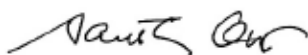


<b>SUBJECT</b>	TUITION REQUEST - BSC BIOECONOMY SCIENCES AND TECHNOLOGY (BEST)
<b>MEETING DATE</b>	NOVEMBER 26, 2018

Forwarded on the Recommendation of the President

APPROVED FOR  
SUBMISSION



Santa J. Ono, President and Vice-Chancellor

<b>DECISION REQUESTED</b>	IT IS HEREBY REQUESTED that <i>the UBC Board of Governors approve tuition fees for the Bachelor of Science in Bioeconomy Sciences and Technology aligned with approved Bachelor of Science undergraduate tuition fees, which for 2018-2019 are \$176.45 per credit for domestic students and \$1,256.33 per credit for international students, subject to annual increases as approved by the Board.</i>
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<b>Report Date</b>	29 October 2018
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**Presented By** Andrew Szeri, Provost and Vice-President Academic  
 Simon Bates, Associate-Provost Teaching and Learning  
 John Innes, Dean, Faculty of Forestry

## EXECUTIVE SUMMARY

The UBC Faculty of Forestry is proposing a new Bachelor of Science degree program—Forest Bioeconomy Sciences and Technology (BEST). The proposed BEST degree will provide a comprehensive education covering economic, environmental, and social sustainability in the emerging bioeconomy. The curriculum provides a holistic education incorporating the scientific, economic, and policy issues generated by transforming forest and plant based biomass into innovative renewable bioproducts and bioenergy that stimulate sustainable development and smart land use. The proposed program also addresses a stated inclusion in the 2018 WorkBC’s labour market report that specifies natural and applied science policy researchers, consultants and program officers as high demand occupations in the Province.<sup>1</sup>

The BEST program will attract undergraduates interested in renewable resource technologies, resource conservation and reuse, sustainable land use development, and regulatory practices in renewable energy and materials. The proposed degree will educate future scientists, business and program managers, and policy makers to lead the responsible development of the emerging Canadian Bioeconomy industry to leverage Canada’s vast resources while protecting the nation’s diverse ecosystems.

The proposed program will be offered and administered by the Faculty of Forestry and will be managed in the same manner as all undergraduate degree programs in the Faculty.

### Attachments

1. Appendix 1 – Tuition and Fee Assessment Details
2. Appendix 2 – Student Consultation on Tuition Report

<sup>1</sup> <https://www.workbc.ca/Labour-Market-Industry/Labour-Market-Outlook.aspx>

**INSTITUTIONAL STRATEGIC PRIORITIES SUPPORTED** Learning Research Innovation Engagement  
(Internal / External) Internationalor  Operational**DESCRIPTION &  
RATIONALE**

Forest Biosciences is a rapidly growing discipline that emphasizes key components of knowledge-based, innovative production and use of forest and agro biowaste to create renewable products, fuels, and energy for sustainable development. In addition, understanding the economic, land use and policy implications are fundamental components of the discipline.

The Canadian government has determined that the forest bioeconomy sector is becoming as important as the traditional forestry sector. To this point, Natural Resources Canada's Canadian Forest Service received a federal mandate to increase the competitiveness of the Canadian forest sector. The initial push is through the promotion of the forest bioeconomy through research, increasing public awareness of the economic and environmental benefits of bioproducts, and ensuring that federal policies guarantee productive, sustainable, and healthy forests in tandem with a productive forest products industry.<sup>2</sup> The bioeconomy emphasizes the transformation of localized resources from forests, fields, and municipal wastes for the use by local and multinational companies outside the traditional forest products sector.

As early as 2009, Canada had over 200 businesses producing or developing bioproducts and grossed \$1.3B on bioproduct sales of which \$433M were exports. In addition, bioeconomy jobs employed over 3,000 people in production, research and development, and engineering.<sup>3</sup> In 2017, the Canadian Council of Forest Ministers developed a framework for Canada's forest bioeconomy that supports the increase of investment in the bioeconomy, resultant growth of jobs in the sector, new businesses, new supply chains, and enhanced engagement with stakeholders, notably Indigenous communities. Training programs, promotion of career paths in traditional and non-traditional forest industries and an overarching theme of sustainability provide justification for the need of an education platform in the area.<sup>4</sup>

Employment in the bioeconomy is growing and providing new career opportunities for our future graduates. Recent data from the US Department of Energy<sup>5</sup> indicates the renewable energy industry provided 677,544 jobs in 2016—a 6% increase from 2015. Specifically, woody biomass fuel for energy and cellulosic biofuels supports approximately 3% of the overall fuels workforce in the United States. Here in British Columbia, companies such as Pinnacle Renewable Energy provide more than 250 jobs in bioenergy pellet production. In Ontario, Comet Biorefining Inc. is building the world's largest biomass sugar facility, offering a wide portfolio of potential careers within Canada.

<sup>2</sup> NRCan Forest Bioproducts, 2007. Fo4-15/2007

<sup>3</sup> Agriculture and Agri-Food Canada, 2015. AAFC No. 12322E

<sup>4</sup> Canadian Council of Forest Ministers Innovation Committee. Canadian Forest Service Publications: <http://cfs.nrcan.gc.ca/publications>.

<sup>5</sup> [https://energy.gov/sites/prod/files/2017/01/f34/2017%20US%20Energy%20and%20Jobs%20Report\\_0.pdf](https://energy.gov/sites/prod/files/2017/01/f34/2017%20US%20Energy%20and%20Jobs%20Report_0.pdf)

The BEST program will teach students to:

**Create** and **develop** innovation in bioproduct design (nanotechnology) through laboratory training

- **Apply** scientific principles for the analytical characterization of bioproducts and bioenergy
- **Implement** quantitative sustainability metrics
- **Utilize** social science strategies to define problems and **generate** sustainable approaches to product and energy development
- **Apply** knowledge of industry and new products
- **Gain** professional development skills such as:
  - Teamwork
  - Project management
  - Problem solving
- **Perform** and **interpret** statistical analysis
- **Understand** government and industry policies and regulatory implications
- **Participate** in Department of Wood Science Co-op program

**BENEFITS**  
Learning,  
Research,  
Financial,  
Sustainability &  
Reputational

### Learning

The Forest Bioeconomy Sciences and Technology degree will offer a comprehensive program for the scientifically minded and environmentally motivated Forestry student. The proposed degree is a four-year, 123-credit program. Students will be admitted following graduation from secondary school or as a post-secondary transfer.

Learning outcomes will prepare students to work towards solutions for complex issues such as greenhouse gas emission reduction and development of fossil fuel alternatives, biomass conversion into innovative bioproducts, sustainable land use development, and the role of government, industry, and nongovernmental organizations (NGOs) in a functioning bioeconomy. In addition to theoretical knowledge, students will also attain project management, marketing and social science skills.

The BEST program will:

- Create a talent pool of uniquely educated HQP.
- Providing for an identified need from industry.
- Reinforce UBC's leading position in innovative education by offering the first degree program in forest bioeconomy sciences in Canada.

At the end of the program, students will be able to:

- Understand technologies for characterizing and converting biomass into bioenergy and biofuels.

- Assess the socio-environmental impacts of managed resource use in the bioeconomy.
- Develop participatory methods and community-based approaches to assess and develop renewable enterprises.
- Evaluate resource consumption and greenhouse gas emission for biorefineries and other renewable technologies.
- Utilize biotechnology methods from plant growth through biochemical pathways for the transformation of biomass into useful materials.
- Develop tools to design bioproducts with low environmental footprints to address given performance requirements.
- Evaluate the potential role of bioenergy in economies and communities at different spatial scales.
- Apply the knowledge and skills they have acquired to practical problems in biomaterials or bioenergy, working both independently as in teams.

**RISKS**  
Financial,  
Operational &  
Reputational

Working with the Strategic Decision Support team we have prepared a 10-year projection for the Forest Bioeconomy Sciences and Technology program which aims to ensure the program can be delivered through a financially viable model.

***Revenue***

*Revenue* projections are based on the number of funded seats (from Forestry current seat allocation), expected program enrollment, expected tuition increases (2% per annum for domestic tuition and 3% ISI tuition for 2019/2020) and current ISI ratio of 30% and 70% domestic. The main risk is an initial lower than expected program enrolment. We project this risk to be low.

***Expenses***

Risks include higher than anticipated TA support. We project this risk to be low.

***Operational***

Any financial investment, specifically faculty and staff, before the program starts and without full certainty of demand is always a financial risk. However, based on the feedback that we have received through various meetings with students, industry, and other stakeholders, we feel confident that this program will be in demand.

Most international students will initially come from China and the United States. The Faculty of Forestry has held discussions and developed preliminary plans with our partner universities in China. Nanjing Forestry University and Beijing Forestry University have expressed strong support for the program and plan to send qualified applicants to the program through the 3+2 transfer program.

We do not foresee any major operational or reputational risks.

**COSTS** The BEST program budget was developed with assistance of the Provost's Office Capital & Lifecycle Operating Strategic Decision Support (SDS) unit. The program will result in ongoing operational costs for the Faculty of Forestry. Operational costs will be largely driven by faculty and staff salaries of the new hires.

Annual operating expenses for the BEST program include:

- One new Instructor / Program Coordinator (salary approximately \$90,000, benefits \$13,000)
- One Sessional Lecturer (salary \$10,000/year)
- TA support for approximately 8 courses, at 92 hours per week for 16 weeks (\$47,870/year)
- Annual operational costs (space allocation, IT, marketing, and student support) (\$36,000/year)
- Laboratory expenses (consumables \$6,000/year)
- Honorarium for Program Director (\$5,000/year)

Existing faculty and new hires within the Faculty will teach the bulk of the new courses. Hiring of both faculty and staff will be done in accordance to the scale up of the program.

**FINANCIAL** The Province provided the Faculty of Forestry a one time contribution of \$300,000 Funding Sources, Impact on Liquidity for expenses related to the start of the new degree program. Additionally, the program is designed for 25-40 seats over the first 10 years. The program is expected to enroll up to 30% international students.

**SCHEDULE** The program will be submitted to the Ministry of Advanced Education, Skills and Implementation Timeline Training pending approval from the Board. Pending approvals, the program aims to enroll the first cohort of 2<sup>nd</sup> year students in September 2019.

**CONSULTATION** Students across all undergraduate majors in the Faculty of Forestry were offered an Relevant Units, Internal & External Constituencies opportunity to complete a survey and provide additional feedback as part of the formal and informal consultation process. In addition, the following UBC units reviewed, discussed and provided support for the proposal:

- Faculty of Sciences
- Faculty of Applied Science
- Faculty of Arts
- Faculty of Land and Food Systems
- Sauder School of Business
- UBC Library

Inquiries were sent to the public universities in British Columbia: University of Northern BC, University of Victoria, and Simon Fraser University. Letters of support were received from Council of Forest Industries (a conglomeration of 15 forest-based businesses) and individual companies.

## Appendix 1 – Tuition and Fee Assessment Details

**Program Description:** Bachelor of Science in Bioeconomy Science and Technology, Faculty of Forestry

**Anticipated Start Date:** September 2019

	Domestic	International
Tuition fees per credit – Note 1	\$176.45	\$1,256.33
Application Fees (Undergraduate) – Note 2	\$69.25	\$116.25
Supplemental Application Fees	N/A	N/A
Non-Refundable Acceptance Deposit – Note 3	\$500.00	\$1,000.00
Other Faculty and Course Fees	N/A	N/A

Note 1 – Proposed tuition rates are meant to be aligned with the Bachelor of Science and reflect approved 2018/19 rates. These are subject to annual increases as approved by the Board.

Note 2 – This is the current fee for the 2019W application cycle and is subject to annual increases.

Note 3 – The non-refundable acceptance deposit will be applied towards the first tuition instalment.

## BACHELOR OF SCIENCE (B.Sc.) IN FOREST BIOECONOMY SCIENCES AND TECHNOLOGY

### STUDENT TUITION CONSULTATION REPORT

The Vice-President, Students Office, in partnership with the Faculty of Forestry, conducted a student consultation regarding the tuition proposal for the new Bachelor of Science in Forest Bioeconomy Sciences and Technology. This report outlines the consultation process and summarizes student feedback including the student representatives' submission verbatim in Appendix 2.

#### Student Representative Bodies Invited to the Consultation

- Alma Mater Society (AMS)
- Forestry Undergraduate Society (FUS)

#### Mode of Consultation

The consultation consisted of an e-consultation. Student representative groups were invited to the consultation through email, and asked to distribute the invitation to their constituents as they felt appropriate. Student representative groups were also offered a face-to-face meeting to discuss the tuition proposal. A meeting was not requested by student representatives.

**Basis of Consultation:** The consultation was based on a tuition proposal and rationale document created by the Faculty. Please see Appendix 1 for the invitation and tuition rationale document.

**Timelines:** The e-consultation was conducted over the period of July 16<sup>th</sup>, 2018 to August 24<sup>th</sup>, 2018.

**Summary of Student Feedback:** A submissions was received from the AMS. Comments were received from two Forestry students through the FUS. The verbatim submissions are in Appendix 2.

Organization	Summary
AMS Submission	<p><b>STUDENT FINANCIAL AID</b>            “The AMS hopes that UBC will be able to commit significant aid and scholarships for this program to ensure these opportunities are accessible to all financial backgrounds.”</p> <p><b>SUPPORT FOR PROGRAM PROPOSAL</b>            “The AMS fully supports the creation of this new program and we are grateful to the University for including student input in this process.”</p>
FUS Comments (student feedback)	<p><b>TUITION</b>            “Since this is a new program, I think they should offer the tuition at a cheaper rate to attract students...”</p>

## APPENDIX 1: INVITATION TO CONSULTATION AND TUITION RATIONALE DOCUMENT

Good afternoon,

There is a submission by the Faculty of Forestry to create the Bachelor of Science in Forest Bioeconomy Sciences and Technology.

In order to inform the program leads and the Board of Governors with regards to the **tuition proposal** for this program, the University is undertaking a consultative process to get your comments as student representatives, and provide an opportunity for students to provide individual comments on the tuition proposal if they wish. **Please note: the scope of this consultation process is limited to the tuition proposal.**

The consultation will consist of:

### 1. e-consultation

Please find attached a document which outline the details of the tuition proposal, including:

- an overview of the program,
- the student consultation that has happened to date,
- the tuition rationale for the program, and
- the proposed tuition.

Please share the document and this email as you see appropriate. **Comments on the tuition proposal and student submissions can be provided confidentially to: [jenna.omassi@ubc.ca](mailto:jenna.omassi@ubc.ca) (Jenna Omassi, Advisor, Vice President Students Office).**

### 2. Face to Face meeting

If requested by student representatives, we can arrange a face-to-face meeting with the program leads regarding this tuition proposal. Please advise as soon as possible if you would like us to arrange a meeting.

**THE CONSULTATION PROCESS WILL END ON AUGUST 24, 2018.**

### Confidentiality

Comments will be collected by the Vice-President Students Office, and only staff within that office will know the identity of individual students submitting comments. At no time will anyone outside of the Vice President Students Office know the identity of individual students who submit comments to this consultation. Your comments will only be used for the purposes of the tuition consultation.

Comments from individual students will be stripped of any identifying information to ensure confidentiality, but otherwise will be provided to the responsible program leads and Board of Governors verbatim.

Comments received from student organizations will be reported as coming from those organizations, and provided to the responsible faculty and Board of Governors as received. There will also be a summary report of the consultation developed for the Faculty and Board of Governors.

Please let me know if you have any questions about the process.



Thank you.

**Jenna Omassi**

Advisor, Strategic Support Team  
Vice-President Students' Office  
University of British Columbia | Vancouver  
[jenna.omassi@ubc.ca](mailto:jenna.omassi@ubc.ca)

**BACHELOR OF SCIENCE (B.SC.) IN FOREST BIOECONOMY SCIENCES AND TECHNOLOGY**

**TUITION PROPOSAL**

**PROGRAM OVERVIEW**

***Executive Summary of Program***

The proposed B.Sc. *Forest Bioeconomy Sciences and Technology* (BEST) degree will be offered through the Department of Wood Science in the Faculty of Forestry at the Point Grey campus of UBC. The program will provide a holistic education incorporating scientific, economic, and policy issues generated by transforming forest and plant based biomass into innovative renewable bioproducts and bioenergy that stimulate sustainable development and smart land use. These include:

- Understand the interconnectedness of the social, environmental, and industry within the bioeconomy paradigm.
- Socio-environmental affects of managed resource use in the bioeconomy.
- Resource consumption and greenhouse gas emission for biorefineries and other renewable technologies.
- Technologies for characterizing and converting biomass into bioenergy and biofuels.
- Biotechnology methods from plant growth through biochemical pathways for the transformation of biomass into useful materials.
- Nature-inspired design.
- Development of high performance bioproducts and bioenergy with low environmental footprints.
- Regulatory and community-based approaches to assess and develop renewable enterprises.
- Role of bioenergy in economies and communities at different spatial scales.

The B.Sc. in Forest Bioeconomy Sciences and Technology (BEST) will teach methodology and practical skills for the understanding and advancement of technologies, innovative products and processes, economic forces and policy, and land use development that will advance the emergent bioeconomy paradigm.

The proposed BEST program is unique in British Columbia and Canada in that it addresses growing industry needs in non-traditional forestry. Forestry and agricultural industries produce a substantial amount of waste (biomass) capable of being reprocessed or converted into new products (bioproducts) and energy sources (bioenergy). Companies are actively seeking ways to reduce their carbon footprint and lower greenhouse gas emissions from processing systems in place. Biomass conversion provides a plethora of new processes for sustainable industrial and commercial growth, products, and processes for creating new energy sources.

The proposed B.Sc. BEST program is designed to provide students with practical skills in applied science, policy making, and sustainable planning that will transfer into immediate opportunities for employment in bioeconomy-based industries upon graduation. The proposed program also provides opportunities for graduate school training at UBC or another university. With Canada's leading experts in renewable materials, biocomposites, bioenergy, and wood and fibre quality as program instructors, students will have exposure to graduate level research opportunities at UBC.

## ***Program Details***

The proposed four-year B.Sc. degree is a 122-credit program, completed over four years of full time study. Students that choose the Co-op option will complete the program in five years. Students will be admitted following graduation from secondary school or as a post-secondary transfer. Program applicants entering from secondary school must have met the University entrance requirements and have completed Principles of Mathematics 12 or Pre-Calculus 12 and one of Chemistry 12, Biology 12, or Physics 12 and Chemistry 11 and one of Biology 11 or Physics 11. Biology 11 is strongly recommended.

The proposed B.Sc. (BEST) program is as an applied science degree with an emphasis in land use and policy application. The proposed program offers the option to include a minor in Commerce to add a business specialization. First year is primarily devoted to interdisciplinary and foundational courses. Second year continues building the foundation of the program and introduces program specific context (15 credits). The last two years consist of laboratory courses (6 credits), required program courses (21 credits), restricted electives (9 credits), and unrestricted electives (9 credits). Restricted electives in Commerce, Forest Conservation Science, and a social science course allows students to choose courses that appeal to their interests within the required fields of study.

The size of the program is estimated between 25-30 students in the first four years, although there is capacity to expand enrolment up to 50 students.

Length	4 years
Total credits	122
Required courses and restricted electives	Required Courses: Yr 1 (29), Yr 2 (30), Yr 3 (21), Yr 4 (21), Total = 95 Restricted Electives: Yr 1 (0), Yr 2 (0), Yr 3 (6), Yr 4 (3), Total = 9
Unrestricted credits	Yr 1 (3), Yr 2 (6), Yr 3 (3), Yr 4 (6), Total = 18

## **STUDENT AND EMPLOYER SURVEY RESULTS AND EMPLOYMENT STATISTICS**

The results from a March, 2018 survey of UBC Faculty of Forestry undergraduate students and an April, 2018 survey of potential employers of B.Sc. (BEST) graduates, strongly suggest that the time is right to launch a new undergraduate degree at UBC in the bioeconomy sciences and non-traditional forestry.

As a degree program in bioeconomy sciences and with a heavy focus on non-traditional forestry does not currently exist at UBC, we created a student survey for undergraduate students in the Faculty of Forestry to gauge interest in the proposed program if it were an option to them. Of the 100 student respondents from the all departments in the Faculty of Forestry, 21% of students indicated that they were “definitely likely” to choose the B.Sc. BEST degree program and 38% marked that they would be “somewhat likely” if it were offered. These responses from current students correspond to the program’s desired number of students over the first four years of the program (25-30 students).

Regarding employers, we created a separate survey for industry members of the Council of Forest Industries (COFI) to garner industry interest in hiring graduates from the proposed BEST program. Of the 15 companies receiving the survey, five (33%) responded. Four companies indicated that they have targeted projects and products being developed for the bioeconomy that include energy, innovative products or services. Additionally, all companies indicated that the curriculum topics and technical skills to be taught in the program are highly desirable in industry. Four of the five companies expressed interest in hiring 1-3 students through the Co-op program.

In addition, the proposed BEST program received two letters of support from individual companies with locations in British Columbia, FPIInnovations and Steeper Energy. FPIInnovations, a strong supporter of

Faculty of Forestry projects states that they, “would view the new BEST program’s graduates as an attractive source of potential employees,” as the program would teach methodological and practical skills for understanding scientific and policy development as it relates to Canada’s bioeconomy growth.

Similarly, Steeper Energy Canada, Ltd supports the proposed program. They see the potential for hiring graduates with knowledge and skills to, “bridge the gap between research and development on one hand, and the policy makers.” Steeper’s CEO predicts that an increase in the talent pool of potential hires from a program like BEST will be desirable to many forest-based companies working with bioproducts and bioenergy due to the current, “[difficulty] to find bioeconomy experts that understand both the technical and the commercialization.”

Graduates of the B.Sc. (BEST) program will be well positioned to find employment because they will have solid training in applied science and bioeconomy policy and land use development with strong business-oriented skills desired by industry respondents for entry level, career oriented hires.

## TUITION AND FEES RATIONALE

### Tuition Rationale & Benchmarking

The proposed B.Sc. (BEST) program will follow the same tuition model as that used for the existing B.Sc. programs in the Faculty of Forestry. The program will mostly utilize existing UBC courses. The 14 new courses will be offered through the Department of Wood Science each year, beginning in the 2019/2020 academic year. These courses will be taught both by existing faculty in the Faculty of Forestry (two new hires, one hire in process, and existing faculty currently with idle capacity in their teaching load) and the new instructor to be hired specifically for the BEST program (salary approximately \$90,000, benefits \$13,000).

The tuition for Faculty of Forestry courses are set on a per credit basis. For the up-and-coming 2018/2019 academic year, the fees for this faculty are \$176.45/credit for domestic students and \$1,256.33/credit for international students. Subject to approval by the BC Ministry of Advanced Education, Skills and Training, the proposed program will begin in September of the 2019/2020 academic year. The per-credit tuition fees at the launch of the program may therefore be higher due to a general fee increase for the 2019/2020 academic year.

### Annual B.Sc. (FRE) program tuition based on current 2018/2019 per-credit fees

Required credits per year	Tuition \$CAD	
	Domestic Y1: \$176.45/credit	International \$1,256.33/credit
Year 1 – 32 credits	\$5,646.40	\$40,202.56
Year 2 – 30 credits	\$5,293.50	\$37,689.90
Year 3 – 30 credits	\$5,293.50	\$37,689.90
Year 4 – 30 credits	\$5,293.50	\$37,689.90

## OTHER FEES (FOR 2018/2019 ACADEMIC YEAR)<sup>1</sup>

	Domestic	International
Undergraduate Admissions application processing fees (Enrolment Services) <sup>2</sup>	\$69.25	\$116.25
Non-Refundable Acceptance Deposit <sup>3</sup>	\$500	\$1,000

Program and Course Fees	\$0 unless Go Global exchange is chosen.	\$0 unless Go Global exchange is chosen.
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1. The proposed tuition and fees reflect the approved 2018/2019 rates for the Bachelor of Science program. Tuition and fees will be subject to annual increases as established by the University.
2. This is the current fee for the 2019W application cycle and is subject to annual increases.
3. The non-refundable acceptance deposits will be applied towards the first tuition instalment.

## APPENDIX 2: STUDENT SUBMISSIONS

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There was a submission from the AMS.



### **Submission to the UBC Board of Governors regarding the Tuition for the New Bachelor of Science in Forest Bioeconomy Sciences and Technology August 15th, 2018**

Dear Board of Governors,

This submission is being made on behalf of the Alma Mater Society (AMS) of UBC Vancouver in response to the request for feedback from the Vice President Students Office sent July 16th, 2018 on the tuition for the new Bachelor of Science in Forest Bioeconomy Sciences and Technology (B.Sc. (BEST)).

The proposed B.Sc. (BEST) program follows the same tuition model as that used for the existing B.Sc. programs in the Faculty of Forestry wherein tuition is set on a per credit basis. For year one of the program, students are required to take 32 credits and 30 credits for the subsequent years, making the fees for this faculty \$5,646.40 in year one and \$5,293.50 in subsequent years for domestic students (\$176.45/credit), and \$40,202.56 in year one and \$37,689.90 in subsequent years for international students (\$1,256.33/credit).

The B.Sc. (BEST) program addresses growing industry needs in non-traditional forestry, making it unique in British Columbia and Canada. The program will teach methodological and practical skills for understanding scientific and policy development as it relates to Canada's bioeconomy growth, while also informing strong business-orientated skills. Graduates will be well positioned to find employment in the industry, as confirmed by the research that was conducted in the employment field where companies expressed interest in hiring students from this program.

The AMS appreciates that these opportunities are made available to both domestic and international students with parity to the standard Faculty of Forestry tuition. The AMS hopes that UBC will be able to commit significant aid and scholarship for this program to ensure these opportunities are accessible to all financial backgrounds.

The AMS fully supports the creation of this new program and we are grateful to the University for including student input in this process. We look forward to the creation of the B.Sc. (BEST) program and the great work that will be accomplished by those students who enroll in it.

Sincerely,

**Max Holmes**

Vice President Academic and University Affairs  
AMS Student Society of UBC Vancouver  
vpacademic@ams.ubc.ca

## Verbatim comments from Forestry students:

### Comment 1:

"I just read the document on the proposed tuition for the new program. I think the idea of the program is really good and definitely something that should be invested on for the future world. Unfortunately, I find the tuition for international students a little outrageous. With that said, I am not sure how much new international students are paying their tuition at the moment. But I know that I have not been paying that much for my tuition for a year of full credit loads (30 to 32 credits). Since this is a new program, I think they should offer the tuition at a cheaper rate to attract students and introduce this program to the world first. How sure are they that the graduates of this program will get the job in their field? They only got a 33% rate of response in the survey they sent to the companies in the forest industry. Also, because it is a new program that has a very specific area of study, will it make it harder for the students to get into a graduate program if they wish it? Will there be financial aid for international students besides the ones that are offered directly from UBC? These are some of my concerns. Thank you for giving the platform for students to comment on this".

### Comment 2:

"I believe that the Forest Bioeconomy Sciences and Technology will be a very important and beneficial program for UBC to have. I was participating in a two-month summer job this year and it involved invasive species removal. We would gather truck-loads of green waste every day which were later used as materials for bioenergy and biofuels. Since some people in the society may still have no idea how biomass plays a crucial role in their lives, I think it would be great to start the program and have more students involved in this area".