Forest Bioeconomy Sciences & Technology

Degree Requirements

First Year

Required Courses	Credits	Done	Notes
BIOL 121[1] Genetics, Evolution and Ecology	3	☐	
CHEM 121 Structure and Bonding in Chemistry	4	☐	
CHEM 123 Thermodynamics, Kinetics and Organic Chemistry	4	☐	
CONS 101 Introduction to Conservation or FRST 110[2] Land One: First-year Integrative Seminar	3	☐	
ECON 101 Principles of Microeconomics or FRST 101[2] Principles of Microeconomics for Forestry and Land and Food Systems	3	☐	
FRST 150 Scholarly Writing and Augmentation in Forestry LFS 150 Scholarly Writing and Argumentation in Land and Food Systems or WRDS 150B Writing and Research in the Disciplines	3	☐	
GEOS 102[3] Our Changing Environment: Climate and Ecosystems	3	☐	
MATH 100[4] Differential Calculus with Applications to Physical Sciences and engineering 102 Differential Calculus with Applications to Life Sciences or 104 Differential Calculus with Applications to Commerce and Social Sciences	3	☐	
SOCI 101 Social Interaction and Culture or 102[5] Inequality and Social Change	3	☐	
Electives	3	☐	
Total Credits	32	☐	

[1] Students without Biology 11 or 12 should take BIOL 111 as one of their first year electives before taking BIOL 121, a required course for all 1st year BEST students.

[2] Only Land One students are eligible to take FRST 101 and FRST 110.

[3] Students may take CONS 210 instead of GEOS 102 for credit.

[4] Students may take MATH 180, 184, or MATH 110 (6 credits) instead of MATH 100, 102, or 104 (3 credits), but the credit difference cannot be applied towards program elective requirements. All students must choose one of these listed Math courses.

[5] SOCI 101 or 102 are acceptable Sociology courses.

Second Year

Required Courses	Credits	Done	Notes
BEST 200 Foundations in Bioproducts and the Bioeconomy	3	☐	
BEST 201 Plants, Carbon, and Environment	3	☐	
BEST 202 Alternative Energy Systems	3	☐	
BEST 203 Ecology of Managed Ecosystems	3	☐	
CHEM 233 Organic Chemistry for Biological Sciences	3	☐	
FRST 231 Introduction to Biometrics or BIOL 300 Fundamentals of Biostatistics or STAT 200 Elementary Statistics for Applications	3	☐	
WOOD 225 Communications Strategies	3	☐	
Restricted Social Science Elective[6]	3	☐	
Electives	6	☐	
Total Credits	30	☐	

[6] One of the following 3-credit courses: GEOG 310, GEOG 318, GEOG 319, POLI 375, SOCI 342 or SOCI 360

Third Year

Required Courses	Credits	Done	Notes
BEST 300 Biobased Polymers and Bioproducts	3	☐	
BEST 301 Bioenergy	3	☐	
BEST 302 Laboratory in Bioeconomy Technology (I)	3	☐	
BEST 303 Applied Biotechnology for Bioproducts	3	☐	
BEST 304 Laboratory in Bioeconomy Technology (II)	3	☐	
BEST 308 Land Use Management and Planning	3	☐	
FRST 302 Forest Genetics	3	☐	
FRST 318 Forest and Conservation Economics or ECON 371 Economics of the Environment or ECON 374 Land Economics	3	☐	
Restricted Natural Sciences Conservation Elective[7]	3	☐	
Electives	3	☐	
Total Credits	30	☐	

[7] One of the following 3-credit courses: CONS 200 or CONS 340

Fourth Year

Required Courses	Credits	Done	Notes
BEST 400 Biomimicry and Biocomposites	3	☐	
BEST 401 Carbon and Energy Economics	3	☐	
BEST 402 Industrial Ecology	3	☐	
BEST 403 Integrated Strategies for Bioproduct Innovation	3	☐	
CONS 425 Sustainable Energy	3	☐	
WOOD 365 Wood Industry Business Management	3	☐	
WOOD 461 Globalization and Sustainability	3	☐	
Restricted Commerce Elective[8]	3	☐	
Electives	6	☐	
Total Credits	30	☐	

[8] One of the following 3-credit courses: COMR 329, COMR 457, or COMR 465.

Minor in Commerce

Students who desire a stronger foundation in business may consider the Minor in Commerce. Upon successful completion of this minor program, the notation “Minor in Commerce” will be placed on the student’s transcript.

Enrolment in this program is limited. Please see the program director. To be considered, the students must be eligible for at least third-year standing in the Bachelor of Science in Forest Bioeconomy Sciences and Technology with a cumulative average of at least 68% in the previous two years. Students must have successfully completed one of MATH 100, 102, 104, 180, or 184 and both of ECON 101 and 102. Meeting the stated requirements does not guarantee admission to the program.

The Commerce Minor is intended to be completed over two years.

First Year - Commerce

Required Courses	Credits	Done	Notes
BIOL 121[1] Genetics, Evolution and Ecology	3	☐	
CHEM 121 Structure and Bonding in Chemistry	4	☐	
CHEM 123 Thermodynamics, Kinetics and Organic Chemistry	4	☐	
CONS 101 Introduction to Conservation or FRST 110[2] Land One: First-year Integrative Seminar	3	☐	
ECON 101 Principles of Microeconomics or FRST 101[2] Principles of Microeconomics for Forestry and Land and Food Systems	3	☐	
ECON 102 Principles of Macroeconomics	3	☐	
WRDS 150B Writing and Research in the Disciplines or FRST 150[2] Scholarly Writing and Augmentation in Forestry	3	☐	
GEOS 102[3] Our Changing Environment: Climate and Ecosystems	3	☐	
MATH 100[4] Differential Calculus with Applications to Physical Sciences and engineering 102 Differential Calculus with Applications to Life Sciences 104 Differential Calculus with Applications to Commerce and Social Sciences	3	☐	
SOCI 101 Social Interaction and Culture or 102[5] Inequality and Social Change	3	☐	
Total Credits	32	☐	

[1] Students without Biology 11 or 12 should take BIOL 111 as one of their first year electives before taking BIOL 121, a required course for all 1st year BEST students.

[2] Only Land One students are eligible to take FRST 101, FRST 110 and FRST 150.

[3] Students may take CONS 210 instead of GEOS 102 for credit.

[4] Students may take MATH 180, 184 (4 credits) instead of MATH 100, 102, or 104 (3 credits), but the credit difference cannot be applied towards program elective requirements. All students must choose one of these listed Math courses.

[5] SOCI 101 or 102 are acceptable Sociology courses.

Second Year - Commerce

Required Courses	Credits	Done	Notes
BEST 200 Foundations in Bioproducts and the Bioeconomy	3	☐	
BEST 201 Plants, Carbon, and Environment	3	☐	
BEST 202 Alternative Energy Systems	3	☐	
BEST 203 Ecology of Managed Ecosystems	3	☐	
CHEM 233 Organic Chemistry for Biological Sciences	3	☐	
FRST 231 Introduction to Biometrics or BIOL 300 Fundamentals of Biostatistics or STAT 200 Elementary Statistics for Applications	3	☐	
FRST 318 Forest and Conservation Economics or ECON 371 Economics of the Environment or ECON 374 Land Economics	3	☐	
WOOD 225 Communications Strategies	3	☐	
Restricted Social Science Elective[6]	3	☐	
Restricted Natural Sciences Conservation Elective[7]	3	☐	
Total Credits	30	☐	

[6] One of the following 3-credit courses: GEOG 310, GEOG 318, GEOG 319, POLI 375, or SOCI 342

[7] One of the following 3-credit courses: CONS 200 or CONS 340

Third Year - Commerce

Required Courses	Credits	Done	Notes
BEST 300 Biobased Polymers and Bioproducts	3	☐	
BEST 301 Bioenergy	3	☐	
BEST 302 Laboratory in Bioeconomy Technology (I)	3	☐	
BEST 303 Applied Biotechnology for Bioproducts	3	☐	
BEST 304 Laboratory in Bioeconomy Technology (II)	3	☐	
BEST 308 Land Use Management and Planning	3	☐	
FRST 302 Forest Genetics	3	☐	
COMR 329 Principles of Organizational Behaviour	3	☐	
COMR 457 Fundamentals of Financial Accounting	3	☐	
COMR 465 Marketing Management	3	☐	
Total Credits	30	☐	

Fourth Year - Commerce

Required Courses	Credits	Done	Notes
BEST 400 Biomimicry and Biocomposites	3	☐	
BEST 401 Carbon and Energy Economics	3	☐	
BEST 402 Industrial Ecology	3	☐	
BEST 403 Integrated Strategies for Bioproduct Innovation	3	☐	
CONS 425 Sustainable Energy	3	☐	
WOOD 365 Wood Industry Business Management	3	☐	
WOOD 461 Globalization and Sustainability	3	☐	
COMR 473 Business Finance	3	☐	
COMR 493 Strategic Management in Business	3	☐	
COMR 398 Introduction to Business Processes and Operations or COMR 458 Fundamentals of Managerial Accounting	3	☐	
Total Credits	30	☐	

Co-op Option:

The co-operative education (co-op) option within Forest Bioeconomy Sciences and Technology (BEST) is a highly competitive program which increases your chances of working in your chosen field. As a co-op student you gain up to 20 months of paid, relevant and invaluable work experience.

Co-op students will extend their degree by one year, completing eight academic terms and five work terms over a five-year period. Below is the standard BEST program map for those in co-op:

	Term 1 **Sep – Dec**	**Term 2** **Jan – Apr**	**Summer** **May – Aug**
Year 1	Basic Sciences, English, Math, Economics, Sociology, Statistics, Introduction to Conservation		Summer
Year 2	Plant Biology, Ecosystem Ecology, Organic Chemistry, Bioeconomy Foundations, Introduction to Biometrics, Alternative Energy Systems, Communication Strategies, Social Science elective		**Co-op 1**
Year 3	Biobased Polymers & Products, Bioenergy, Conservation elective, Land Use Management and Planning, Bioeconomony Technology Lab	**Co-op 2**	**Co-op 3**
Year 4	Biocomposites, Biomimicry, Carbon Accounting, Industrial Ecology, Commerce elective	Forest Genetics, Forest and Conservation Economics, Forest Products Biotechnology, Bioeconomony Technology Lab	**Co-op 4**
Year 5	**Co-op 5**	Globalization, Energy Policy /Governance, Wood Industry Business Management, BEST Capstone	

Good to know:

- Undergraduate students must apply to co-op in September of their second year
- Work in British Columbia, across Canada and around the world
- Be supported by our Co-op Coordinators every step of the way

To learn more about the Co-op Program and how you can apply, contact the Forest Bioeconomy Sciences and Technology Co-op Coordinator:

Sanya Sivic *Co-op Coordinator and Recruitment Officer*	604-822-4793; sanya.sivic@ubc.ca FSC 2902 (CAWP Building)

How to successfully complete first year:

1. You must follow your program closely – take the appropriate classes outlined for your degree. The most up-to-date program requirements are always listed on the UBC Calendar at www.students.ubc.ca/calendar (click on 'Faculties, Colleges, and Schools' and then on 'Forestry').

2. You must pass at least 60% of the total number of credits attempted in both Terms 1 and 2 (summer classes are not included).

3. You must also obtain an average grade of at least 60% in both Terms 1 and 2, including any failed courses (summer classes are not included). If your average for Terms 1 and 2 is at least 55%, but less than 60%, you will be placed on academic probation and will be sent a letter outlining additional steps you must take in order to remain in your program. If you do not meet the criteria noted above, you will be asked to leave UBC for at least one year. Following this probationary period, you may re-apply to UBC but you must complete at least 12 credits at a college during your time away.

Contacts:

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Forestry Student Services
Advising Office
604-822-1834
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Sanya Sivic
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FSC 2902 (CAWP Building)

The UBC Calendar is always the most up-to-date resource for degree requirements,
http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,203,1025,1661