b>2,904</b>	<b>1,075</b>	<b>-</b>	<b>1,829</b>	<b>63.0%</b>
<b>Transfers from Other Funds (Note 9)</b>	<b>(2,419)</b>	<b>(2,432)</b>	<b>(696)</b>	<b>-</b>	<b>(1,736)</b>	<b>-71.4%</b>
<b>Total Operating Expenditures and Transfers</b>	<b>66,957</b>	<b>66,988</b>	<b>15,915</b>	<b>33,515</b>	<b>17,558</b>	<b>26.2%</b>

	2016/2017 Approved Budget	2016/2017 Revised Budget	Actual YTD	Committed	Budget Remaining	% Remaining
	(000's) (Note 1)	(000's) (Note 2)	(000's)	(000's)	(000's)	
<b><u>CAPITAL EXPENDITURES</u></b>						
Library Acquisitions	1,760	1,760	-	-	1,760	100.0%
Capital Equipment Replacement Reserve	-	-	-	-	-	0.0%
<b>Total Capital Expenditures</b>	<b>1,760</b>	<b>1,760</b>	<b>-</b>	<b>-</b>	<b>1,760</b>	<b>100.0%</b>
<b>2016/17 Total Budget</b>	<b>68,717</b>	<b>68,748</b>	<b>15,915</b>	<b>33,515</b>	<b>19,317</b>	<b>28.1%</b>

**Comments on Expenditures, Labour & Transfers:**

The University of Northern British Columbia's fiscal year is April 1 - March 31. At June 30, it is expected that the variance from budget for most expenditures would be in the range of 60% - 75%. However, since many expenses do not occur evenly during the year, eg. hydro, individual departments are reviewed to identify potential problem areas. Based on this review, no issues requiring Board attention were identified. Because not all expenses have committed values, it is difficult to project the exact totals to year end.

Salaries and benefits are committed to March 31st. However, costs such as casual wages, sick leave replacement, sessional instructor contracts, and overtime vary due to circumstances in each area and are difficult to predict to year end.

Transfers to and from other funds are recorded at various points during the year, with most occurring at the beginning of the year. No issues have been identified in the transfer accounts that will have a significant impact on the total annual financial results.

\*\* The budget and actuals shown above do not reflect the portfolio reorganization that was rolled out over the summer of 2016. These changes will be picked up in the second quarter report.

## GLOSSARY

All salary, benefit and non-salary expenditures are included in the following groupings:

President's Office/ Executive Services:	University Secretariat and President's Office
External Relations:	Vice President External Relations, Communications, Alumni, and University Development
Academic Services:	Provost's Office, Registrar's Office, Financial Aid, Admissions & Advising, Student Recruitment, Convocation, Library, Information Technology Services, and Teaching, Learning & Technology
Research:	Vice President Research, Research Services & Partnerships, and Northern Health Sciences Research Facility
Academic Programs:	College of Arts, Social & Health Sciences, College of Science & Management (which includes the Laboratory), Regional Operations, Master of Business Administration, and Graduate Programs
Student Engagement:	Vice Provost Student Engagement, First Nations Centre, Student Success (incl. International Operations), Student Engagement, and Athletics & Recreation
Administration:	Vice President Administration & Finance, Finance & Budgets, Facilities, Purchasing, Contracts & Risk Management, and Human Resources
University Operations:	All expenditures made and revenues collected centrally. Examples: tuition fees, tuition waivers, utilities, legal fees and audit fees

*Note: the above groupings do not reflect the portfolio reorganization that was rolled out over the summer of 2016. These changes will be picked up in the second quarter report.*

## NOTES TO THE OPERATING STATEMENT

1. The 2016/17 Approved Budget comprises the amounts approved at the March 18, 2016 Board meeting.
2. The 2016/17 Revised Budget comprises the approved budget plus reallocations and transfers that occur during the fiscal year.
3. Student fee revenue represents revenue recorded when a student registers. It does not mean that the fees have been collected. Over the fiscal year the system adjusts student fee revenue as students add or drop courses. At year end an assessment is made to determine whether outstanding fees are collectible. Where they are determined to be doubtful the amount is recorded as bad debt.
4. This revenue represents the rent paid to UNBC by Compass Group Canada and National Collaborating Centre for Aboriginal Health for on-campus space, and by other agencies renting space at the University. As well, it includes the chargeback for personnel services provided to the Northern Sport Centre, the 4% of gross sales administration fee charged to Ancillary operations, and 15% of gross revenue administration fee charged to the Master of Business Administration program for the administrative and operational (heat, light and power) services provided to them, and an additional \$205,000 contribution from Ancillary operations.
5. The budget for salaries and benefits includes \$1,033,348 in salary savings prorated amongst the various operating areas. The committed amount includes benefits on contractual salaries estimated at 8 to 21.5%.
6. Salary budget in University Operations includes estimated costs of: tuition waivers for employees, increases occurring May 1 and July 1 2016, and other items under the various employee agreements (e.g. previous year amounts not yet reallocated to units pending conclusion of employee group negotiations), long term leaves such as maternity/parental leaves, and new positions approved in the 2016/17 budget but not yet allocated to the appropriate unit(s), pending completion of the hiring process. This budget is reallocated to the operational areas incurring the expenses during the year. The spending under this category represents the cost of tuition waivers for staff and faculty, any employee severance pay, and administrative leaves.
7. The University Operations budget includes the plant operation costs of \$3,181,047.
8. Transfers to other funds include such items as transfers to capital, sponsored research, professional development and scholarship funds, as included in the 2016/17 approved budget. These transfers occur at various points during the year.
9. Transfers from other funds include such items as transfers from endowments, research funds and the Northern Medical Program, as included in the 2016/17 approved budget. These transfers occur at various points during the year.

# **UNBC** UNIVERSITY OF NORTHERN BRITISH COLUMBIA

## CONSOLIDATED FINANCIAL REPORT FOR THE PERIOD ENDED JUNE 30, 2016



Submitted by: Robert Knight  
Vice President, Finance & Business Operations

**UNIVERSITY OF NORTHERN BRITISH COLUMBIA**  
**STATEMENT OF FINANCIAL POSITION**  
**AS AT JUNE 30, 2016**  
(unaudited)  
(thousands of dollars)

**ASSETS**

	<u><b>2016</b></u>	<u><b>2015</b></u>
<b>CURRENT ASSETS</b>		
Cash and temporary investments	\$ 48,594	\$ 46,679
Accounts receivable	4,701	3,983
Inventory	953	1,182
Prepaid and deferred charges	469	726
	<u>54,717</u>	<u>52,570</u>
<b>INVESTMENTS AND RESTRICTED CASH</b>	70,605	68,181
<b>CAPITAL ASSETS</b>	<u>209,794</u>	<u>215,244</u>
	<u><b>\$ 335,116</b></u>	<u><b>\$ 335,995</b></u>
<b>LIABILITIES &amp; NET ASSETS</b>		
<b>CURRENT LIABILITIES</b>		
Accounts payable and accrued liabilities	\$ 5,098	\$ 5,079
Unearned revenue	273	270
	<u>5,371</u>	<u>5,349</u>
<b>DEFERRED CONTRIBUTIONS</b>	25,744	30,700
<b>LONG-TERM DEBT</b>	(22)	(8)
<b>UNAMORTIZED DEFERRED CAPITAL CONTRIBUTIONS</b>	163,598	168,266
<b>NET ASSETS</b>	<u>140,425</u>	<u>131,688</u>
	<u><b>\$ 335,116</b></u>	<u><b>\$ 335,995</b></u>

**UNIVERSITY OF NORTHERN BRITISH COLUMBIA**  
**SCHEDULE OF OPERATIONS**  
**FOR THE QUARTER ENDED JUNE 30, 2016**  
(Unaudited)

(thousands of dollars)

	<u>2016</u>	<u>2015</u>
<b>REVENUE</b>		
Government grants		
Provincial government	\$ 12,435	\$ 11,969
Federal government	986	1,487
Tuition	2,241	2,612
Other fees	172	249
Investment	1,139	(338)
Misc	1,810	2,557
Sales	1,159	1,056
Amortization of deferred capital contributions	1,662	1,650
	<u>21,604</u>	<u>21,242</u>
<b>EXPENSES</b>		
Salaries and benefits	15,635	15,361
Operating expense	6,270	6,843
Amortization	2,200	2,222
Debt service costs	135	135
Cost of goods sold	84	129
	<u>24,324</u>	<u>24,690</u>
Excess (deficiency) of revenue over expenses	<u>\$ (2,720)</u>	<u>\$ (3,448)</u>



## AGENDA ITEM BRIEFING NOTE

<b>Date:</b>	September 16, 2016			
<b>Agenda Item:</b>	6.b Financial Information Act Report			
<b>Prepared For:</b>	<input type="checkbox"/> Closed Session	<input checked="" type="checkbox"/> Public Session		
<b>Purpose:</b>	<input type="checkbox"/> Information	<input type="checkbox"/> Discussion	<input type="checkbox"/> Seeking Direction	<input checked="" type="checkbox"/> Approval
<b>Prepared By:</b>	Colleen Smith, Associate Vice President Financial Services			
<b>Reviewed By:</b>	Robert Knight, Vice President Finance and Business Operations			

**Material:** Report attached.

**Issue:**

**Background:**

Information prepared for the year ending March 31, 2016 as required under the provincial *Financial Information Act* and related *Financial Information Regulation*.

The attached schedules are an excerpt from the complete report so pages are numbered 24 through 39. Pages 1 – 23 are reserved for the audited financial statements which were approved at the May 26, 2016 meeting of the Board of Governors.

Under legislation, the information must be approved by the university's governing body prior to submission to the Ministry of Advanced Education by September 30 each year.

**Motion:** *That, on the recommendation of the Finance and Audit Committee, the Board of Governors approves the Financial Information Act Reports to March 31, 2016, as presented.*

---

**Recommendation Approved:**       **Not Approved:**       **Date:**

**Remarks/Next Steps:**

DEBENTURE ISSUE	MATURITY DATE	INTEREST RATE	AMOUNT OUTSTANDING
UNBC-MTN-26	June 17, 2019	9.000%	3,000,000.00
<b>Total Debentures</b>			3,000,000.00
<b>Sinking Fund Balances</b>			3,021,718.59
<b>Total Debt Outstanding</b>			(21,718.59)

The University of Northern British Columbia has not given any guarantee or indemnities under the Guarantees and Indemnities Regulation

Name	Type of Appointment	Member at March 31	Expenses
Dr. Daniel Weeks	President	Yes	-
Dr. John MacDonald	Chancellor	Yes	7,297.67
Mr. Ryan Matheson	Order-in-Council, Alumni	Yes	8,015.54
Ms. Katherine LaForge	Order-in-Council	Yes	361.82
Mr. Simon Yu	Order-in-Council, Member at Large	Yes	202.16
Dr. Kathy Lewis	Elected, Faculty Representative	Yes	-
Dr. Karin Beeler	Elected, Faculty Representative	Yes	-
Mr. Eric Depenau	Elected, Undergraduate Student Representative	Yes	202.16
Ms. Julie Ziebart	Order-in-Council	Yes	1,864.73
Ms. Carolee Clyne	Elected, Staff Representative	Yes	-
Mr. Sean Simmons	Order-in-Council	Yes	-
Ms. Tracey Wolsey	Order-in-Council, Alumni	Yes	1,816.98
Mr. Harry Nyce, Sr.	Order-in-Council, First Nations	Yes	3,427.55
Dr. Jonathan Swainger	Elected, Faculty Representative	No	-
Ms. Shannon MacKay	Elected, Graduate Student Representative	No	-
Mr. Don Prior	Order-in-Council	No	-
Ms. Judy Mason	Order-in-Council, Alumni & College of New Caledonia Region	No	202.16
Mr. John Turner	Order-in-Council, Northern Lights College Region	No	1,045.17
Mr. Andy Clough	Order-in-Council	No	370.78

Board members receive no remuneration. Applicable travel expenses are reimbursed by the University. Amounts paid to employees are reflected with their remuneration.

Employee Name	Position	Total Remuneration	Total Expenses
Abioye, Oyekanmi	Lecturer - BUSM	95,691.13	3,274.02
Annis, Eleanor	Catalogue Librarian	94,995.28	6,416.33
Antoniazzi, Clara	Sr Lab Instructor - NURS	88,968.53	1,027.51
Aravind, Alex	Professor - CPSC	111,331.19	8,677.69
Arocena, Joselito	Professor - ENVS	75,046.30	1,686.76
Atkinson, Donna	NCCAH/AAN Research Manager	83,230.47	15,917.66
Bai, Ping	Sr Lab Instructor - GIS	83,910.74	2,012.37
Bankole, Julius	Lecturer - BUSM	101,558.98	2,330.44
Banner-Lukaris, Davina	Assoc Prof - NURS	101,238.98	6,916.62
Beaumont, Sherry	Professor - PSYC	113,685.47	0.00
Beeler, Karin	Professor - ENGL	109,650.40	2,268.91
Beeler, Stan	Professor - ENGL	98,349.49	2,475.52
Berg, Mardeana	Retail Services Manager	75,202.44	6,351.77
Beveridge, Erin	Sr Lab Instructor - CSAM	77,742.74	1,170.36
Bhullar, Amarjit	Lecturer - ECON	101,263.25	3,532.07
Bidgood, Bruce	Assoc Prof - SOCW	100,152.74	16,383.15
Binnema, Theodore	Professor - HIST	107,895.42	1,688.58
Bird, Ranjana	Professor - BIOL	184,453.11	13,912.07
Blair, Jenia	Sr Lab Instructor - ESM(BIOL)	90,075.38	6,459.75
Bluskov, Iliya	Professor - MATH	110,137.82	170.00
Booth, Annie	Professor - ENVA	111,921.56	7,402.33
Bouchard, Michel	Professor - ANTH	108,666.89	2,632.03
Bowles, Paul	Professor - ECON/INTS	184,683.85	22,017.41
Bray, Eileen	Vice President - Admin & Finance	133,109.72	0.00
Budde, Robert	Professor - ENGL	108,910.95	6,545.77
Burke, Susan	Lecturer - SOCW	81,422.06	784.29
Burns, Virginia	Assist Prof - NURS	89,618.26	3,562.61
Burton, Philip	Professor - ESM-FSTY	113,201.48	17,514.77
Callaghan, Russell	Associate Professor - NMP	111,743.29	13,002.71
Casperson, David	Assoc Prof - CPSC	95,910.92	2,744.02
Chen, Chunyi	Director International Educ	115,598.28	44,248.65
Chen, Jing	Assist Prof - BUSM	124,955.63	0.00
Chen, Liang	Professor - CPSC	145,078.42	1,319.16
Chew, William	Treasury Services Manager	79,427.30	5,373.17
Choi, Sungchul	Assoc Prof - BUSM	152,361.42	13,123.76
Chowdhury, Reza	Assist Prof - BUSM	133,283.13	275.00
Claus, David	Asst Director - Facilities	98,972.88	4,181.15
Condon, Gregory	Chief Information Officer	128,192.02	14,065.94
Connell, David	Assoc Prof - ESM	94,413.51	5,856.27
Constantin, Alina	Sr Lab Instructor - NMP	79,794.46	1,497.91
Costello, Allan	Assist Prof - ESM(BIOL)	75,195.58	5,611.85
Coxson, Darwyn	Professor - ESM(BIOL)	116,607.83	17,236.65
Cronshaw, Steven	Professor - BUSM/PSYC	167,005.63	4,718.71
Curry, Gail	Data, Map & Gov Info Librarian	94,989.13	3,338.48
Cuthbertson, Mike	Lecturer - BUSM	122,705.93	5,087.00
Daigle, Barbara	Interim VP - Admin & Finance	148,410.72	50,020.31
Dale, Mark	Dean of Regional Programs	185,295.10	19,721.34
Dawson, Russell	Professor - ESM(BIOL)	104,609.15	2,971.69
de Leeuw, Sarah	Assoc Prof - NMP/HLSC	106,373.51	44,140.49
Deo, Balbinder	Assoc Prof - BUSM	138,282.68	2,415.60
Dery, Stephen	Professor - ENVS	100,441.61	6,175.83
DeWiel, Boris	Assoc Prof - POLS	111,049.04	7,025.94
Dickson, Lisa	Assoc Prof - ENGL	96,722.79	2,453.74
Dodenberg, Heidi	Sr Lab Instructor - NURS	81,017.00	1,524.48
Egger, Keith	Professor - ESM(BIOL)	111,297.81	4,754.12
Elkin, Che	Assoc Prof - ESM(FSTY)	88,466.81	1,800.71

Employee Name	Position	Total Remuneration	Total Expenses
Elliott, Sarah	Asst Director Safety/Sec/Emerg	86,487.99	5,526.91
Empey, Heather	Acquis/Collec & Info Librarian	94,118.52	4,979.20
Erasmus, Daniel	Sr Lab Instructor - BIOCHEM	82,922.14	1,906.84
Ericsson, Kevin	Infras. Mgr & Chief Engineer	112,234.36	743.86
Fayowski, Vivian	Academic Success Coordinator	97,234.15	3,141.55
Fellers, Wendy	Lecturer - BUSM	82,471.38	1,163.41
Fondahl, Gail	Professor - GEOG	104,592.23	5,598.30
Fraser, Tina	Assoc Prof - EDUC	98,301.70	840.56
Fredeen, Art	Professor - ESM(FSTY)	106,965.32	2,116.95
Fredj, Karima	Assoc Prof - ECON	81,932.13	1,511.15
Freeman, Shannon	Assist Prof - NURS	76,192.62	2,993.41
Fuson, Trevor	Senior Database Administrator	82,624.42	3,680.36
Fyfe, Trina	Northern Health Sc. Librarian	95,862.04	6,299.25
Gao, Jin	Lecturer - BUSM	101,942.15	4,322.66
Gaudreau, Kyrke	Sustainability Manager	76,853.53	5,313.58
Ge, Xin	Assoc Prof - BUSM	132,958.00	21.20
Gehloff, Maik	Sr Lab Instructor - IENG	82,903.54	16,276.72
Gillingham, Michael	Professor - ESM(BIOL)	115,853.28	8,641.97
Goetzinger, Richard	Maintenance & Proj Supervisor	80,500.03	216.08
Gorrell, Andrea	Assoc Prof - BIOCHEM	96,608.89	0.00
Gray, Sarah	Assoc Prof - NMP	150,626.99	9,181.39
Green, Scott	Assoc Prof - ESM(FSTY)	92,261.09	32,168.61
Greenwood, Margo	Professor - FNST	127,480.98	37,096.65
Guest, Kristen	Assoc Prof - ENGL	99,407.51	3,064.77
Hagiwara, Ami	Lecturer - INTS	76,798.71	1,358.57
Halseth, Greg	Professor - GEOG	139,016.64	11,276.30
Hamelin, Twylla	Sr Administration Mgr, NMP	81,152.88	6,786.72
Hanlon, Neil	Professor - GEOG	100,325.23	1,667.67
Hanschen, Troy	University Registrar	123,839.78	9,356.90
Hanson, Sarah	Wellness Centre Manager	99,767.11	5,651.78
Haque, Waqar	Professor - CPSC/BUSM	156,184.36	12,536.71
Harder, Henry	Professor - DISM/PSYC	153,397.69	8,713.71
Hardy, Cindy	Professor - PSYC	97,290.37	3,703.07
Harris, R. Luke	Assoc Prof - HLSC	84,069.57	0.00
Harrison, Edward	Assist Prof - EDUC	75,665.90	4,260.79
Hartley, Ian	Professor - ESM(FSTY)	116,032.22	1,367.51
Helle, Steve	Assoc Prof - EENG	90,088.57	2,036.64
Hemingway, Dawn	Assoc Prof - SOCW	131,351.30	18,756.48
Hoffman, Ross	Assoc Prof - FNST	94,959.39	6,882.16
Holler, Jacqueline	Assoc Prof - HIST/WMST	104,088.13	11,775.33
Horne, Dee	Professor - ENGL	111,045.43	3,536.82
Howard, Julie	Sr Lab Instructor - PSYC	79,539.15	2,902.53
Huber, Dezene	Professor - ESM(FSTY)	100,966.63	5,612.22
Hutchings, Kevin	Professor - ENGL	109,398.95	10,565.96
Hyndman, Jennifer	Professor - MATH	118,925.39	2,836.05
Jackson, Christine	Sr Lab Instructor - GEOG	81,163.19	182.07
Jackson, Peter	Professor - ENVS	104,074.49	1,259.67
Jensen, Erik	Dean of CSAM	119,103.27	6,858.62
Johnson, Christopher	Professor - ESM(FSTY)	97,024.89	5,233.90
Jokinen, Nancy	Assoc Prof - SOCW	89,763.69	3,015.36
Jones, George	Sr Lab Instructor - PHYS	80,477.18	654.93
Keeler, Gwen	Sr Lab Instructor - NURS	84,306.88	4,744.85
Keen, Kevin	Professor - MATH	97,066.92	1,915.07
Keener, Lee	Professor - MATH	139,448.66	5,248.32
Kinsley, Sean	Accounting Analyst- Budg/Rept	79,899.75	2,658.38
Kitchenham, Andrew	Professor - EDUC	115,580.41	13,548.98

Employee Name	Position	Total Remuneration	Total Expenses
Klassen-Ross, Tammy	Instructor 2 - HLSC	77,706.38	0.00
Koehn, Corinne	Assoc Prof - EDUC	81,853.11	3,339.33
Korkmaz, Elie	Professor - PHYS	120,431.98	220.50
Kranz, Allan	Sr Lab Instructor - CPSC	80,477.70	0.00
Kubert, David	IT Security Officer	76,889.87	8,871.49
Kumar, Pranesh	Professor - MATH	107,664.02	7,648.89
Kunkel, Titilope	Sr Lab Instructor	83,714.58	5,225.21
Kuo, Kuo-Hsing	Assoc Prof - NMP	100,399.84	15,222.61
La Fontaine, Lynette	University Nurse/Clinical Coor	110,109.78	688.46
Lacharite, Jason	Assist Professor - INTS/POLS	79,421.08	0.00
Lautensach, Alexander	Assoc Prof - EDUC	80,636.88	4,007.62
Lawson, Heidi	Assistant Registrar Record/Ops	80,317.80	9,388.04
Lazenby, Richard	Professor - ANTH	196,394.37	4,697.59
LeBlanc, Aaron	Director - Ancillary Services	105,081.94	40,252.93
Lee, Chow	Professor - CHEM	109,356.52	6,824.75
Lewis, Kathy	Professor - ESM(FSTY)	122,941.03	4,594.44
Li, Han	Professor - PSYC	113,030.30	0.00
Li, Jianbing	Professor - EENG	104,071.74	29,101.45
Lindgren, Staffan	Professor - ESM(FSTY)	119,910.81	5,055.44
Loukacheva, Natalia	Assoc Prof - POLS	99,166.96	39,514.03
MacDonald, James	Digital Initiatives Librarian	85,391.31	9,080.12
MacLeod, Martha	Professor - NURS/COMH	165,623.95	18,688.84
MacMillan, Peter	Assoc Prof - EDUC/COMH	92,216.08	6,003.04
MacPhail, Fiona	Professor - ECON	115,827.44	3,373.87
Mandy, Margot	Professor - CHEM	101,656.59	0.00
Margolin, Indrani	Assoc Prof - SOCW	92,623.94	13,077.72
Martens, Clifford	Assistant Chief Engineer	79,422.96	1,142.39
Marusiak, Warren	Programmer Analyst II	80,128.72	1,793.94
Massicotte, Hugues	Professor - ESM(FTSY)	107,581.87	5,791.68
Maurice, Sean	Sr Lab Instructor - NMP	82,668.37	10,180.54
McCabe, Kealin	Res & Learning Serv Librarian	81,512.01	3,304.19
McDonald, Verna	Assist Prof - EDUC	85,051.44	1,787.27
McGill, William	Professor - ESM(FSTY)	130,449.81	5,793.69
Meletis, Zoe	Assoc Prof - GEOG	82,131.28	13,559.54
Menounos, Brian	Professor - GEOG	122,431.35	18,475.24
Migabo, Saphida	Sr Lab Instructor - ESM(BIOL)	82,885.37	4,505.09
Montgomery, Glen	Infrastructure Manager	96,116.80	1,823.26
Morris, Jason	Lecturer - POLS	114,520.63	279.45
Morris, Marleen	Associate Director - CDI	131,902.36	24,320.87
Murdoch, Loralyn	Director Athletics/Recreation	89,337.62	4,916.49
Murphy, Leanne	Financial Svs/Systems Manager	104,986.28	1,896.99
Murphy, Michael	Assoc Prof - POLS	105,176.94	4,969.80
Murray, Brent	Assoc Prof - ESM(BIOL)	89,322.93	5,113.43
Niebergall, Michelle	Payroll Services Coordinator	82,682.38	905.67
Nixon, Gregory	Assoc Prof - EDUC	89,474.23	1,251.69
Nolin, Catherine	Assoc Prof - GEOG	101,884.05	4,448.73
Olsen, Aaron	Mgr Operations/Compliance/Svs	84,001.33	4,318.91
O'Neill, Linda	Assoc Prof - EDUC	102,851.07	5,898.69
Opio, Christopher	Professor - ESM(FSTY)	99,832.58	4,634.53
Otter, Ken	Professor - ESM(BIOL)	105,788.37	3,528.22
Owen, William	Vice Provost Student Engagemt	118,807.68	1,870.02
Owens, Philip	Professor - ENVS	118,500.23	25,072.15
Page, Sheila	Special Projects, Office VPAF	81,675.16	4,849.27
Parker, Katherine	Professor - ESM(FSTY)	123,515.80	3,897.21
Parkes, Margot	Assoc Prof - HLSC/NMP	101,056.35	11,790.22
Parshotam, Umesh	Sr Lab Instructor - CHEM	104,424.31	110.04

Employee Name	Position	Total Remuneration	Total Expenses
Patenaude, Bernadette	Director - Integrated Planning	111,339.05	4,872.14
Patton, Stephen	Facilities Services Supervisor	78,517.00	0.00
Pawlowska-Mainville, Agnieszka	Assist Prof - FNST	75,434.04	6,054.49
Payne, Geoffrey	Interim VP Research	255,643.12	19,512.26
Perrin, Rose	P/T Instructor - NURS	87,526.86	3,943.51
Peters, Heather	Assoc Prof - SOCW	96,145.92	9,162.66
Petticrew, Ellen	Professor - GEOG	128,450.59	20,229.90
Pierce, Joanna	Assoc Prof - SOCW	125,828.95	2,054.35
Plourde, Guy	Professor - CHEM	132,469.19	895.27
Poirier, Lisa	Assist Prof - ESM(BIOL)	86,185.29	6,233.42
Polajnar, Jernej	Assoc Prof - CPSC	100,004.79	0.00
Potter, Grant	Sr Lab Instructor - E-Learning	79,842.77	5,989.24
Prkachin, Glenda	Assoc Prof - PSYC	175,120.47	268.03
Prkachin, Ken	Professor - PSYC/COMH	141,226.99	1,279.92
Procter, Dennis	Assist Prof - EDUC	81,963.76	2,041.71
Rader, Stephen	Professor - CHEM	111,972.53	10,368.70
Rahemtulla, Farid	Assist Prof - ANTH	86,715.26	3,246.89
Rea, Roy	Sr Lab Instructor - ESM (FSTY)	77,676.69	7,892.33
Reid, Matthew	Professor - PHYS	95,757.73	1,863.77
Reimer, Kerry	Professor - CHEM	107,946.87	749.89
Rennick, Shelley	Director Facilities Management	125,836.80	9,736.71
Romanets, Maryna	Assoc Prof - ENGL/WMST	98,769.34	7,880.20
Rose, Ramona	Head, Arch. & Spec Collections	91,937.19	1,876.07
Rutherford, P Michael	Professor - ENVS	101,437.41	582.54
Ryan, Daniel	Acting VP (Academic) & Provost	170,912.52	19,864.83
Safaei Boroojehy, Jalil	Professor - ECON	104,054.00	3,450.82
Sanborn, Paul	Assoc Prof - ESM(FSTY)	102,185.73	3,447.69
Sangha, Hardev	Assist Prof - SOCW	94,451.93	3,561.02
Schiller, Catharine-Joanne	Assist Prof - NURS	88,892.80	2,252.37
Schmidt, Glen	Professor - SOCW	100,228.28	12,398.52
Schorcht, Blanca	Dean of CASHS	116,325.87	13,213.82
Scott, Laurence	Lecturer - BUSM	95,623.27	1,664.82
Scouten, Katherine	Development Manager	106,898.88	11,426.03
Seidel, Andrew	Professor - ENPL	142,047.56	7,790.79
Shegelski, Mark	Professor - PHYS	103,158.32	0.00
Sherry, John	Assist Prof - EDUC	90,979.20	10,187.49
Shrimpton, Mark	Professor - ESM(BIOL)	112,756.27	5,907.43
Shubair, Mamdouh	Assist Prof - HLSC	81,204.24	1,359.53
Shultis, John	Assoc Prof - ORTM	100,535.68	1,403.41
Siakaluk, Paul	Assoc Prof - PSYC	124,329.64	4,276.74
Smith, Angele	Assoc Prof - ANTH	88,900.05	3,938.43
Smith, Colleen	Director Finance & Budgets	148,603.71	4,712.22
Smith, Heather	Professor - INTS	113,712.08	14,135.16
Smith, Kevin	Dean - Graduate Programs	106,176.32	8,231.96
Smith, Trevor	School of Nursing Manager	81,614.89	1,214.70
Sommerfeld, Elizabeth	Sr Lab Instr - HLSC	76,039.17	350.00
Stewart, Kevin	Application Services Manager	108,345.81	3,942.88
Stubley, Tammy	Assist Prof - SOCW	96,092.70	385.66
Sui, Jueyi	Professor - EENG	107,071.50	7,349.89
Summerville, Tracy	Assoc Prof - POLS	85,985.98	304.75
Swainger, Jonathan	Professor - HIST	108,939.78	239.99
Tallman, Frederick	P/T Instructor - MBA	95,977.04	4,188.73
Tang, Youmin	Professor - ENVS	106,526.26	17,906.04
Thring, Ronald	Professor - EENG	133,698.34	5,571.02
Transken, Si	Assoc Prof - SOCW	110,195.09	2,192.85
Usman, Lantana	Assoc Prof - EDUC	98,865.78	2,974.00



Employee Name	Position	Total Remuneration	Total Expenses
Van Pelt, Linda	Assist Prof - NURS	111,269.27	8,043.80
Wagner, Shannon	Professor - DISM	126,735.82	2,918.43
Walters, Samuel	Professor - MATH	102,616.90	0.00
Wang, Baotai	Professor - ECON	95,479.75	6,127.62
Wang, Ke	Online Learning Mgr - Cont Std	78,874.76	17,842.99
Wang, You Qin	Sr Lab Instructor - HPCP	82,789.37	3,738.17
Weeks, Daniel	President and Vice Chancellor	284,086.17	103,123.46
Wells, Rachael	RNP Research Program Manager	79,226.18	0.00
Wessell Lightfoot, Dana	Assoc Prof - HIST	99,988.78	21,245.92
Whalen, Catherine	Assist Prof - EDUC	81,520.11	5,078.91
Wheate, Roger	Assoc Prof - GEOG	106,304.06	2,354.84
Whitcombe, Todd	Assoc Prof - CHEM	111,214.93	2,462.08
White, Byron	Systems Administrator	81,386.54	0.00
Wilkening, Kenneth	Assoc Prof - INTS	87,736.18	3,225.05
Wilson, Allan	University Librarian	122,629.26	11,432.08
Wilson, Erin	Assist Prof - NURS	99,813.69	4,104.53
Wilson, Gary	Professor - POLS	93,628.14	12,724.57
Wimmers, Guido	Assoc Professor - IENG	139,498.48	29,578.95
Winwood, Paul	Associate Vice-President NMP	228,406.49	20,729.08
Wood, Matthew	Comm & Media Relations Manager	82,250.19	6,677.11
Wright, Pamela	Assoc Prof - ORTM	109,130.10	763.77
Young, Jane	Assist Prof - ESM(BIOL)	75,453.72	196.18
Zahir, Saif	Professor - CPSC	106,837.26	3,556.43
Zimmer, Lela	Assoc Prof - NURS	101,473.61	5,654.15
Total remuneration > \$75,000		26,261,927.27	1,776,786.21
Total remuneration < \$75,000		29,924,490.18	1,277,951.44
Total remuneration		56,186,417.45	3,054,737.65

Total remuneration does not equal salaries and benefits in the financial statements as it does not include the employer's payments for non-taxable benefits, CPP, EI or WCB. There are also differences that arise as the University of Northern British Columbia uses accrual accounting.

Salaries and benefits on the financial statements also includes \$169,000 in salaries that have been reimbursed to third party agencies (primarily research). These vendors and these amounts are included in the statement of goods and services.

<b>Employment Insurance Contributions</b>	964,060.67
<b>Canada Pension Contributions</b>	1,847,020.38
<b>Total Contributions to Receiver General of Canada</b>	2,811,081.05

There were 2 severance agreements under which payment commenced between the University of Northern British Columbia and its non-unionized employees during fiscal year 2015/2016

These agreements represent from 1.5 - 4 months of compensation.

Vendor Name	Total Payment
A Plus Automatic Door and Store Front Ltd	58,773.44
Accelerated Sport & Spine Physiotherapy	39,700.84
Acme Janitor Service Ltd.	45,703.35
Admiral Roofing Ltd	29,127.23
Airmax Air Purification Systems Inc.	66,190.43
Aleza Lake Research Forest Society	57,836.57
All Points Fire Protection Ltd	88,370.12
All Pro Plumbing and Heating Inc.	144,344.06
All West Glass Ltd.	26,834.52
Allnorth Consultants Ltd	37,119.89
Allrite Heating and Ventilation	63,163.51
ALS Group	28,823.90
AMCO Wholesale	135,130.34
Applanix Corporation	29,557.50
Apple Canada Inc.	109,516.90
Avantheon Healthcare	61,198.81
AYVA Educational Solutions Limited	106,785.00
Barry Wong Copy Services Ltd	73,292.19
Bartle & Gibson Co. Ltd.	87,581.48
BC Cancer Agency	258,184.90
BC Hydro	1,241,650.61
BC Schizophrenia Society	33,217.80
BCNET	287,534.31
Big Kahuna Sport Company	47,494.00
Bio-Rad Laboratories (Canada) Ltd	29,210.67
Blackboard Inc	34,390.72
Boyden Vancouver, Inc.	111,455.51
British Columbia Safety Authority	28,271.92
Bruker Ltd.	67,171.02
Bruzer Ltd	27,753.24
Bryant Electric Ltd	33,828.90
Canada Post Corporation	36,537.44
Canada West Universities Athletic Association	56,176.94
Canadian Helicopters Ltd	33,431.72
Canadian Research Knowledge Network	805,720.72
Cardinal Building Maintenance Service Ltd.	35,743.95
Cascades Recovery Inc.	35,529.64
Centaur Products Inc	430,153.50
CG Industrial Specialties Ltd.	49,452.48
Cision Canada Inc.	30,762.34
City of Prince George	342,269.20
City of Prince George - Civic Centre	92,535.62
College of New Caledonia	161,013.93
Compass Group Canada Ltd.	1,803,497.59
COPPUL	29,018.00
Cormier Consulting Group Inc.	63,454.85
Council of Prairie and Pacific University Libraries	167,768.40

Vendor Name	Total Payment
Creative Embroidery	35,381.00
D A Townley	2,367,353.10
Davidson & Sons Custom Brokers	42,560.90
DDB Hodes Recruitment Communications	86,947.68
Dell Canada Inc.	552,430.76
Desire2Learn Corporation	103,656.64
Dr Andrea Geller, Inc.	33,786.63
Dr Becky Ann Temple Inc	58,620.00
Dr Gerrard Prigmore Inc.	68,058.21
Dr K Closson Inc.	36,775.00
Dr Karin Blouw, Inc.	31,360.20
Dr Michael Kenyon, Inc.	36,610.36
Dr Muniba Faraz and Dr Faraz Jabbar Medical Services Inc	37,865.20
Dr PD Rowe, Inc.	55,125.00
Dr Pritampal Dhadly, Inc.	54,996.90
Dr Steven W K Chang, Inc.	62,449.77
Dr Vincent Arockiasamy, Inc.	31,138.21
Drs Spooner and Odulio Inc	90,241.09
Dunleavy, Melvin	25,843.43
EB Horsman & Son Ltd	27,236.44
EBSCO Canada Ltd	159,653.97
EDge Interactive Publishing Inc.	47,748.75
EDI Environmental Dynamics Inc	74,178.30
EECOL Electric Ltd	195,983.04
Ellement Consulting Group	78,641.89
Ellucian Technologies Canada ULC	298,183.23
Emantras Inc.	90,621.30
Evisions Inc	29,032.00
Falk, Jack	53,763.32
First Nations Information Governance Centre (FNIGC)	29,555.00
Fitness Town Commercial Inc	43,481.76
Follett Higher Education Group	77,487.51
FortisBC-Natural Gas	145,352.74
Free Spirit Ventures Inc.	150,064.38
GE Healthcare Bio-Sciences Company	79,013.65
Genome Quebec	32,787.83
Getinge Canada Ltd	115,743.43
global FRAMEWORKS Ltd.	82,485.46
Glomics Inc.	27,000.00
Graham, CR	120,218.03
Grand & Toy	26,355.45
Graphic Office Interiors Ltd.	25,432.00
Greer Contracting Ltd	182,315.70
Halogen Software Inc.	46,059.26
Hans Hundegger AG	258,800.26
Hilltop Toyota	50,082.71
Horseshoe Press Inc.	102,041.39

Vendor Name	Total Payment
Hughes Condon Marler Architects (HCMA)	456,355.94
IBM Canada Ltd	46,548.32
IDenticard Systems Inc.	136,004.97
IDL Projects Inc	166,885.74
Imperial Parking Canada Corp.	105,532.45
Inland Control and Services Inc.	31,452.80
Innovative Interfaces Global Limited	42,996.00
Integra Forest Consulting Ltd	77,718.40
Island Key Computer Ltd.	69,385.69
John Wiley & Sons Canada Ltd	30,377.92
John Wiley & Sons, Inc.	80,499.15
KONE Inc.	47,142.85
KPMG LLP	80,244.47
Laerdal Medical Canada Ltd.	106,124.92
Lakeland Mills Ltd.	256,030.67
Lamar Transit Advertising Canada, Ltd.	29,925.00
Life Technologies Inc.	80,961.46
Little Floors Ltd	75,290.25
Login Brothers Canada	87,120.00
Long View Systems Corp.	875,805.97
Mainline Roofing Co. Ltd.	40,673.43
Marshall Forestry Services	27,593.65
MasterCard	1,880,138.10
McCarthy Tetrault LLP	101,635.29
McGraw Hill Ryerson Ltd	118,578.70
MCIS Language Services	37,530.84
Meyer, Anthon	27,171.05
Microserve/MicroAge	49,209.72
Mike's Tech-On-Call Service	34,716.86
Millennium Professional Services Ltd.	150,562.86
Minister of Finance	148,315.22
Ministry of Finance BC Mail Plus	58,156.14
Moore Canada Corporation	38,574.75
MPS	37,463.32
National Public Relations Inc.	51,509.63
Nebraska Book Company Inc	51,325.12
Nebraska Book Company, Canada	25,678.17
Nelson Education Ltd	211,896.03
Northern Health Authority	433,309.03
Northern Interior Rural Division of Family Practice	42,794.50
OCLC Inc	36,515.86
Oracle Corporation Canada Inc	177,500.18
Oregon RFID	32,251.62
Oxford University Press Canada	52,827.01
Patrick Gilligan-Hackett	213,292.16
PCI Geomatics Enterprises Inc.	25,200.00
Pearson Education Canada	173,781.03

Vendor Name	Total Payment
Pentair Aquatic Eco-Systems	158,013.44
Peregrine Aerial Surveys Inc.	211,774.09
Points West Audio Visual	32,380.18
Praxair Canada Inc	25,929.58
Prince George Toyota	45,302.61
Prince George Transit Ltd	77,361.01
Prism Engineering Ltd.	87,486.62
Process Pathways Inc.	42,247.48
Project Management Centre of Excellence Inc.	175,459.47
ProQuest LLC	51,331.77
ProteinSimple	40,014.50
Purolator Inc	49,735.89
Qiagen Inc (Canada)	44,120.83
R F Klein & Sons Ltd	244,048.09
Sanderson, Peter	25,842.37
Sharp's Audio Visual Ltd	109,286.62
Shazz Consultants and Enterprises Inc	44,879.33
Shell Energy North America (Canada) Inc.	30,501.43
Simon Fraser University	366,348.73
Sluggett, Larine	44,590.00
SNPsaurus	26,600.00
Sodexo Canada Ltd	1,092,823.95
SpeedDee Your Office Experts Ltd.	63,599.79
Stak Fitness International Inc	33,572.00
Stinger Welding Ltd.	115,695.26
Summit Insurance Brokers Inc.	29,390.00
Sun Life Financial	3,733,458.89
Telus	281,053.10
Testforce Systems Inc	37,696.96
TestResources, Inc.	94,181.07
Thermo Fisher Scientific	88,109.34
Trane Canada ULC	36,101.13
Unisource Canada Inc	35,692.51
Unity Connected Solutions Inc.	48,211.44
Universite du Quebec a Montreal - UQAM	37,188.00
Universities Canada	35,643.00
University College & Institute Protection Program	95,555.86
University of British Columbia	259,294.76
University of Victoria	65,725.23
Vermont Systems, Inc.	26,498.42
Verschoor, Jack	41,041.89
von Rosing, Mark	141,770.41
VWR International Co	86,871.06
Washington State University	26,723.50
Waste Management of Canada Corporation	34,384.18
WorkSafeBC	153,606.92
Xerox Canada Ltd	260,516.31

Vendor Name	Total Payment
YaYo Productions Inc.	27,374.99
YBP Library Services	213,715.55
York University	42,244.00
Total payments to vendors > \$25,000	30,454,395.68
Total payments to vendors < \$25,000	6,926,594.34
Total payments to vendors	37,380,990.02

The University of Northern British Columbia uses accrual accounting, capitalizes the purchase of all assets greater than \$1,000 and maintains inventories of salable goods in the bookstore, central laboratories, copy services and central stores, and receives a rebate on the Goods and Services Tax. As a result, total payments made to vendors in a year is not equal to total operating expenditures in the financial statements.

Total payments made to vendors also includes \$169,000 dollars in salaries reimbursed to third party agencies (primarily for research) reported as salaries and benefits in the financial statements.

Total payments to MasterCard and RedTag.ca do not include travel expenses reported on the Employee Remuneration Schedule.



Name	Total Payment
Aleza Lake Research Forest Society	34,797.00
Michael Smith Foundation for Health Research	45,000.00
National Collaborating Centre for Determinants of Health	115,320.88
Northern Health Authority	33,931.89
University of British Columbia	42,134.80
Wilp Wilxo'oskwhl Nisga'a Institute	345,030.00
Total Grants and Contributions > \$25,000	616,214.57

## AGENDA ITEM BRIEFING NOTE

<b>Date:</b>	September 16, 2016			
<b>Agenda Item:</b>	6.c Five Year Capital Plan			
<b>Prepared For:</b>	<input type="checkbox"/> Closed Session		<input checked="" type="checkbox"/> Public Session	
<b>Purpose:</b>	<input type="checkbox"/> Information	<input type="checkbox"/> Discussion	<input type="checkbox"/> Seeking Direction	<input checked="" type="checkbox"/> Approval
<b>Prepared By:</b>	Shelley Rennick, Director Facilities Services			
<b>Reviewed By:</b>	Robert Knight, Vice President Finance and Business Operations			

**Material:** Report attached.

**Issue:**

**Background:**

**Motion:** *That, the Board of Governors approves the 2017/18 to 2020/21 Five Year Capital Plan for the University of Northern British Columbia, as presented.*

**Recommendation Approved:**       **Not Approved:**       **Date:**

**Remarks/Next Steps:**

FIVE YEAR CAPITAL PLAN

2017/18 to 2021/22



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# FIVE-YEAR CAPITAL PLAN

## 2017 - 2022

### EXECUTIVE SUMMARY

This document outlines the University's plans for the next five years for the planning and construction of new facilities, the repurposing of current facilities and the expansion of others. These projects include research infrastructure, energy management and facilities construction, and academic space repurposing.

#### Our Priorities

This Plan reflects UNBC's commitment to the following internal priorities:

- Health and Quality of Life
- Northern Community Sustainability and Development
- Innovative distributed delivery of programs
- First Nations and Indigenous Issues
- Energy Management and the Green University

It also reflects the priorities of the Ministry including the BC Skills for Jobs Blueprint, Aboriginal and Adult Education, and International Education.

### PLANNING ASSUMPTIONS

Since its inception, UNBC has been characterized by periods of intense development and construction, growth in student population, and expansion in areas of direct relevance to British Columbia and northern communities. The immediate future is expected to be characterized by gradual growth in overall student enrolments, and integration of renewable energy consistent with the branding of UNBC as Canada's Green University. New programs in Engineering and Physiotherapy have also been documented as tremendous needs in the region.

All projects are also developed in accordance with Ministry priorities and guidelines including LEED requirements, the Wood First Initiative, and "investing in new or improved skills training equipment, technology and facilities to support accessible skills training opportunities . . .".

## **PLANNED OUTCOMES**

The intent is to be able to meet the identified programming and operational needs with a phased-in capital program over the next five years.

This Plan is also very focused on further developing the University's research facilities and infrastructure to enhance current programming in keeping with our research mandate.

## CAPITAL PROJECTS

The proposed projects fall into the following categories:

Category 1: New Priority Projects (projects primarily driven by the need to accommodate growth and to provide labour market demand-driven capacity).

- i. Civil & Environmental Engineering Program Space
- ii. Physiotherapy Program Development
- iii. Energy Management & Skills Training Infrastructure
- iv. Bioenergy Expansion & Modelling of Sustainable Community

Category 2: Whole Asset Replacement and Renewal Projects (projects with an FCI of >0.5 where building systems and components are 50% or more of replacement value) primarily driven by the need to improve the physical asset condition and to reduce the deferred maintenance backlog).

- i. UNBC Downtown Campus (BMO)

Category 3: Student Housing

- i. Residence Renewal

Other Proposed Projects

Intentionally left blank.



Institution	Campus/City	Project Title	Project Category	Project Priority
University of Northern British Columbia	Prince George	Civil and Environmental Engineering Program Space – A Repurposing Project	1	1 of 4

## 1.0 Current Situation

To provide the space required for the planned Engineering School a two-phased approach is proposed. Phase 1 includes re-purposing current space for expanded Environmental Engineering and offering Civil Engineering. Phase 2 includes a new building for the “School of Engineering” which will include Mechanical and Electrical Engineering as well as dedicated Engineering Research Space.

It is anticipated that the Phase 1 re-purposed space will accommodate 400 FTE undergraduates, 20 graduate students and 20 Faculty and staff when the programs are running.

## 2.0 Project Description

### Phase 1 – Renovation

The project would involve a major renovation to the basement of the Teaching & Learning Building to convert a storage area and maintenance shop to a hydrology and materials testing labs and a technician’s office and make some modifications to current classroom and office space to accommodate a working lounge and design suite for the programs. There will also be secure outdoor compound created for cold weather testing of materials and compounds.

### Phase 2 – New Building

Once the renovations are complete and the expanded program is up and running, a Concept Plan and Business Case for Phase 2 will be submitted to the Ministry for consideration.

## 3.0 Project Objectives

Labour market surveys (ATEEC 2008, Engineers Canada 2015) indicate an upcoming shortage of Engineers in Canada due to increased retirement rates, and a current shortage of Engineers in Northern regions. The BC Jobs Plan identifies projects in a range of industries in Northern BC that will require significant support from Civil and Environmental Engineers. There will be a focus on cold weather Engineering, appropriate to the region, as well as integration with the developing Green economy.

The project aligns with the UNBC and BC Government priorities and strategies by training our youth for high quality and stimulating employment opportunities in a range of industries that are key to BC’s economic future.

## 4.0 Options Considered

Delivering expanded engineering offerings in the current space is not viable due to the lab and project room requirements.

Building a new building immediately to house the program (s) is not currently viable either.

## 5.0 Project Outcomes

- Infrastructure Improvements- upgrading some underutilized spaces
- Cost Effectiveness- the Phase 1 proposal creates many student FTEs for low cost
- Innovation, Strategic Alignment & Quality Education

Students educated in the North tend to stay in the North, both for their careers and to raise families here. Local employers and industries have experienced difficulties in recruiting and retaining highly skilled employees from southern Universities. In dealing with a similar issue, UNBC helped create the Northern Medical Program. The NMP has had good success in training doctors who remain in the region and it is anticipated similar outcomes would be realized from the training of Engineers here. An undergraduate Co-Op program is integral to the proposed degrees, which will create ties not only between the students and local/regional employers, but also with the Engineering Faculty, so that teaching and research projects will also align with regional needs.

## 6.0 Project Cost/Funding

A Functional Planning exercise was undertaken in January of 2016 to determine the programming space requirements and to evaluate whether there was appropriate space on campus. The result was that a combination of current space and some renovated space on campus would meet the needs identified.

Due to the complexity of the various renovations (lab, classroom and office space) a variety of costing methods were used (Ministry budget model, internal cost take-off based on similar renovations, and cost consultant) to come up with a total project cost estimate of \$3.5 million for Phase 1.

## 7.0 Key Risks

- A new degree program will have enrolment risks as the program starts up and establishes a reputation. There is strong support for UNBC Engineering programs from local industries and employers.
- Schedule – Due to the number and variety of renovations required, completing all this in the allotted time will be a challenge.

## 8.0 Project Schedule – Phase 1

Planning	2015/16
Design	2017
Construction	2017
Occupancy	2018

Institution	Campus/City	Project Title	Project Category (1 or 2)	Project Priority
University of Northern British Columbia	Prince George	Physiotherapy Program Expansion	1	2 of 4

### 1.0 Current Situation

This project would entail the sharing of the current Dr. Donald Rix Northern Health Sciences building (NHSB) and other classroom and lab space on the Prince George campus to accommodate the expanded partnership program with UBC. A number of synergies can be gained by combining programs with the MD program space and staff, which include not only academic but also research opportunities.

### 2.0 Project Description

Planning, in conjunction with UBC, has continued and further refined the space requirements for Physiotherapy programming. The current assessment examined the possibility of leveraging existing UNBC and Northern Medical Program facilities as well as associated space at UBC to support the distribution of PT and revealed that existing infrastructure will need to be upgraded to accommodate the additional students, faculty and staff on a permanent basis. A detailed plan including operating and capital renovation costs is forthcoming.

### 3.0 Project Objectives

The North is a strategically vital region and one of the economic engines of BC. Developing a building to enable health professions education at UNBC will complement and reinforce the presence of the MD program, and create a true regional hub of health education. Recent data shows that there will be a shortage of PTs in the north with retirements exceeding new appointments. The new space will also enable inter-professional collaboration and achieve significant economies of scale through space sharing. UNBC continues to show increased demand in its Health Science programming at the undergraduate level (biomedical, aboriginal & health and environmental health) and graduate (Disability Management, Education, Psychology) and professional (Nursing and Social Work). There has also been a strong partnership between UNBC and the Northern Health Authority to maximize opportunities for our graduates. In addition to academic delivery there would a significant opportunity to enhance research capacity to ensure a pathway of research into policy development and practice.

### 4.0 Options Considered

Sharing current medical education space was evaluated and deemed viable.  
 Re-purposing other space on campus will have minimal impact on current programming.

## 5.0 Project Outcomes

Surveys into the above mentioned health sciences areas indicate a substantial shortage in the near future. Providing programming in the North to increase these numbers will help address this need.

## 6.0 Project Cost/Funding

### Capital:

The investment required to develop the expanded facilities at UNBC and UBC to host an expanded distributed PT is estimated at approximately \$1million.

### Operating:

Incremental operating funding and start up will be required to cover the increased FTE. These discussions are ongoing and a submission will follow under separate cover.

## 7.0 Key Risks

There are also inherent risks in program expansion and clinical placement capacity for health programs. Each of these are being considered in the planning.

## 8.0 Project Schedule

Planning	2016
Design	2017
Construction	2017
Occupancy	September 2018

Institution	Campus/City	Project Title	Project Category (1 or 2)	Project Priority
University of Northern British Columbia	Prince George	Energy Management & Skills Training Infrastructure c/w multi-purpose lab/shop.	1	3 of 4

## 1.0 Current Situation

The campus is now 25 years old and the built environment on campus has grown significantly. The support infrastructure has not kept up with the growth, technological advances, or energy efficiency priorities. Maintenance space is one of the largest space shortfalls on campus at 84% of the ministry standards. In order to address the significant space shortage, the operational and safety issues, and the development of an apprenticeship training program that have resulted from this growth, new and specialized infrastructure is required.

The current Maintenance Shop was built in 2003 to meet the needs of the Facilities Department at the time. Since then the University's needs have changed and expanded and the required facilities have not kept pace with growth.

In addition, recent safety reviews have identified a number of code and regulatory issues that require infrastructure changes and upgrades. For example, welding ventilation is now required whereby natural ventilation sufficed in the past. The dust collection system in the Carpentry Shop is no longer adequate to meet the needs of the trades, and there is no computer access to required WHMIS information. This replacement will also eliminate the VFA deferred maintenance requirements listed for this building.

## 2.0 Project Description

The plan is to redesign, expand (from the current 352 sm) and relocate the shop(s) to accommodate the current Facilities & Energy Management needs; take advantage of the Bioenergy plant surplus heat, replacing the current propane fuel; and consolidate distributed staff. The project will also build replacement shop and storage space that is slated for repurposing for Engineering lab space.

## 3.0 Project Objectives

- a) To meet the desired and required safety regulations for the staff and infrastructure.
- b) To provide the additional trades and maintenance space required to meet the needs of the expanded campus and additional maintenance needs of the campus.
- c) To consolidate the shops and maintenance areas to gain operational and energy efficiencies.
- d) To consolidate Facilities Management staff who are currently spread out across the campus in four different locations.
- e) To minimize space required and maximize its use by combining Facilities Shop needs with the need for current and future Engineering lab/shop space.

#### 4.0 Options Considered

Due to the “tin shed” type of building currently in place, expansion is not a viable option. Also, by building inside the ring road we can take advantage of the bioenergy plant’s excess heating capacity, negating additional operating costs.

Maintaining the status quo is also not an option due to the Worksafe BC and expanded trades training and operating requirements.

#### 5.0 Project Outcomes

This project will address the identified life-safety and occupational health risks.

It is anticipated that this will provide increased effectiveness and efficiencies amongst the Facilities & Energy Management (FM) department and better serve the long term needs of the University.

The project will also facilitate the re-purposing of some space for the Engineering program and combine shop and lab space to meet the needs of both FM and the Engineering programming.

#### 6.0 Project Cost/Funding

An extensive Functional Planning exercise was conducted in June of 2014. Subsequently a cost consultant was engaged to cost the proposed building project. The estimated budget to address these building requirements is \$21.8 million. A request is being submitted to the Ministry to fund this project.

##### Operating:

We do not anticipate any additional operating costs due to the provision of excess plant capacity.

#### 7.0 Key Risks

There are always certain risks associated with building a new facility such as escalation in costs, schedule delays and the coordination of swing space during construction. These risks will be factored into the detailed planning.

#### 8.0 Project Schedule

Planning	2016/17
Design	2018/19
Construction	2018/19
Occupancy	Fall 2019

Institution	Campus/City	Project Title	Project Category (1 or 2)	Project Priority
University of Northern British Columbia	Prince George	Bioenergy Expansion and Modelling of a Sustainable Community	1	4 of 4

## 1.0 Current Situation

When UNBC installed the wood pellet system at the I.K. Barber Enhanced Forestry Laboratory (EFL), it was the first university in Canada to have an operating bioenergy system on campus. In 2011, the Bioenergy Plant opened, and the first few years of operation have exceeded the University’s expectations related to energy production and emissions. The opportunity exists to build on this platform to make the Prince George campus a model for renewable energy and its integration with teaching, research, the built environment, homes, food production, public education, and forest sustainability.

Phase 1, a partnership between the Ministry of Advanced Education, Industry and the University to connect the Residences and the Daycare to a Smart Heating Loop is currently underway.

## 2.0 Project Description

Phase 2 involves the expansion of the Bioenergy Plant and the addition of facilities for on-campus food production. The scale and scope of these facilities will be dependent on the new energy system and the potential to maximize the use of waste heat from the existing Bioenergy Plant. It’s likely that facilities will be built for crops, medicinal plants, and on-land fish farming, utilizing a broad range of UNBC academic programs, the existing EFL, and demonstration needs for rural communities and industry.

## 3.0 Project Objectives

Objective 1: To continue developing UNBC as a model for renewable energy implementation, especially in rural, resource-based communities and industry.

Objective 2: To strengthen UNBC’s brand as Canada’s Green University to attract students, employees, research funding, and public support.

Objective 3: To utilize UNBC’s undeveloped lands in ways that will bring value and increase the University’s national reputation.

#### 4.0 Options Considered

A detailed analysis of the options regarding the crop and other community sustainability options and how they integrate with UNBC academic programming will continue to evolve during the planning process.

#### 5.0 Project Outcomes

More than 600 communities across Canada are reliant on forests and nearly 200 burn diesel to generate energy. UNBC is ideally situated to be a model for them. The campus systems would be designed for deployment potential and students/alumni trained in them would be well-positioned to implement similar systems in communities and industrial sites.

#### 6.0 Project Cost/Funding

Capital:

Detailed costing on the capital requirements will be carried out as specific components are further developed.

A fundraising program is currently underway with the expectation that this will be a partnership project.

#### 7.0 Key Risks

The continued low cost of on-grid energy from natural gas and electricity affects the business case to develop bioenergy on campus. Nevertheless, the primary purpose of the demonstration is rural, forest-based, off-grid communities where the cost of energy is often higher and where job creation opportunities are paramount.

UNBC's unique experience with bioenergy and fuel sourcing/delivery makes the continued development of this opportunity of lesser risk at UNBC than elsewhere. Other risks will be identified and mitigated as planning progresses.

#### 8.0 Project Schedule

Phase 2:

Planning	2016-2018
Design	tbd
Construction	tbd
Occupancy	tbd



## **CATEGORY 2: WHOLE ASSET REPLACEMENT AND RENEWAL**

### 1.0 UNBC Downtown Campus (BMO)

#### Current Situation

There is an estimated \$2.5 million worth of deferred or required maintenance listed for this building over the life of this plan (2017 – 2022) with an FCI of .50 (= poor condition). To reduce costs and gain some operating efficiencies, the University has decided to sell this building and consolidate its downtown presence.

With the Engineering Master programming in the Wood Innovation and Design Centre and the development of the adjacent lab facility the University has decided to strengthen its operations around WIDC. A proposal for the sale of the building will be forwarded to the Ministry in the coming months.

## **CATEGORY 3: STUDENT HOUSING PROJECTS**

### 1. Residence Renewal

The University has undertaken an upgrade to the Residence Buildings. This major overhaul involves a complete renovation to the majority of the residence suites. This will increase revenue and address a number of VFA requirements (current FCI is 0.19 = poor condition) and substantial decrease ongoing maintenance.

#### Project Scope

The renovation project is part of the UNBC Energy Initiative. UNBC is preparing to refresh the student living spaces with the following renovations:

Security and access updates with the installation of dual credential (card swipe and pin pass) electronic locks on all suite and bedroom doors.

Convert the entire heating system to hot-water-based bioenergy from the campus energy systems (eliminating natural gas consumption and the associated greenhouse gas emissions).

New paint.

New flooring as needed.

Repair and re-upholstery of existing solid wood furniture.

New window coverings in all bedrooms and living rooms.

Updates to bathrooms, including new toilets, tubs and counter tops.

New more efficient electrical fixtures and lighting.

#### Timeline

Phase 1 – Residence 1 (Neyoh) was completed this year. Planning is now underway for Phase 2 – Residence 2 (Keyoh) and will begin as soon as the students are gone in the spring of 2017 and will be completed by the end of August 2017. Additional, improved social space will be added if budget permits.

#### Quick Facts

Residence Renovation Budget: \$11 million for both residence buildings, evenly divided between the two buildings.

Anticipated payback period from residence operations: 5 - 7 years

Residence original construction: 1995 and 1996

Population served in Residences: 544

## Other Projects being considered

### 1/ Centre for Preventative Medicine & Exercise Rehabilitation

#### Current Situation

As the population ages, it is expected that nearly one in five Canadian adults will be living with a physical disability in the next 10 years, placing increasing strain on the health care system. Persons with physical disabilities consistently report low participation to physical activity due to lack of resources, knowledge, and accessibility, and are particularly susceptible to inactivity related morbidities. Due to unique environmental barriers, targeting physical activity, and associated health outcomes, among adults with physical disabilities living in rural and northern communities will require a distinct and tailored intervention.

UNBC is proposing the construction of a state of the art research facility that fosters an interdisciplinary approach providing direct positive impact for the individuals of Northern BC. The proposed research program will involve a systematic approach to increase physical activity rates in northern BC, establishing the infrastructure, knowledge to combat the health inequities and provide best practices that will be utilized in other northern and rural areas.

#### Project Description

This project consists of a 1600 ft<sup>2</sup> addition to the Charles Jago Northern Sports Centre to provide space for exercise testing, training, and body composition assessment.

The addition will provide needed infrastructure required to complete this research including the building of a space equipped for health status evaluation. Presently, this infrastructure does not exist at UNBC nor is there appropriate space available for the needed direct health research in Northern BC.

#### Project Objectives

The Centre for Preventative Medicine and Exercise Rehabilitation would be the first exercise testing and training facility in northern BC. This facility would provide a much needed facility for community-based exercise rehabilitation research focused on improving health outcomes and reducing health inequities between individuals living in rural and northern communities versus those from large urban centers. As the only one of 4 research-intensive universities in BC located in a remote region, UNBC is ideally positioned to develop a centre for excellence in physical activity research that addresses the specific barriers to participation for residents of rural and remote communities. The proposed research program will involve a systematic approach to increase physical activity rates in northern BC, establishing the infrastructure, knowledge and highly qualified personnel required to combat the health inequities prevalent throughout the north and establishing a system of preventative medicine to accommodate the shifting demographics. In particular, the proposed research will address specialized populations in rural and northern communities who are particularly susceptible to inactivity related chronic disease: older adults, individuals with mobility impairments, and aboriginal people.

The proposed program of research aligns closely with two of the identified UNBC strategic research areas: community development and northern, rural and environmental health. First, the establishment of an inclusive, accessible exercise testing and research facility will contribute to the Prince George and wider northern BC community by providing a center for excellence in physical activity research and promotion. Secondly, the proposed project has the potential to greatly enhance the health of individuals living in northern and rural communities through innovative physical activity programming and the development of expertise that is regionally specific. Despite the fact that British Columbia is often cited as the ‘healthiest’ province, significant health disparities exist between residents of the southern mainland and those who live in northern and rural communities; this center will be an important step to close this gap with a strong focus on inclusive and accessible physical activity that is culturally appropriate to the aboriginal community.

### Options Considered

There was an analysis of multiple sites both within and attached to the Dr. Charles Jago Northern Sports Centre and it was determined that the extension should be located along the exterior wall of the Sports Centre adjacent to the current Wolf Den.

### Project Outcomes

UNBC hopes to establish a centre of excellence in exercise rehabilitation research and enhance its strategic research priority relating to the health of Northern communities. This infrastructure, and the high quality personnel trained, will place UNBC in a stronger position to improve the health outcomes of those living in rural and remote communities and build capacity for emerging health service needs relating to an aging population and the growing needs of the aboriginal community. UNBC is uniquely positioned to develop this facility into a national and international leader in physical activity and the delivery of interventions that address the many barriers and geographic health inequalities prevalent across the rural-urban continuum.

It is also intended that the outcomes of this research will be used to inform health delivery models and public health interventions delivered by the local provincial health authority, Northern Health. UNBC currently has a strong relationship with Northern Health through the University Hospital of Northern BC (UHNBC), BC Cancer Agency Centre for the North, and the UBC Northern Medical Program.

The intended applications of this research are to improve physical activity service delivery and resources available to residents of northern and rural communities in Canada. Additionally, in collaboration with Carrier Sekani Family Services (CSFS), potential outcomes related to knowledge translation activities include the development of evidence-based culturally appropriate resources that can be used by aboriginal communities to increase physical activity participation.

### Project Cost/Funding

The cost of this project is an estimated \$1.45 million. Funding is expected to come from an external Grant application to the Canadian Foundation for Innovation.

## Key Risks

Scheduling and facility operation interruption.

## Project Schedule

Planning	2016
Design	2017
Construction	2018
Occupancy	2019

## 2/ Quesnel River Research Centre (QRRC) Infrastructure

### 1. Current Situation

UNBC's QRRC is an active, innovative and relatively remote environmental research and education facility. Activity (person-days) and operations (laboratory and gear/boat usage) have substantially increased recently necessitating additional laboratory facilities and residence space for researchers and students.

### 2. Project Description

The plan to develop QRRC includes extending the current lab, building two 4-bed cabins, upgrading the water and sewer systems to allow this growth, and building a boat storage facility.

### 3. Project Objectives

The scale and quality of the research facilities at QRRC will be improved by adding a new laboratory space as this directly affects our ability to both conduct research from the field station and provide space for teaching specialty courses.

Renovation of this space would improve the functionality of the current building and represents an efficient use of space and funds while utilizing existing QRRC infrastructure.

Expanding and enhancing this space would allow for significant revenue generation by hosting field schools and graduate students and providing dedicated space for researchers.

### 4. Options Considered

There really aren't any alternatives to this expansion with the increased activity in this remote location.

### 5. Project Outcomes

Improving QRRC laboratory and teaching facilities allows for increased capacity resulting in both, more environmental research and training, as well as income for the Centre which will be translated back into QRRC research equipment, personnel and facilities.

6. Project Cost/Funding

The estimated project cost is \$750,000. The project will rely on provincial and/or federal funding or a sizeable donation.

7. Key Risks

The primary risk on this project is scheduling due to its remote location and very short building season.

There is also a risk of limited construction company interest/availability due to the location.

8. Project Schedule

Planning	2015/16
Design	2016/17
Construction	tbd
Occupancy	tbd

## **Regional Projects:**

The highest priority capital projects for UNBC regional centres are both in Terrace.

The first need is for a student study room. In the absence of a library or other dedicated study space at the Terrace Campus, students currently use unoccupied classrooms as available, but often have to move. This would encourage and facilitate better student engagement at the campus.

The second is the long-standing need for First Nations or aboriginal welcoming or social space, which has been discussed in many versions over the last decade. A separate wing or stand-alone building that would allow smudging would meet the identified needs.

The third requirement is for a science teaching laboratory. There have been a number of difficulties in delivering science courses in the Northwest, but a dedicated and properly equipped teaching lab is essential for moving this enterprise forward.

## **Deferred Maintenance Priorities:**

Maintenance & Rehabilitation Projects (projects primarily driven by the need to improve the physical asset condition and to reduce the deferred maintenance backlog).

Over the life of this Plan, a large number of buildings on the campuses will reach 25 years or older and are reaching the stage where major repairs or system replacements are required. The next 12 months will be spent evaluating each of these requirements and putting together a detailed Major Capital Requirements list for funding submission.

Five-Year Capital Plan Instructions (2017/18-2021/22)

Attachment 3 -- Prioritized list for Proposed Category 1: New Priority Projects, Category 2: Whole Asset Replacement & Renewal Projects, and Category 3: Student Housing Projects

#	Institution	Campus	Project Description	Project Category	Anticipated Construction Start Date	Anticipated Occupancy Date	Total Project Budget	Total Cashflow Forecast 2017/18	Total Cashflow Forecast 2018/19	Total Cashflow Forecast 2019/20	Total Cashflow Forecast 2020/21	Total Cashflow Forecast 2021/22	Total Cashflow Forecast Outgoing Years	Provincial Cashflow Forecast 2017/18	Provincial Cashflow Forecast 2018/19	Provincial Cashflow Forecast 2019/20	Provincial Cashflow Forecast 2020/21	Provincial Cashflow Forecast 2021/22	Total Provincial Cashflow Forecast Outgoing Years	Total Provincial Budget
1	Northern British	Prince George	Engineering Spac	1	May-17	Sep-18	\$3,500,000	\$2,000,000	\$1,500,000					\$2,000,000	\$1,500,000					\$3,500,000
2	Northern British	Prince George	Physiotherapy Spc	1	Dec-17	Sep-18	\$1,000,000	\$1,000,000						\$1,000,000						\$1,000,000
3	Northern British	Prince George	Energy Managem	1	Apr-19	Oct-20	\$21,800,000		\$2,180,000	\$17,440,000	\$2,180,000				\$2,180,000	\$17,440,000	\$2,180,000			\$21,800,000
4																				\$0
5																				\$0
6																				\$0
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15																				\$0



# Five-Year Capital Plan Instructions (2017/18-2021/22)

## Attachment 4 - Summary of Major Ongoing and Planned Self-Funded Projects (>\$5 million)



#	Institution	Campus	Project Description	Anticipated Construction Start Date	Anticipated Occupancy Date	Total Project Budget	Total Cashflow Forecast 2017/18	Total Cashflow Forecast 2018/19	Total Cashflow Forecast 2019/20	Total Cashflow Forecast 2020/21	Total Cashflow Forecast 2021/22	Total Cashflow Forecast Outgoing Years
1	University of North	Prince George	Residence Renovation	Apr-17	Sep-17	\$5,500,000	\$5,500,000					
2	University of North	Prince George	Centre for Preventative	Apr-18	2019	\$1,450,000		\$1,450,000				
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**6.d. Undergraduate Engineering Programs  
– Approval of Programs in Principle – D. Ryan**

**That the Board of Governors approves the establishment of UNBC’s Undergraduate Civil Engineering Program, subject to confirmation of funding, and that: the Board of Governors approves the establishment of UNBC’s Environmental Engineering Program, subject to confirmation of funding.**

**Proposal for:**

**Bachelor of Applied Science in  
Civil Engineering**

College of Science and Management, UNBC

## Executive Summary

### **A. Overview – History, Mission, and Academic Goals**

The University of Northern British Columbia holds as its mission to improve the quality of life in its region, the province, and beyond, by attaining the highest standards of undergraduate and graduate teaching, learning, and research. UNBC is committed to serving a vast region by building partnerships and by being innovative, resourceful, and responsive to student and community needs. In the spirit of its Carrier motto - 'En cha huna' - UNBC celebrates diversity and intends to reflect and to foster the rich cultural diversity of northern British Columbia and its peoples.

The proposed Civil Engineering Degree (Program) capitalizes on the strengths of the institution in the area of natural resources and the environment, the sciences, First Nations, and the humanities. The Program will serve to meet the growing demands for Civil Engineering in resource development, adaptation to and mitigating the impact of climate change, water resource management, environmental impacts, and infrastructure development and renewal. In keeping with UNBC's 2015/2016 Institutional Accountability Plan and Report, the Program offers students an education supporting the economic, social, and employment needs of Northern British Columbia. The Program provides students with experiential learning and equips students with relevant jobs skills to meet high-demand professions. It will strengthen the existing Engineering programs at UNBC while developing collaborations at all levels throughout the region.

**B. Credential to be awarded:** B.A.Sc. Civil Engineering

**C. Location:** University of Northern British Columbia

**D. Faculty or schools offering new degree program:** College of Science and Management (CSAM)

**E. Anticipated start date:** September 2017

**F. Anticipated completion time:** The program is designed to be completed over 13 semesters; 9 academic semesters on-campus or through distance delivery and 4 mandatory Co-op work terms

**G. Summary of program:**

**Aim, goals, and objectives of program:**

Engineering is critical to the Canadian economy and in particular the northern economy. Resource extraction, water management, sustainable and environmentally sensitive development, and infrastructure maintenance all depend upon qualified and knowledgeable Engineers. The Conference Board of Canada (CBC) has estimated B.C. is currently foregoing approximately \$4.7 billion in economic activity and \$600 million in tax revenue, directly, as a result of shortages in the profession (or shortages of the professionals) which would allow businesses to grow and innovate. A lack of engineers and related professions results in with too few skilled workers with the ability to facilitate innovation and growth. Further, the average age

of Civil Engineers in B.C. is 50 years old, higher than in any other province. *Engineers Canada* projects an average of 667 job openings per year in British Columbia from 2015-2019 and a continued high demand for the next decade. Presently, the province is not meeting internal demand graduating only 299 students in 2015 (*Engineers Canada - June 2015, Engineering Labour Market in Canada: Projections to 2025*).

While the proposed Program will respond to a need across the province, the primary goal is to work with local and regional industrial partners to educate engineering students at UNBC to serve this region. The Program will meet CEAB accreditation requirements but will be responsive to the needs of northern communities.

**Alignment with UNBC’s Strategic Plan and Academic Goals:**

The Program aligns with critical strategic areas of interest for the University and the Province. The Program supports local and regional students, industry, and government and it is helping to fulfill an important part of the University’s mission to be an institution serving the northern region of the province.

There is a strong demand for Engineering at UNBC with a constant call from industrial and municipal leaders for the establishment of all of the Engineering disciplines at the University. UNBC will increase Engineering programming and capacity through incremental growth in specific program areas. Presently, UNBC offers a joint Environmental Engineering degree with UBC which relies heavily on Civil Engineering courses offered by the Faculty of Engineering at UBC. The proposed Program complements the joint Environmental Engineering degree program allowing for economies of scale.

The Program is broadly inter-disciplinary with a strong emphasis in the first two years on basic sciences and environmental issues. The intention is to keep a common first year between the joint Environmental Engineering degree and the new Civil Engineering degree allowing students some latitude to change their selected major. Much of the second year curriculum will be common and will focus on developing engineering design skills. The Program will meet UNBC’s Academic Goals by:

- Ensuring high quality content and delivery
- Providing students with an education meeting all of the CEAB Graduate Attributes along with the University’s own learning outcomes
- Developing a continuous stream of students potentially interested in furthering their education by pursuing advanced degrees in the science and art of designing and building wood structures through the Master of Wood Engineering program

The Civil Engineering program will also help to expand the Environmental Engineering degree program and provide support for UNBC’s role as Canada’s Green University.

**Delivery Methods:**

The Program will showcase and utilize the latest research in classroom delivery. A rich project-based learning environment will be employed which will emphasize the development of design by utilizing dedicated design suites. The curriculum will incorporate broader topics and perspectives on the environment and sustainability, the role of engineering in society, and the respectful inclusion and exploration of First Nations’ issues and concerns. The curriculum will

integrate mathematical and scientific material within all engineering applications and, where feasible, ensure engineering considerations are developed within the mathematics and science course contents. The nature of Engineering programs dictates the integration of design, laboratory, tutorial, and seminar experiences within the undergraduate program. Further, the program will take advantage of Co-operative education opportunities to blend the academic educational components with practical experience. Not all content will be suitable for distance delivery; however, where feasible the Program will take advantage of effective and efficient distance delivery techniques to enrich the educational experience.

**Program Strengths:**

UNBC has a strong reputation in environmental education and research with degrees in Environmental Planning, Science, and Studies along with the Environmental Engineering program. The University also has a number of interdisciplinary units within its structure, such as Ecosystems Science and Management. With this foundation, the Civil Engineering program will feature a strong integrated approach to teach and advance sustainability and environmental issues within the content of the degree. The core content of the degree will embed a consideration of the role of Engineering within the broader social, economic, and environmental context within all courses. The Program will also place an emphasis on the use of wood as a sustainable building material and design for cold climates, along with consideration of the changing northern climate.

**Level of Support:**

The proposed Program has been reviewed and approved through UNBC's usual internal processes within the College of Science and Management and Senate (as per the attached motions). It has strong support both within the College and across disciplines at the University, as well as from the President, Provost, senior administration and various administrative departments and units. The Program has also received strong community support, particularly from engineering firms throughout the region, city and municipal engineering departments, other post-secondary institutions, and local representatives of the Association of Professional Engineers and Geoscientists of British Columbia.

**Related programs at other B.C. Post-secondary institutions:**

There are currently four Civil Engineering programs within the province (UBC-V, UBC-O, UVic, and BCIT) but *Engineers Canada* is still projecting a provincial shortfall of Engineers graduating over the next 10 years. Further, and perhaps more importantly, a number of studies have documented the propensity of students to stay where they study with the result that the northern two-thirds of the province is not being well served by the institutions noted above. The proposed Program is intended to complement the existing Civil Engineering degrees in the Province. UNBC will work with the existing programs and utilize co-operative delivery of course content through dedicated internet classrooms – while developing Engineering offerings in the north. Expansion of Engineering within British Columbia is essential to economic development and the addition of a Civil Engineering Degree at UNBC is a vital step in that development.

**H. Name, title, phone number and e-mail address of contact person:**

Dr. Erik Jensen, Dean, College of Science & Management, 250 960 5755, Erik.Jensen@unbc.ca

**Proposal for:**

**Bachelor of Applied Science in  
Environmental Engineering**

College of Science and Management, UNBC

## Executive Summary

### **A. Overview – History, Mission, and Academic Goals**

The University of Northern British Columbia holds as its mission to improve the quality of life in its region, the province, and beyond, by attaining the highest standards of undergraduate and graduate teaching, learning, and research. UNBC is committed to serving a vast region by building partnerships and by being innovative, resourceful, and responsive to student and community needs. In the spirit of its Carrier motto - 'En cha huna' - UNBC celebrates diversity and intends to reflect and to foster the rich cultural diversity of northern British Columbia and its peoples.

The proposed Environmental Engineering Degree (Program) capitalizes on the strengths of the institution in the area of natural resources and the environment, the sciences, First Nations, and the humanities. The Program will serve to meet the growing demands for Environmental Engineering in resource development, adaptation to and mitigating the impact of climate change, water resource management, environmental impacts, and infrastructure development and renewal. In keeping with UNBC's 2015/2016 Institutional Accountability Plan and Report, the Program offers students an education supporting the economic, social, and employment needs of Northern British Columbia. The Program provides student experiential learning and equips students with relevant jobs skills to meet high-demand professions. It will strengthen the existing Engineering programs at UNBC while developing collaborations at all levels throughout the region.

**B. Credential to be awarded:** B.A.Sc. Environmental Engineering

**C. Location:** University of Northern British Columbia

**D. Faculty or schools offering new degree program:** College of Science and Management (CSAM)

**E. Anticipated start date:** September 2017

**F. Anticipated completion time:** The program is designed to be completed over 13 semesters; 9 academic semesters on-campus or through distance delivery and 4 mandatory Co-op work terms

**G. Summary of program:**

**Aim, goals, and objectives of program:**

Engineering is critical to the Canadian economy and in particular the northern economy. Resource extraction, water management, sustainable and environmental sensitive development, and infrastructure maintenance all depend upon qualified and knowledgeable Engineers. The Conference Board of Canada (CBC) has estimated B.C. is currently foregoing approximately \$4.7 billion in economic activity and \$600 million in tax revenue, directly, as a



result of shortages in the professions (or shortages of the professionals) which would allow businesses to grow and innovate. A lack of engineers and related professions results in with too few skilled workers with the ability to facilitate innovation and growth. Further, the average age of Civil Engineers in B.C. is 50 years old, higher than in any other province. Engineers Canada projects an average of 667 job openings per year from 2015-2019 and a continued high demand for the next decade. Presently, the province is not meeting internal demand graduating only 299 students in 2015 (Engineers Canada - June 2015, *Engineering Labour Market in Canada: Projections to 2025*).

While the proposed Program will respond to a need across the province, the primary goal is to work with local and regional industrial partners to educate engineering students at UNBC to serve this region. The Program is designed to meet CEAB Accreditation requirements, but will be shaped by and respond to the needs of northern communities and the Province.

**Alignment with UNBC’s Strategic Plan and Academic Goal:**

The Program aligns with critical strategic areas of interest for the University and the Province. The Program will support local and regional students, industry, and government and help to fulfill an important part of the University’s mission, in serving and being responsive to the needs northern region of the province.

There is a strong demand for the current joint Environmental Engineering Program at UNBC and UBC, as demonstrated by the number of applications and registered students. At UNBC, the Environmental Engineering Program borrows heavily from courses offered by the Physical and Life Sciences along with Mathematics and Computer Science. At UBC, the courses are predominately with the Civil and Chemical & Biological Engineering Departments within the Faculty of Engineering. The present proposal includes expanding course offerings at UNBC to facilitate the Program and is partnered with the implementation of a new Civil Engineering Degree.

The proposed Program is broadly inter-disciplinary with a strong emphasis in the first two years on basic sciences and environmental issues. The intention is to keep a common first year between the joint Environmental Engineering degree and the proposed Civil Engineering degree allowing students some latitude to change their selected major. Much of the second year curriculum will be common and will focus on developing engineering design skills. The Program will meet UNBC’s academic goals by:

- Ensuring high quality content and delivery of the Program
- Providing students with an education meeting all of the CEAB Graduate Attributes along with the University’s own learning outcomes
- Developing a continuous stream of students interested in fostering innovation and research responsive to the needs of northern communities and the region.

The Environmental Engineering program will also help to support the proposed Civil Engineering degree program and provide support for UNBC’s role as Canada’s Green University.

**Delivery Methods:**

The Program will showcase and utilize the latest research in classroom delivery. A rich project-based learning environment will be employed throughout the Program with an emphasis on the

development of design utilizing dedicated design suites. The curriculum will incorporate a broad perspective on the environment and sustainability, the role of engineering in society, and the respectful inclusion and exploration of First Nations' issues and concerns. The curriculum will integrate mathematical and scientific material within all engineering applications and, where feasible, ensure engineering considerations are developed within the mathematics and science course contents. The nature of Engineering programs dictates the integration of design, laboratory, tutorial, and seminar experiences within the undergraduate program. The Program will take advantage of Co-operative Education opportunities to blend the academic educational components with practical experience. Due to the need for specialized engineering tools distance delivery may not be feasible but where it can, the Program will take advantage of effective and efficient distance delivery techniques to enrich the educational experience.

**Program Strengths:**

UNBC has a strong reputation in environmental education and research, with degrees in Environmental Planning, Science, and Studies along with the Environmental Engineering program. The University also has a number of interdisciplinary units within its structure, such as Ecosystems Science and Management. With this foundation, the current Environmental Engineering degree features a strong integrated approach to teaching and advancing sustainability and environmental issues which will continue as the Program is expanded. The core content of the degree will embed a consideration of the role of Engineering within the broader social, economic, and environmental context within all courses. The Program will also place an emphasis on sustainable engineering practices and design for cold climates, along with consideration of the changing northern climate.

**Level of Support:**

The proposed Program has been reviewed and approved through UNBC's usual internal processes within the College of Science and Management and Senate (as per the attached motions). It has strong support both within the College and across disciplines at the University, as well as from the President, Provost, senior administration and various administrative departments and units. The Program has also received strong community support, particularly from engineering firms throughout the region, city and municipal engineering departments, other post-secondary institutions, and local representatives of the Association of Professional Engineers and Geoscientists of British Columbia.

**Related programs at other B.C. Post-secondary institutions:**

Currently, the joint UNBC/UBC Environmental Engineering Degree is the only Environmental Engineering program in the province and one of only 19 programs offered across the country. Engineers Canada is projecting a shortfall in all Engineering disciplines over the next 10 years and as a result, expanding Environmental Engineering at UNBC will increase the number of engineers within the region and the Province. Increasing the number of professionals resident in northern communities is critically important for the economic development of the region.

**H. Name, title, phone number and e-mail address of contact person:**

Dr. Erik Jensen, Dean, College of Science & Management, 250 960 5755, Erik.Jensen@unbc.ca

## SENATE COMMITTEE ON ACADEMIC AFFAIRS

### NEW ACADEMIC PROGRAM PROPOSAL

**Motion:** That the new degree program in Civil and the modification of the Environmental Engineering Degree be approved as proposed.

#### **A. General Information**

**Program Title:** B.A.Sc. Civil Engineering; B.A.Sc. Environmental Engineering

**Program Objectives:** The creation of a joint degree program which will lead to either a degree in Civil Engineering or a degree in Environmental Engineering. We presently offer an Environmental Engineering degree in conjunction with UBC. However, the present program would see the entire degree offered at UNBC alongside a Civil Engineering degree. This structure is in place because there is a fair amount of overlap in the courses and content between the two degrees – both as presently offered in the joint UBC/UNBC degree which utilizes Civil Engineering courses at UBC and in the proposed structure for the degrees at UNBC.

**Credential upon Completion of the Program:** Bachelor of Applied Science (B.A.Sc.)

**Program Offering the Degree:** Engineering

**Proposed Start Date:** September, 2017

**Suggested Institutional Priority:** High. Implementing Engineering at UNBC meets with institutional and ministerial priorities. Specifically, provincial demand for Engineering seats are sufficiently high that we should be able to recruit to the program from areas outside of the northern portion of the province.

**Relationship of Proposed Program to the Mandate of the Institution:** The program satisfies government's objectives regarding job and training development.

**Implications for the Cooperative Education Option:** The degrees are mandatory Co-op with a total of four work terms (2 summer; 1 fall; 1 winter) integrated into the overall structure of the academic semesters. The degree program will feature separate Co-op coordinators dedicated to the degrees within the Engineering program.

**Specialties within Program:** none

**Related Programs at Other Institutions:** Civil Engineering is offered at UBC and UVic. Both programs are fully subscribed and turn students away. BCIT has recently begun offering a Civil Engineering program as a continuation of its two year diploma. The Civil Engineering component at UNBC will offer some of the same components found at other B.C. institutions but will have the distinctive features of blending in a stronger emphasis on Environmental issues and sustainability, the use of wood in design and construction, and a cold climate approach to design. With regard to the Environmental Engineering degree, the only existing program in the province is the present joint degree between UNBC and UBC. However, UBC is in the process of establishing a "wholly owned" Environmental Engineering degree with the first intake scheduled

for September 2016. The implications for the joint degree are still unclear. The UNBC proposal will see the joint degree continue in a slightly modified form while establishing a separate and distinct degree stream entirely at UNBC. The new program at UBC is intended to emphasize Environmental Engineering from the point of view of building climate control. The UNBC program will maintain a focus on Environmental Engineering from a large scale, landscape perspective with an emphasis on sustainable industrial development in the north.

**Relation to Existing Programs:** The program is designed to complement the existing strengths UNBC has within the areas of the environment and general science/mathematics. The degree programs will result in an increase in the number of students in first year courses and likely lead to increased number of students moving between degree programs.

**Articulation Arrangement:** At present, articulation is still being negotiated. UNBC is recognized by BCCAT as a “receiving” institution with regard to Engineering. We have been engaged with the “Pathways” project for Engineering.

**Consultations with Other Institutions:** The degrees and program have been discussed with the Deans of Engineering at other B.C. institutions as well as vetted by senior faculty.

## **B. Program Description**

### **General Calendar Description:**

# **ENGINEERING (BASc Program)**

Engineers serve society across a wide range of economic sectors in a number of capacities. Highly skilled engineers require a solid technical and academic background, good communication skills, and the ability to work across a number of disciplines. Engineers deal with problems ranging from mine and dam construction to transit systems to air, water, and soil pollution control.

The Engineering program at UNBC has two degree programs – Civil and Environmental Engineering – and prepares graduates for a wide range of employment opportunities where their technical expertise and problem-solving skills are required. The program provides graduates with a strong awareness and understanding of environmental issues and problems. Our graduates are prepared for employment in the resource industries (e.g. forestry, fisheries, mining, oil and gas, pulp and paper, and the agri-food industry), various government ministries, research organizations, and with engineering firms of all sizes. Our graduates help shape the new environmental economy.

The Engineering Bachelor of Applied Science program is designed around a mandatory Co-operative education component. Students gain valuable and practical skills through four paid Co-op work terms while being gainfully employed. The degree program is also designed to minimize the semester hours during the nine academic semesters to ensure students gain the necessary knowledge in a timely fashion. By incorporating Co-op into the degree program, our graduates finish their degree in five years with over a year and a half of relevant work experience on their resume to ensure a high probability of successful employment.

Both the Civil and Environmental Engineering degrees start with a common first year in which the basic sciences and mathematics are emphasized along with an introduction to the Engineering discipline. In year two, a number of courses are common to both engineering streams but students

will also need to differentiate between the Civil and Environmental Engineering degrees. In the remaining years, some of the courses are common to both programs while each degree stream develops the in-depth knowledge to allow students to qualify within their discipline upon graduation. The final year exposes students to practical engineering problems.

## **Admission Requirements**

Admission to the program is limited and is based on academic qualifications and available space. Priority admission is given to students who meet the admission criteria and apply by the deadline of March 1.

Applicants from BC and Yukon secondary schools must:

- Meet UNBC admission requirements, and
- Have an average of at least 75% based on the following four courses: Principles of Math 12 or Pre-calculus 12, English 12 and two provincially examinable Science 12 courses. In addition, applicants must have successfully completed Chemistry 11 in order to meet course prerequisites in the Program. Physics 12 or an equivalent is strongly recommended, as it is a prerequisite for first-year Physics courses in the program. Students who are admitted without the Physics 12 prerequisite may be delayed in their studies as they may not be able to complete the first four semesters of the program in the normal two year time period. Meeting the minimum GPA does not guarantee admission. Under exceptional circumstances the prerequisites may be waived.

Other applicants must demonstrate that they possess qualifications at least equivalent to the BC and Yukon requirement.

## **Standards of Professional Conduct**

In addition to fulfilling all University and Program regulations and expectations, all students are expected to abide by professional standards as set forth by the Association of Professional Engineers and Geoscientists of British Columbia. Violation of professional standards may result in suspension or dismissal from the program and/or the University.

## **Academic Performance**

Students must adhere to the policies and regulations as specified in the UNBC calendar. This requirement includes, but is not limited to, matters related to academic offenses and progression through the program. Progression is covered by the guidelines on academic standing and continuance. Offenses are governed by the relevant regulations in the appropriate calendar.

Students must obtain the minimum passing grade for all courses. Failure to do so may result in suspension or removal from the program. Note that the courses ENGR 217, ENGR 400, ENGR 401, MATH 200, and MATH 230 must be completed at UNBC.

## **Qualification for Degree**

It is the responsibility of the student to ensure that his/her degree requirements are met. General graduation requirements are found in the Regulations and Policy section of the UNBC Calendar. To

fulfill the requirements of graduation, the student must also:

- maintain a minimum Cumulative GPA of 2.00 (C) on courses for credit towards an Engineering degree.
- obtain a minimum passing grade of 1.67 (C-) in each of ENGR 217, ENGR 400, ENGR 401, MATH 200, and MATH 230; and
- complete all requirements for the B.A.Sc. program within eight years of admission into the program or from the first Engineering course used for credit towards the degree.

### **Letter of Permission**

Once admitted to Engineering at UNBC, students who want to take course work at another institution for credit must obtain a Letter of Permission prior to registration in the course. Students who complete courses without first having obtained a Letter of Permission risk not having those courses accepted for transfer credit. A student who has committed an academic offence or is on academic probation may be denied a Letter of Permission for subsequent course work. Students should consult the Engineering Academic Advisor before considering course work for transfer credit. (Refer to Academic Regulation 19).

### **Graduation**

It is the responsibility of the student to ensure that his/her degree requirements are met. Students must have a Cumulative GPA of at least 2.00 (C) over all courses to graduate.

### **Transfers**

Transfers into the program are allowed provided that the prerequisite courses or articulated courses are completed, and space is available in the program. Acceptance of transfers into the program will be based upon GPA, with priority given to those with the highest GPA. The admission GPA for transfer students into the Environmental Engineering program will be assessed on the following four courses or their university transferrable equivalents: Principles of Math 12 or Pre-calculus 12, English 12, and two provincially examinable Science 12 courses. In order to be considered for admission into the program transfer students must have at least a 75% average based on these four courses or their equivalents. Where both high school and university transfer coursework are provided for each of these four courses, the most recent GPA for each course will be used. Transfer students must also have an overall Cumulative transfer GPA of 2.00, which is based on all their university transferrable coursework. Regardless of the articulated courses transferred, students must satisfy the residency requirement of a minimum of 90 credit hours. In addition, students within the program must complete ENGR 217, ENGR 400, ENGR 401, MATH 200, and MATH 230 at UNBC.

### **Co-operative Education**

Engineering at UNBC requires students to successfully complete four one semester long Co-operative Education work terms. These work terms are interspersed within the degree program and occur in semesters 6, 8, 10, and 12. Each work experience will meet the following criteria:

- each work situation is developed and/or approved by the co-operative educational institution as a suitable learning situation;
- the co-operative student is engaged in productive work rather than merely observing;
- the co-operative student receives remuneration for the work performed;
- the co-operative student's progress on the job is monitored by UNBC Engineering;
- the co-operative student's performance on the job is supervised and evaluated by the student's co-operative employer;
- the time spent in periods of work experience must be at least 30 per cent of the time spent in academic study

The overall timetable for semesters is as follows:

Year	Fall	Winter	Summer
1 <sup>st</sup> year	Academic Semester 1	Academic Semester 2	(semester 3)
2 <sup>nd</sup> year	Academic Semester 4	Academic Semester 5	<b>Co-op Work Term I</b>
3 <sup>rd</sup> year	Academic Semester 7	<b>Co-op Work Term II</b>	Academic Semester 9
	<b>Co-op Work Term III</b>	Academic Semester 11	<b>Co-op Work Term IV</b>
4 <sup>th</sup> year	Academic Semester 13	Academic Semester 14	

Engineering at UNBC is a mandatory Co-operative Education program and successful work terms are required for degree completion. For further information, contact the Co-operative Education Advisor.

**Note:** Co-operative education terms are completed in Semesters 6, 8, 10, and 12. Only under extraordinary circumstances will a student be allowed to deviate from this pattern.

## CIVIL ENGINEERING DEGREE PROGRAM REQUIREMENTS

UNBC offers a rigorous Civil Engineering education augmented by business skills training and opportunities for specialized instruction in timber structures, renewable energy technology, cold climate, and geotechnical engineering. Today's civil engineer not only designs the infrastructure essential to modern society (buildings, bridges, highways, transit systems, water and waste treatment facilities, foundations, tunnels, dams, etcetera) but also analyzes the effects of deterioration on infrastructure elements while considering system interdependencies and the evaluation of life-cycle impacts. Civil engineers must consider environmental impact and economic sustainability in the development of modern infrastructure.

UNBC offers an integrated systems approach to Civil Engineering which is in keeping with the themes of design, life-cycle assessment, systems engineering, sustainable materials, renewable energy, and low-impact development throughout.

The minimum requirement for completion of a Bachelor of Applied Science degree with a major in Civil Engineering is 156 credit hours. Students are also required to successfully complete 12 credit hours of Co-operative Education.

### Program Requirements

First Year (Semesters 1 & 2)

CHEM 100-3	General Chemistry I
CHEM 120-1	General Chemistry Laboratory I
CHEM 101-3	General Chemistry II
CHEM 121-1	General Chemistry Laboratory II
ENGR 110-3	Technical Writing
ENGR 117-3	Engineering Design 1
ENGR 151-1	Engineering Tools I
ENGR 152-1	Engineering Tools II
MATH 100-3	Calculus I
MATH 101-3	Calculus II
MATH 220-3	Linear Algebra
PHYS 110-4	Introductory Physics I: Mechanics
PHYS 111-4	Introductory Physics II: Waves and Electricity

3 credit hours of electives from the Humanities

Second Year (Semesters 4 & 5)

ENGR 217-4	Engineering Design II
ENGR 240-4	Materials I
ENGR 241-4	Materials II
ENGR 250-4	Structural Design I
ENGR 251-4	Structural Design II
ENGR 260-3	Soil Mechanics I
GEOG 205-3	Cartography and Geomatics
MATH 200-3	Calculus III
MATH 230-3	Linear Differential Equations and Boundary Value Problems
STATS 371-3	Probability and Statistics for Scientists and Engineers

Third Year (Semesters 7, 9, & 11)

ENGR 300-3	Green Principles of Engineering
ENGR 317-4	Engineering Design III
ENGR 340-3	Materials III
ENGR 350-3	Structural Analysis
ENGR 351-4	Fluid Mechanics I
ENGR 352-4	Fluid Mechanics II
ENGR 353-4	Hydrology and Open Channel Flow
ENGR 358-3	Water and Waste Water Systems
ENGR 360-4	Soil Mechanics II
ENGR 370-3	Transportations Systems
ENGR 372-3	Construction Management
ENGR 374-3	Cold Climate Engineering
ENGR 380-3	Engineering Economics
ENGR 381-3	Urban and Regional Planning



3 credit hours chosen from the list of technical electives  
3 credit hours of electives from the Physical or Life Sciences

Fourth Year (Semesters 13 & 14)

ENGR 400-4	Capstone Design Project I
ENGR 401-4	Capstone Design Project II
ENGR 410-3	Professional Practice & Law
ENGR 411-3	Project Management
ENGR 440-3	Foundation Design

12 credit hours chosen from the list of technical electives  
3 credit hours of electives from the Humanities

### **Technical Electives**

Technical electives are chosen, as appropriate to the student's discipline, from the technical electives list.

ENSC 302-3 Low Carbon Energy Development  
ENSC 404-3 Waste Management  
ENSC 406-3 Environmental Modelling  
ENSC 408-3 Storms  
ENSC 425-3 Climate Change and Global Warming  
ENSC 450-3 Environmental and Geophysical Data Analysis  
ENSC 452-3 Reclamation and Remediation of Disturbed  
Environments  
ENSC 453-3 Environmental Resources Management and  
Decision Making  
ENSC 460-3 Soil Chemical Processes and the Environment  
NREM 410-3 Watershed Management

Students may also choose appropriate courses from other engineering disciplines as technical electives. It is the student's responsibility to ensure that they have the prerequisites for the technical electives they wish to take.

## **ENVIRONMENTAL ENGINEERING DEGREE PROGRAM REQUIREMENTS**

Environmental and ecological problems are increasingly of concern to all Canadians but particularly in the resource rich northern portion of British Columbia. The concerns are especially acute due to a primarily resource-based economy which depends on forestry, mining, oil and gas, and fisheries. Further, the northern economy generates a significant portion of British Columbia's primary wealth and feeds the provincial economic growth. UNBC offers an Environmental Engineering degree which integrates basic science with modern Engineering practices. Our graduates are prepared to take on the challenges facing modern society, from problems in water, air, and soil pollution control to mine waste disposal to solid waste management and mine remediation. Modern issues require

highly skilled engineers with a solid background in environmental engineering, strong communication skills, and the ability to work across disciplinary boundaries. This program prepares graduates for a wide range of employment opportunities where the technical expertise and problem-solving skills of engineers are needed in conjunction with a strong awareness and understanding of environmental issues and problems.

Our graduates work in the new environmental economy – in areas related to environmental reclamation, remediation, and restoration.

The minimum requirement for completion of a Bachelor of Applied Science degree with a major in Environmental Engineering is 154 credit hours. Students are also required to successfully complete 12 credit hours of Co-operative Education.

## Program Requirements

### First Year (Semesters 1 & 2)

CHEM 100-3	General Chemistry I
CHEM 120-1	General Chemistry Laboratory I
CHEM 101-3	General Chemistry II
CHEM 121-1	General Chemistry Laboratory II
ENGR 110-3	Technical Writing
ENGR 117-3	Engineering Design 1
ENGR 151-1	Engineering Tools I
ENGR 152-1	Engineering Tools II
MATH 100-3	Calculus I
MATH 101-3	Calculus II
MATH 220-3	Linear Algebra
PHYS 110-4	Introductory Physics I: Mechanics
PHYS 111-4	Introductory Physics II: Waves and Electricity

3 credit hours of electives from the Humanities

### Second Year (Semesters 4 & 5)

BIOL 103-3	Introductory Biology I
BIOL 123-1	Introductory Biology I Laboratory
ENGR 217-4	Engineering Design II
ENGR 210-3	Materials and Energy Balance
ENGR 220-4	Engineering Chemistry
ENGR 260-3	Soil Mechanics I
ENGR 270-3	Groundwater
GEOG 205-3	Cartography and Geomatics
MATH 200-3	Calculus III
MATH 230-3	Linear Differential Equations and Boundary Value Problems
STATS 371-3	Probability and Statistics for Scientists and Engineers

### Third Year (Semesters 7, 9, & 11)

ENGR 244-3	Thermodynamics
ENGR 300-3	Green Principles of Engineering
ENGR 306-3	Environmental Modelling
ENGR 317-3	Engineering Design III
ENGR 351-4	Fluid Mechanics I
ENGR 352-4	Fluid Mechanics II
ENGR 353-4	Hydrology and Open Channel Flow
ENGR 358-3	Waste and Waste Water Systems
ENGR 359-3	Ground Water Contamination
ENGR 360-4	Soil Mechanics II
ENGR 365-3	Mining and the Environment
ENGR 380-3	Engineering Economics
ENGR 381-3	Urban and Regional Planning

6 credit hours chosen from the list of technical electives  
 3 credit hours of electives from the Physical or Life Sciences

Fourth Year (Semesters 13 & 14)

ENGR 400-4	Capstone Design Project I
ENGR 401-4	Capstone Design Project II
ENGR 410-3	Professional Practice & Law
ENGR 411-3	Project Management
ENGR 420-3	Transport Phenomena
ENGR 421-3	Environmental Hydraulics
ENGR 430-3	Unit Operations

6 credit hours chosen from the list of technical electives  
 3 credit hours of electives from the Humanities

**Technical Electives**

Technical electives are chosen, as appropriate to the student's discipline, from the technical electives list.

- ENSC 302-3 Low Carbon Energy Development
- ENSC 404-3 Waste Management
- ENSC 406-3 Environmental Modelling
- ENSC 408-3 Storms
- ENSC 425-3 Climate Change and Global Warming
- ENSC 450-3 Environmental and Geophysical Data Analysis
- ENSC 452-3 Reclamation and Remediation of Disturbed Environments
- ENSC 453-3 Environmental Resources Management and Decision Making
- ENSC 460-3 Soil Chemical Processes and the Environment
- NREM 410-3 Watershed Management

Students may also choose appropriate courses from other engineering disciplines as technical electives. It is the student's responsibility to ensure that they have the prerequisites for the technical electives they wish to take.

# Engineering (ENGR)

(Note: COURSE WHICH ALREADY EXIST ARE IN ITALICS.)

***ENGR 110-3 Technical Writing** Students will acquire practical experience in engineering technical writing for a range of applications. The emphasis throughout will be on clarity, precision and consistency. Course content will include searching and referencing methods using scientific and technical literature, argument development, and document organization. Design scenarios will provide the basis for student exercises.*

*Pre-requisites: English 12 or equivalent*

***ENGR 117-3 Engineering Design I** This course teaches problem solving skills specific to engineering design challenges and introduces the engineering design process. Students gain experience through multiple project based design exercises. These are complemented with relevant tours (e.g., wastewater treatment plant) and contact with the local engineering community.*

*Prerequisites with concurrency: PHYS 110-4, MATH 100-3*

*Co-requisite: ENGR 151-1*

***ENGR 151-1 Engineering Tools I** This course provides an introduction to engineering problem solving using common software tools, including spreadsheets and numerical computing software (e.g., Microsoft Excel and MathWorks MATLAB). Case studies provide relevance and serve to bind together many of the topics covered in the course.*

*Prerequisites with concurrency: PHYS 110-4, MATH 100-3*

*Co-requisite: ENGR 117-3*

***ENGR 152-1 Engineering Tools II** This course provides an introduction to engineering problem solving using common software tools, including CAD and GIS software. Case studies provide relevance and serve to bind together many of the topics covered in the course.*

*Prerequisites: ENGR 117-3, ENGR 151-1*

***ENGR 210-3 Materials and Energy Balance** This course provides an introduction to the analysis of environmental engineering processes using the laws of conservation of mass and energy. Material and energy balances are applied to open and closed systems, non-reacting and reacting systems, and non-steady state systems.*

*Prerequisites: Admission to the Environmental Engineering Program*

*Co-requisites: MATH 200-3*

***ENGR 217-4 Engineering Design II** This course continues to explore the problem solving skills specific to Civil and Environmental Engineering problems while advancing student's understanding of the engineering design process. Students will explore project based design exercises. In*

*particular, this course will also include technical writing skills.*

*Prerequisites: ENGR 117-3, ENGR 152-1*

**ENGR 220-3 Engineering Chemistry** *This course provides an introduction to properties and composition of natural waters. This course explores gas and solid equilibria, pH, redox chemistry, complexation, corrosion treatment, acid rain, ion exchange, colloids and microbial transformations. This course also introduces students to relevant organic chemistry as applicable to environmental engineering.*

*Prerequisites: Admission to the Environmental Engineering Program; CHEM 101-3, CHEM 121-1*

**ENGR 240-4 Materials I** This course introduces key principles and analytical techniques applicable to practical problems in the mechanics of materials. The course concentrates on stress analysis of loaded components and structures. Topics include but are not limited to the following: concepts of stress and strain; elasticity; Poisson's ratio; axial loading and deformation; thermal stresses; statically determinate and indeterminate problem; torsional stress and deformation; shear forces and bending moments; moment of inertia; bending and shearing stresses.

Prerequisites: Admission to the Civil Engineering Program; PHYS 111-4

**ENGR 241-4 Materials II** This course continues the study of the fundamental principles in the mechanics of materials. Topics include but are not limited to the following: transformation equations for plane stress and plane strain; principal and maximum shearing stresses and strains; Mohr's circle; stresses in thin-walled pressure vessels; combined loading problems; beam deflection by integration and super-position; buckling; Euler's equation for columns, the secant formula, and the empirical column formulas; strain rosette analysis.

Prerequisite: ENGR 240-4

**ENGR 244-3 Thermodynamics** This course is an introduction to thermodynamics. Topics include but are not limited to the following: energy and the first law; second law of thermodynamics; entropy; availability (energy) analysis; thermodynamic properties of fluids, application to power generation, refrigeration, and liquefaction, as well as biological, environmental, and electrochemical systems.

Prerequisite: CHEM 101-3, CHEM 121-1

**ENGR 250-4 Structural Design I** This course focuses on reinforced concrete design. Topics include but are not limited to the following: safety and principles of limit state design; properties of concrete and reinforcing steel; principles of ultimate strength theory, material under strength and load factors; ultimate strength design of beams, one-way slabs, spread footings, and cantilever retaining walls with integrated structural applications; introduction to the design of two-way flat slabs; deflection calculations; use of codes and design aids.

Prerequisites: Admission to the Civil Engineering Program; PHYS 111-4

**ENGR 251-4 Structural Design II** This course focuses on steel structure design. Topics include but are not limited to the following: design loads for structures; properties of structural steel; design of tension members, simple bolted and welded connections, bearing and base plates, compression members, and beams with practical applications; use of codes and handbooks; approximate methods of structural analysis; safety and principles of limit states design.

Prerequisites: ENGR 250-4

**ENGR 260-4 Soil Mechanics I** This course provides students with an understanding, both theoretical and practical, of soil properties. Topics include but are not limited to the following: physical properties of soils; classification; capillarity and permeability; analysis of seepage, filter criteria, geostatic stresses, consolidation, and slope stability analysis.

Prerequisites: ENGR 117-4, PHYS 111-4, CHEM 101-3, CHEM 121-1

**ENGR 270-3 (ENSC 451-3) Groundwater Hydrology** *This course introduces fundamental principles of groundwater flow and their application to solve problems related to groundwater resources evaluation, development, and management. Topics include the role of groundwater in geological processes, the occurrence and movement of groundwater, steady-state and transient well hydraulics, aquifer testing techniques, unsaturated flow theory, and groundwater modeling techniques. Supporting computer software may be used.*

Prerequisite: MATH 101-3

**ENGR 300-3 Green Principles of Engineering** This course examines the implications of a finite biosphere and the complexities inherent in environmental decision-making. It explores the social and biophysical context of infrastructure and the impact of technologies on people, the economy, and the environment. Topics include but are not limited to the following: Pollution prevention; cleaner production; green chemistry and engineering; industrial ecology, eco-industrial parks, and sustainable development; environmental impact assessment including life-cycle assessment, total cost analysis and environmental systems analysis; reduce/recycling/reuse of wastes and by-products.

Prerequisite: ENGR 117-3

**ENGR 306-3 (ENSC 406-3) Environmental Modelling** *This course provides an understanding of the physical, chemical and biological processes that govern contaminant transport and fate in environmental media. Topics include modelling fundamentals, mass transport in aquatic ecosystems, and mathematical modelling of a wide variety of contamination issues, such as the eutrophication of lakes, river water quality, groundwater contamination, atmospheric deposition, and climate change. Laboratory exercises will complement lecture topics and focus on the development of computer-based modelling skills.*

Prerequisite: MATH 101-3

**ENGR 317-4 Engineering Design III** This course will explore advanced problem solving skills specific to Civil and Environmental Engineering enhances the student's understanding of design.

Students will explore project based design exercises.

Prerequisite: ENGR 217-4

**ENGR 340-3 Materials III** This course focuses on advanced materials used in construction. In particular, the content addresses the use of wood in construction and the interaction of wood with other building materials.

Prerequisite: ENGR 241-4

**ENGR 350-3 Structural Analysis** This course presents an introduction to indeterminate structural analysis; approximate analysis of structures; calculation of displacements using virtual work; flexibility (force) method; stiffness method for frames; moment distribution method; introduction to structural dynamics.

Prerequisite: ENGR 241-4

**ENGR 351-4 (ENSC 350-3) Fluid Mechanics I** *This course is an introduction to fluid mechanics. Topics include: definition of fluids; fluid properties; variation of pressure in a fluid; hydrostatic forces; buoyancy; dimensional analysis; similarities; kinematics of flow; control volumes; continuity equation; momentum equation; energy equation; and flow in closed conduits.*

*Prerequisite: MATH 101-3; PHYS 111-4*

**ENGR 352-4 Fluid Mechanics II** The course concentrates on the behavior of compressible fluids. Topics include but are not limited to the following: the fluid medium, kinematics, and dynamics of a flow field; Bernoulli's equation, vorticity, and circulation; potential flow; Navier-Stokes' equations; compressible flow; exact and approximate solutions for one- and two-dimensional laminar flows; steady and unsteady flows; exact and approximate solutions to one- and two-dimensional boundary layers; turbulent flows; Reynolds stresses; Prandtl's mixing length theory; two dimensional flow and immersed objects; velocity and pressure fields; lift and drag on cylinders and aerofoils; evaluation of wind loads on structures; pumps and turbines analysis and design of pipeline systems; frictionless water hammer analysis.

Prerequisite: ENGR 351-4

**ENGR 353-4 Hydrology and Open Channel Flow** This course explores the concepts of fluid flow, energy, and momentum, along with flow resistance. Topics include but are not limited to the following: energy and momentum principles in open channel flow; critical, subcritical, and supercritical flow; applications to rectangular and non-rectangular channel sections; hydraulic jump; flow resistance; uniform flow computations; non-uniform flow; longitudinal profiles; culvert design; design for fish habitat.

Prerequisite: ENGR 351-4



**ENGR 358-3 Water and Wastewater Systems** This course introduces students to the field of water management and wastewater treatment. Topics include but are not limited to the following: water quality criteria and standards; treatment techniques and systems for surface water and groundwater sources; design of water storage, transmission, and distribution systems; pumps and pumping; wastewater collection; wastewater treatment systems.

Prerequisite: ENGR 351-4

**ENGR 359-3 Groundwater Contamination** This course examines contaminant transport processes in groundwater flow systems; aqueous and multiphase transport; mathematical models describing migration and chemical evolution of contaminant plumes; case studies.

Prerequisite: ENGR 351-4

**ENGR 360-3 Soil Mechanics II** This course continues the study of soil mechanics. Topics include but are not limited to the following: concept of failure and failure theories; Mohr-Coulomb failure criterion; shear resistance between soil particles; shear testing methods; pore pressure parameters; shear strength of cohesionless and cohesive soils; types of stability analysis; flow of water in embankments/dams and natural slopes; engineering in permafrost; geo-environmental engineering.

Prerequisite: ENGR 260-4

**ENGR 365-3 Mining and the Environment** This course introduces environmental topics of importance to engineers practicing within the mining, metallurgical and related industries including technical practices, regulatory and public issues.

Prerequisite: ENGR 300-3

**ENGR 370-3 Transportation Systems** This course introduction elements and operations involved in various transportation systems (i.e., airports, ports, railways, highways, and mass transit systems). Topics include but are not limited to the following: analysis of system performance; traffic stream characteristics; traffic flow theory; traffic engineering studies; intersection control, capacity, and level of service of freeways and signalized intersections; the role of traffic engineering in sustainable transportation systems; highway safety; travel demand forecasting.

Prerequisite: ENGR 300-3

**ENGR 372-3 Construction Management** This course provides the knowledge required for managers. Topics include but are not limited to the following: construction methods selection; practice of construction management; contract administration and control; computer integration in administration; control and project network techniques; total quality management and the ISO framework; design of false work and formwork lifting and rigging; welding techniques and procedures; occupational health and safety act.

Prerequisite: ENGR 300-3

**ENGR 374-3 Cold Climate Construction Engineering** This course introduces engineering concerns relate to a cold and variable climate. Topics include but are not limited to the following: northern climates and permafrost; thermal deformation characteristics of frozen and unfrozen soils; thaw of permafrost and settlement; ice and snow construction; ice motion; policy issues; transportation in the north; the design of roads, runways, building foundations, and housing for the arctic; the provision of municipal services including water treatment and supply, wastewater collection, treatment, and disposal, and solid waste disposal.

Prerequisite: ENGR 300-3

**ENGR 380-3 Engineering Economics** This course examines economic issues relevant to the profession of engineering. Topics include but are not limited to the following: quantitative analysis of engineering decision making; cash flow analysis and comparisons of alternatives; hard and soft systems management; decision models, cost concepts, and accounting; the time value of money; comparing options; depreciation and taxation; risk and uncertainty analysis; economic analysis for sustainable development; financial accounting; company structures; public sector projects; decision-making. Case studies will be presented.

Prerequisite: ENGR 300-3

**ENGR 381-3 Urban and Regional Planning** An introduction urban and regional planning is provided. Topics may include land use, growth management, transportation, environmental planning and community development, all in consideration of a legal, environmental, and governmental context.

Prerequisite: ENGR 317-3

**ENGR 400-4 Capstone Design Project I** In combination with ENGR 401-4, students will engage in a two semester project intended to provide real life experience as part of a design team. Working in groups, students should solicit a project from an industrial sponsor, develop a full set of specifications, and deliver a final report. The intent is for the teams to draw upon all of the knowledge gained during their engineering degree.

Prerequisite: ENGR 317-4

**ENGR 401-4 Capstone Design Project II** In combination with ENGR 400-4, students will engage in a two semester project intended to provide real life experience as part of a design team. Working in groups, students should solicit a project from an industrial sponsor, develop a full set of specifications, and deliver a final report. The intent is for the teams to draw upon all of the knowledge gained during their engineering degree.

Prerequisite: ENGR 400-4

**ENGR 410-3 Professional Practice and Law** This course prepares graduates for the roles and responsibilities of a professional engineer. Topics include but are not limited to the following: professional practice; public responsibility; registration, engineers act and code of ethics; licensing;

law and liability; contracts, documents, and the preparation of specifications; torts and independent contractors; companies and partnerships; mechanic liens; agency; evidence; expert witness; liability; patents, copyright, and trademarks.

Prerequisite: ENGR 317-4

### **ENGR 411-3 Project Management**

Perspectives of project management as it relates to Civil engineering. Case studies are used to illustrate key issues.

Prerequisite: ENGR 317-4

**ENGR 420-3 Transport Phenomena** This course advances an understanding of fluid mechanics. Topics include but are not limited to the following: heat and mass transfer; conduction and molecular diffusion; convective transfer; thermal radiation; analogies among heat, mass and momentum transfer; heat exchanger design.

Prerequisite: ENGR 352-4

**ENGR 421-3 Environmental Hydraulics** This course explores the application of hydraulic engineering principles to problems of environmental concern such as pollutant transport and dispersion, the mixing in rivers and lakes, the theory of jets and plumes, and the design of outfall diffusers.

Prerequisite: ENGR 352-4

**ENGR 430-3 Unit Operations** This course examines the various aspects of operations within industrial process. Topics include but are not limited to the following: characterization of particles, droplets, and bubbles; comminution, screening and classification; filtration, sedimentation, centrifugal separations and fluidization; thermal operations including evaporation and crystallization; stage-wise mass transfer operations; extraction and absorption; single and stage-wise binary and multi-component distillation; principles and equipment design for continuous contact mass transfer operations including absorption, binary distillation and others such as extraction, drying, humidification, membrane separations.

Prerequisite: ENGR 300-3

**ENGR 440-3 Foundation Design** This course introduces building and structure foundations. Topics include but are not limited to the following: stress distribution in soils; settlement of structures; bearing capacity of soils; design of shallow foundations; retaining structures; excavations; geotechnical earthquake engineering; design of deep foundations; piles and pile foundations; types of piles; pile foundation design; types of sheet pile walls; single-wall, double-wall, and cellular cofferdams; box open and pneumatic caissons; underpinning of existing structures.

Prerequisite: ENGR 350-3

**Upper Level Technical Electives – These courses remain to be defined by faculty.**

**ENGR 390-3**  
**ENGR 391-3**  
**ENGR 392-3**  
**ENGR 490-3**  
**ENGR 491-3**  
**ENGR 492-3**  
**ENGR 493-3**  
**ENGR 494-3**  
**ENGR 495-3**  
**ENGR 496-3**

**CO-OPERATIVE EDUCATION WORK TERMS**

**ENGR 001-3 Work Term I**

Students are employed for a work term of four months' duration. Competencies typically addressed include personal management and work place behaviour. This work term should provide an introduction to a productive work experience that is related to the student's program of studies and individual interests.

Prerequisite: ENGR 217 and third year standing

**ENGR 002-3 Work Term II**

Students are employed for a work term, normally of four months' duration. Competencies typically addressed include communication and teamwork. This work term is intended to provide an increased level of responsibility in an area that is related to the student's program of studies and individual interests.

Prerequisite: ENGR 001

**ENGR 003-3 Work Term III**

Students are employed for a work term, normally of four months' duration. Competencies typically addressed include managing information, research and problem solving, and commitment to quality. This work term should provide an increased level of responsibility in an area that is related to the area of specialization in the student's program of studies.

Prerequisite: ENGR 002

**ENGR 004-3 Work Term IV**

Students are employed for a work term, normally of four months' duration. Competencies typically addressed include project and task management, social responsibility and continuous learning. This work term should provide a path to a career choice in the student's anticipated degree.

Prerequisite: ENGR 003

**Curriculum:** as stipulated above.

### **C. Need for Program**

**Enrolment Projections:** The degree programs have been modelled with an initial enrolment of 15 students in Civil Engineering, increasing by 5 students per year until fully subscribed with a 60 student intake on year ten of the degree. The fully subscribed program will have 60 students enter the degree each year but assumes only 50 students in years two to five of the degree. The Environmental Engineering program will see an incremental increase of 10 students in first year enrolment in the first year of offering the degree (for a total of 60 students). The second year will have 50 students and subsequent terms will drop to 25 students if we maintain the Joint degree program in Environmental Engineering with UBC.

**Cultural, Social and Economic Needs:** Engineers Canada Labour Market 2015 highlights the fundamental challenges facing the Engineering profession in British Columbia. This province presently has the highest labour market demand for Engineers and this will continue for the foreseeable future. This analysis predicts an ongoing annual deficit of over 200 Civil Engineers for the foreseeable. The lack of engineering talent represents a drag on the B.C. economy and our economic development. In fact our “companies are increasingly challenged to fill roles as a result of fewer students enrolling in key areas – including engineering, science, and marketing – compared to other provinces in Canada” (BC Technology Report Card, 2014). The situation is exacerbated in northern B.C. where the shortage of local engineering talent is even more acute. Anecdotal evidence provided by local and regional companies has indicated many have stopped seeking additional engineering projects due to a lack of qualified Engineers in Northern British Columbia. One limiting factor in the growth of these companies, and by extension the northern economy, is the number of Engineers available.

Further to the overall industry demand for an increased number of Engineers in British Columbia, the present enrolment statistics from the five B.C. Universities offering Engineering degrees (SFU, UBC-O, UBC-V, UNBC, UVic) would indicate there is a great deal of unmet student demand. In 2014/15, the total number of applicants for Engineering was 7,312. Some are likely not unique students as many students will have applied to two different schools in an effort to maximize their chances of getting in. However, there are also a number of students in the system that do not apply to one of the receiving institutions but seek delayed entry through the colleges. In any case, the overall success rate for the system was only 2,126 students or 29%. The entering grade point average for UBC is now 92% suggesting there are a large number of students with adequate grades not making it into a University Engineering program. Anecdotally, the demand from the Colleges and teaching Universities remains high with numerous qualified students not able to transition to University. Incidentally, there is also evidence to suggest students who start at UBC-O, stay at UBC-O even if offered a chance to move to the UBC-V campus. This reinforces our premise that students educated in Prince George will stay in the North and that there exists a significant demand for additional Engineering seats in the province.

**Labour Market Demands:** At the heart of our economic future in Northern BC is the access to

educated and talented people (BC Technology Report Card). The Conference Board of Canada (CBC) has estimated B.C. is currently foregoing approximately \$4.7 billion in economic activity and \$600 million in tax revenue, directly, as a result of shortages in the professionals which would allow businesses to grow and innovate. A lack of engineers and related professions results in with too few skilled workers with the ability to facilitate innovation and growth. In fact, the CBC estimates within 8 years, 57% of B.C. employers will be seeking PSE graduates with university degrees in the areas of Business, Computer Science, and Engineering.

**Other Benefits:** Institutionally, when fully subscribed, this program has the potential to add 630 FTE to UNBC without impacting enrolments in presently offered degree programs.

## **D. Faculty**

**Faculty list:** Present: Dr. Jianbing Li, Dr. Jueyi Sui, Dr. Ronald Thring, Dr. Steve Helle, Dr. Guido Wimmer, Dr. Asif Iqbal, Mr. Maik Gehloff. In addition to the remaining faculty positions at WIDC in the IENG program, seven engineering faculty positions will be established for the program along with a position in mathematics. All positions are either presently funded or will be funded through external funding.

**Expected Teaching Loads:** four courses per academic year

**Research Funding:** NSERC and other national bodies, along with provincial funding and contract research.

## **E. Program Delivery**

**Distance Learning Components:** The degree program includes the sharing of courses and resources with either UBC or UVic through a distance delivery model. Both institutions are equipped with fully integrated digital classrooms suitable for delivery. This model has been used in a pilot program with the present Engineering program.

**Class Size and Structure:** typically, cohorts of 50 or 100 students.

**Experiential Learning:** fully integrated mandatory Co-operative education program

## **F. Program Resources**

**Administrative Requirements:** fully modelled within the budget

**Operating Requirements:** fully modelled within the budget

**Capital Requirements:** fully modelled within the budget

**Start-up Costs:** fully modelled within the budget

**Special Resource Requirements:**

## **G. Library Resource Requirements (See attached form)**

## **H. Evaluation**

**Academic Quality of Program:** Program has been vetted by external Engineering faculty. The quality of the program will ultimately depend upon CEAB approval.

**Methods of Internal Institutional Review:** CEAB visits.

**Relevant External Program Experts:** faculty at UVic, UBC, and University of Alberta

**I. Miscellaneous**

II.

**Special Features:**

**Attachment Pages (in addition to required Library Form):**   0   pages

**J. Authorization**

**College:** College of Science & Management

**College Council Motion Number:** CSAMCC 2016:03:10:03

**College Council Approval Date:** March 10, 2016

**INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING**

**Brief Summary of Committee Debate:**


**Motion No.:** SCAAF201604.15

**Moved by:** S. Chen

**Seconded by:** I. Hartley

**Committee Decision:** CARRIED, with editorial revisions as recommended by the SCCC.

**Approved by SCAAF:**   April 7, 2016    
Date

  
Chair's Signature

**For recommendation to   ✓  , or information of            Senate.**

**7.a. Vice-President University Advancement - Report**





## BRIEFING NOTE

<b>Date:</b>	August 19, 2016	
<b>Agenda Item / Prepared For:</b>	Office of University Advancement – Public Session	
<b>Purpose:</b>	<input type="checkbox"/> Information	<input checked="" type="checkbox"/> Discussion
	<input type="checkbox"/> Seeking Direction	<input type="checkbox"/> Decision/Approval
<b>Prepared by:</b>	K Scouten/M Wood	
<b>Reviewed by:</b>	Tim Tribe	

### 1. Fundraising:

Distribution of Donations	April 2015 – July 2015		April 2016 – July 2016	
	Total Giving	Donor Count	Total Giving	Donor Count
Student Awards	\$157,600	231	\$137,096	168
General	\$29,865	87	\$174,925	65
Athletics	\$73,810	78	\$102,792	162
Northern Medical Program Trust	\$54,825	394	\$40,631	343
First Nations	\$22	1	\$220	4
Library	\$77,436	8	\$40,170	4
Green Initiatives	\$1,660	4	\$118,239	4
General Research	\$79,964	8	\$20,307	4
Area of Greatest Need	\$33,852	78	\$8,625	49
Gift in Kind	\$143,659	53	\$26,781	6
Office of Research	\$105,000	1	\$0	0
<b>Total</b>	<b>\$757,729</b>	<b>943</b>	<b>\$669,786</b>	<b>809</b>

Giving by Constituency	April 2015 – July 2015		April 2016 – July 2016	
	Total Giving	Donor Count	Total Giving	Donor Count
Association / Organization	\$13,508	13	\$14,856	12
Business / Corporation	\$191,047	98	\$370,623	62
Foundations	\$250,727	7	\$146,367	8
Government	\$14,300	4	\$2,085	3
Individuals (non-UNBC)	\$247,647	470	\$104,032	452
UNBC Individuals	\$24,472	134	\$18,253	102
Alumni	\$16,028	163	\$13,570	109
<b>Total</b>	<b>\$757,729</b>	<b>889</b>	<b>\$669,786</b>	<b>748</b>

- a. Major gifts received in August brings Fiscal 2017 YTD total above previous year
- b. Fundraising/stewardship initiatives of note since May: Loyal donor calling program, Fiscal 2016 Endowment reporting to all fund holders, Research Office collaboration increasing Foundation giving, donor visits in Vancouver and Prince George, more stories of impact for website and donor relations.
- c. Planning continues for Northern Leadership campaign

**2. Communication with Stakeholders**

- a. Successful move to website featuring responsive design and greater functionality for mobile devices
- b. Complete re-design of undergraduate student recruitment handbook
- c. Beginning work on a complete redesign of student recruitment website

**3. Government and Political Relations: Verbal**