



DISCUSSION:

Innovative Sustainable Forest Management Education in the Asia-Pacific Region (Phase III)

Suzy Zeng (曾雪琴)

AP-FECM Executive Office

2023-08-15



THE UNIVERSITY
OF BRITISH COLUMBIA

Faculty of Forestry

Outline

Background

Goals and objectives

Project expected outputs and achievements

Conclusions and Lessons learned

**Future Proposal for Online Education
among AP-FECM members**



Background

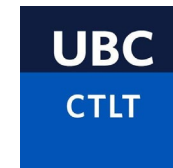
- Proposed during the First Forestry College Deans Meeting in the Asia Pacific region in 2011
- A joint educational online program under the framework of Asia Pacific Forestry Education Coordination Mechanism (AP-FECM)
- UBC Forestry, BFU, UM, UF, UPLB, UBC CTLT.....

Leading organization

UBC Faculty of Forestry

Sponsor

The Asia-Pacific Network for Sustainable Forest Management and Rehabilitation (*APFNet*)



Vision

- Develop a regionally recognized core curriculum aimed at senior forestry students, young faculty and mid-career professionals to acquire knowledge of SFM.
- Exchange knowledge and technology in forestry management education by bringing the professors and experts to collaborate in developing SFM courses and programs.



Phase I

Self-Directed Online Distance Education Courses

Phase I (2013-2016)

Universities

- Australia, Philippines, China, and Canada

Five Self-Directed Online Distance Education Courses

- Developed self-directed learning courses with course content as open education resources for senior students and practitioners in Asian Pacific Regions.
- Created the basis for leading to a credentialed degree in Forestry
- Attracted more than 3300 users from 91 economies

Phase II

Executive Summary

Phase II (2018-2021)

- Universities: Australia, Philippines, China, Canada, and U.S.
- Have course content as open educational resources
- Add graded assessments
- More focused on the tropical forest sustainable management
- Create an online distance education certificate program
- Build the foundation for a potential Master degree program
- Created a platform for collaboration across the world to promote student mobility, research cooperation and mutual course articulation and recognition etc..



Goals and objectives

- Goal 1: Build 14 high quality SFM online courses
- Goal 2: Create a platform for exchange of ideas and experiences on SFM education
- Goal 3: Provide a foundation for regional universities to further develop online SFM Master's certificate and degree programs
- Goal 4: Further increase equity in forest education by providing more open educational resources.

Expected outputs and achievements

- **Expected output 1: Development of ten SFM courses and update of five existing courses**
- **Expected output 2: SFM repurposed OER courses implementation**
- **Expected output 3: Establishment of the AP-FECM Course Completion Certificate & UBC's Graduate Certificate Program**
- **Expected output 4: Promotion and management of the project**



**Outcome 1:
Development of 14 SFM
courses**

Phase I and Phase II Courses List

Phase I Courses Upgrading		Phase II Courses Development	
FODE001: Sustainable Forest Management in a Changing World	UBC	FODE004: Sustainable Use of Forest Ecosystem Services and Community Livelihoods	UPLB
FODE002: Forest Governance, Public Relations, and Community Development	UPLB	FODE007: Silviculture, Plantation Design and Management	BFU
		FODE008 (I): Tropical Forests Ecology (I): Structure and Composition of Tropical Forest Ecosystems	UBC
FODE003: International Dialogue on Forestry Issues	UBC	FODE008 (II): Tropical Forests Ecology (II): Ecological Processes in Tropical Forests	UBC
FODE005: Restoration of Degraded Forest Ecosystems & Forest Plantation Development	UM	FODE009: Geomatics in Forestry (Data Collection and Measurement)	UBC
		FODE010: Climate Modelling and Forest Application	UBC
FODE006: Forest Resource Management and Protection	BFU	FODE011: Conservation in Asia: Challenges and Opportunities	UBC
		FODE012: Urban Forestry in the Asia Pacific Region	UBC
		FODE014: Natural Forest Management in the Tropics	UF

Development of SFM curriculum for AP region



Course selection was based on the consultation and suggestions from the top content experts in the Asia Pacific region.



Second phase course development was focused on tropical forests and forestry management



A comprehensive program curriculum and course templates were set to meet the best practices in online learning

Course development workshop

- ✓ On-site course development workshop for online learning was organized on July 30th – August 3rd 2018
- ✓ Over 30 lead experts from partner universities participated in the workshop at UBC to determine content and format of each course and to form course development teams
- ✓ We ensured that the course development process was as efficient and effective as possible in the three years of the project.



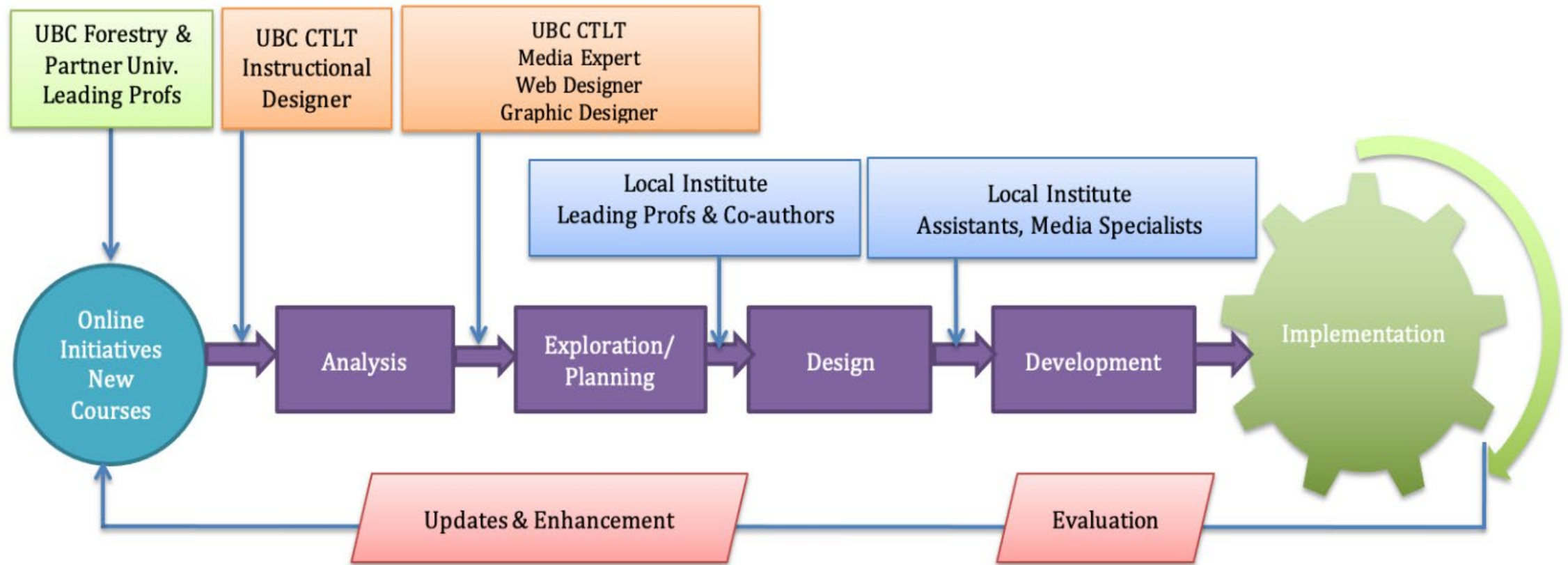
Support from UBC CTLT (Center for Teaching and Learning Technology)

The UBC CTLT is responsible for providing central learning and instructional design support in terms of curriculum development, instructional design, learning technology integration, Canvas course site authoring, graphic design, project coordination and professional development.

Three major quality assurance strategies:

- guiding course development following a modified ADDIE course development model going through the process of Analysis, Planning, Design, Development, Implementation, and Evaluation;
- guiding the establishment of team-based approach during course development and implementation to bring in professional instructional design staff, content developers, and administration support staff at different stages of course development;
- introducing Quality Matter (QM) quality standard as guideline for course development.

Courses Development: Following Modified ADDIE Model



Integrate technology into content and pedagogy of course design and Development

Courses Development: Team-based Approach

Phase I (New & Upgraded Courses)

UBC Forestry Leads

- Academic Lead (1)
- Project Director (1)
- Project Coordinator (1)

Participating Institutions

- Lead Professors (5)
- Course Co-author(s) (11)
- Support people (Multiple)

UBC CTLT Central Support

- CTLT Project Coordinator (1)
- Learning/Instructional Designer (1)
- Web Designer (1)
- Media Expert (1)
- Graphic Designer (1)

Phase II (New courses)

UBC Forestry Leads

- Academic Lead (1)
- Project Director (1)
- Project Coordinator (1)

Participating Institutions

- Lead Professors (9)
- Course Co-author(s) (16)
- Support people (Multiple)

UBC CTLT Central Support

- CTLT Project Coordinator (1)
- Learning/Instructional Designer (1)
- Media Expert (1)

Courses Development: Quality Matters (QM) Online Course Design Standards

General Standards	Specific Review Standards	Points
Course Overview and Introduction	1.1 Instructions make clear how to get started and where to find various course components.	3
	1.2 Learners are introduced to the purpose and structure of the course.	3
	1.3 Communication expectations for online discussions, email, and other forms of interaction are clearly stated.	2
	1.4 Course and institutional policies with which the learner is expected to comply are clearly stated within the course, or a link to current policies is provided.	2
	1.5 Minimum technology requirements for the course are clearly stated, and information on how to obtain the technologies is provided.	2
	1.6 Computer skills and digital information literacy skills expected of the learner are clearly stated.	1
	1.7 Expectations for prerequisite knowledge in the discipline and/or any required competencies are clearly stated.	1
	1.8 The self-introduction by the instructor is professional and is available online.	1
	1.9 Learners are asked to introduce themselves to the class.	1
Learning Objectives (Competencies)	2.1 The course learning objectives, or course/program competencies, describe outcomes that are measurable.	3
	2.2 The module/unit-level learning objectives or competencies describe outcomes that are measurable and consistent with the course-level objectives or competencies.	3
	2.3 Learning objectives or competencies are stated clearly, are written from the learner's perspective, and are prominently located in the course.	3
	2.4 The relationship between learning objectives or competencies and learning activities is clearly stated.	3
	2.5 The learning objectives or competencies are suited to the level of the course.	3
Assessment and Measurement	3.1 The assessments measure the achievement of the stated learning objectives or competencies.	3
	3.2 The course grading policy is stated clearly at the beginning of the course.	3
	3.3 Specific and descriptive criteria are provided for the evaluation of learners' work, and their connection to the course grading policy is clearly explained.	3
	3.4 The assessments used are sequenced, varied, and suited to the level of the course.	2
3.5 The course provides learners with multiple opportunities to track their learning progress with timely feedback.	2	
Instructional Materials	4.1 The instructional materials contribute to the achievement of the stated learning objectives or competencies.	3
	4.2 The relationship between the use of instructional materials in the course and completing learning activities is clearly explained.	3
	4.3 The course models the academic integrity expected of learners by providing both source references and permissions for use of instructional materials.	2
	4.4 The instructional materials represent up-to-date theory and practice in the discipline.	2
	4.5 A variety of instructional materials is used in the course.	2
Learning Activities and Learner Interaction	5.1 The learning activities promote the achievement of the stated learning objectives or competencies.	3
	5.2 Learning activities provide opportunities for interaction that support active learning.	3
	5.3 The instructor's plan for interacting with learners during the course is clearly stated.	3
	5.4 The requirements for learner interaction are clearly stated.	2
Course Technology	6.1 The tools used in the course support the learning objectives or competencies.	3
	6.2 Course tools promote learner engagement and active learning.	3
	6.3 A variety of technology is used in the course.	1
	6.4 The course provides learners with information on protecting their data and privacy.	1
Learner Support	7.1 The course instructions articulate or link to a clear description of the technical support offered and how to obtain it.	3
	7.2 Course instructions articulate or link to the institution's accessibility policies and services.	3
	7.3 Course instructions articulate or link to the institution's academic support services and resources that can help learners succeed in the course.	3
	7.4 Course instructions articulate or link to the institution's student services and resources that can help learners succeed.	1
Accessibility* and Usability	8.1 Course navigation facilitates ease of use.	3
	8.2 The course design facilitates readability.	3
	8.3 The course provides accessible text and images in files, documents, LMS pages, and web pages to meet the needs of diverse learners.	3
	8.4 The course provides alternative means of access to multimedia content in formats that meet the needs of diverse learners.	2
	8.5 Course multimedia facilitate ease of use.	2
	8.6 Vendor accessibility statements are provided for all technologies required in the course.	2

* Meeting QM Specific Review Standards regarding accessibility does not guarantee or imply that the specific accessibility regulations of any country are met. Consult with an accessibility specialist to ensure that accessibility regulations are met.

© 2018 MarylandOnline, Inc. All rights reserved. This document may not be copied or duplicated without written permission of Quality Matters. For more information or access to the fully annotated QM Rubric, visit qualitymatters.org or email info@qualitymatters.org

- Quality Matters (QM) Online Course Design Standards
 - Course Overview and Introduction
 - Learning Objectives/Competencies
 - Assessment and Measurement
 - Instructional Materials
 - Learning Activities and Learner Interaction
 - Course Technology
 - Learning Support
 - Accessibility and Usability
- How do we use QM rubric
 - Guideline during course development
 - Quality review upon completion of course development
 - Instructor self review
 - Peer review
 - Guest Subject Matter Expert (1)
 - Learning/Instructional Designer (1)
 - Student review

Source:

<https://www.qualitymatters.org/sites/default/files/PDFs/StandardsfromtheQMHigherEducationRubric.pdf>

Self, peer and student review of courses

The image displays two side-by-side screenshots of a web application interface for course review reports. Both screenshots show a report titled "0.3 - The course you are reviewing is" with 15 selected items. The interface includes a sidebar with a search bar and a list of questions, and a main table with columns for question text and response data.

Left Screenshot:

- Report: Default Report
- Manage Filters... 0.3 - The course you are reviewing is Is 15 Selected
- Share Report
- Page Options
- Search Questions
- + Create Custom Page
- What is your name?
- What is your email address?
- The course you are reviewing is
- What is your current occupation? (Select all that apply.)
- What is your gender?
- What is your major?
- Do you already have a degree in forestry? If yes, what is it?
- Are you currently studying or continuing studying a degree in

Question	Response
What is your name?	陈红丽
What is your email address?	陈红丽
The course you are reviewing is	钱薇楠
What is your current occupation? (Select all that apply.)	张瑞瑾
What is your gender?	张林会
What is your major?	zhongqianxi
Do you already have a degree in forestry? If yes, what is it?	yangtianyun
Are you currently studying or continuing studying a degree in	

Right Screenshot:

- Report: Default Report
- Manage Filters... 0.3 - The course you are reviewing is Is 15 Selected
- Share Report
- Page Options
- Search Questions
- + Create Custom Page
- What is your name?
- What is your email address?
- The course you are reviewing is
- What is your current occupation? (Select all that apply.)
- What is your gender?
- What is your major?
- Do you already have a degree in forestry? If yes, what is it?
- Are you currently studying or continuing studying a degree in

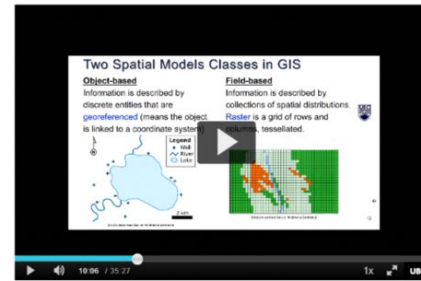
Question	Response
What is your name?	陈红丽
What is your email address?	陈红丽
The course you are reviewing is	钱薇楠
What is your current occupation? (Select all that apply.)	张瑞瑾
What is your gender?	张林会
What is your major?	zhongqianxi
Do you already have a degree in forestry? If yes, what is it?	yangtianyun
Are you currently studying or continuing studying a degree in	

Integration of New Technologies in Course Development



Fundamental Concepts
Lecture Videos & Powerpoints

- 1.3.1 Intro to GIS



Integration of drone, GIS and satellite data in the Geomatics in Forestry course developed by Dr. Nicholas Coops



Filming and recording in forest communities in Asia



Course Canvas Sites

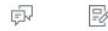
Dashboard | Courses (19)



FODE 003-SQM International For...
FODE.003.SQM



FODE 004-SQM Forest Ecosyste...
FODE.004.SQM



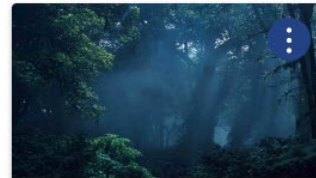
FODE 006-SQM Forest Resource ...
FODE.006.SQM



FODE 007-SQM Plantation Desig...
FODE.007.SQM



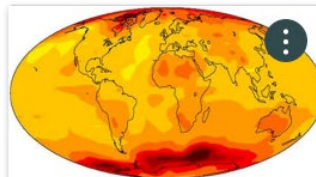
FODE 008-1-SQM Structure and ...
FODE.008-1.SQM



FODE 008-2-SQM Ecological Proc...
FODE.008-2.SQM



FODE 009-SQM Geomatics in For...
FODE.009.SQM



FODE 010-SQM Climate Modellin...
FODE.010.SQM



FODE 011-SQM Conservation in ...
FODE.011.SQM



- UBC
- Account
- Dashboard
- Courses
- Groups
- Calendar
- Inbox
- History
- Comments
- Help

FODE.001.Dev

- Home
- Announcements
- Syllabus
- Modules
- Discussions
- Assignments
- Grades
- People
- New Analytics
- Student Time Zones
- Item Banks
- Quizzes
- Pages
- Files
- Rubrics
- Outcomes
- Settings

FODE 001-Dev Sustainable Forest Management in a Changing World

Edit




INSTRUCTOR CONTACT	COMMUNICATION
<p>Instructor</p> <p>Name: Dr. John Innes Email: john.innes@ubc.ca University: UBC</p>	<p>Announcements</p> <p>Course General Questions Forum</p>
	STUDENT HELP DESK
	<p>Types of UBC CWL</p> <p>Create UBC Basic CWL Account</p>
	STUDENT RESOURCES
	<p>Canvas Student Guide</p> <p>UBC Academic Misconduct Policy</p> <p>UBC Online Learner Resources</p>

COURSE MATERIALS AND ACTIVITIES
<p>Start Here!</p> <p>Course Syllabus (PDF) & Course Schedule & Graded Assignments</p>
<p>Module I: Forest Management – Origin and Organization</p> <p>Topic 1.1: Origins of Sustainable Forest Management</p> <p>Topic 1.2: A Canadian Variation</p> <p>Topic 1.3: ITTO's Sustainable Forest Management Principles</p> <p>Topic 1.4: The Montreal Process</p>
<p>Module II: Criteria And Indicators of Sustainable Forest Management 1</p> <p>Topic 2.1: Conservation of Biological Diversity</p> <p>Topic 2.2: Maintenance of Forest Health</p>
<p>Module III: Criteria And Indicators of Sustainable Forest Management 2</p> <p>Topic 3.1: Soil Development</p> <p>Topic 3.2: The Protection of Soils</p> <p>Topic 3.3: The Hydrological Functions of Forest</p> <p>Topic 3.4: Indicators of Soil and Water Conservation</p>
<p>Module IV: Criteria And Indicators of Sustainable Forest Management 3</p> <p>Topic 4.1: Maintenance of Forest Ecosystem Productivity</p> <p>Topic 4.2: Maintenance of Forests' Contribution to Global Carbon Budgets</p>
<p>Module V: The Social, Economic and Cultural Aspects of SFM, and The Legal Basis for Managing Forest Sustainably</p> <p>Topic 5.1: Indicators Used In Monitoring The Economic, Social And Spiritual Values Associated With Forests</p> <p>Topic 5.2: Forest Governance and Rights</p>
<p>Module VI: Putting Sustainable Forest Management Into Practice</p> <p>Topic 6.1: Writing A Forest Management Plan</p> <p>Topic 6.2: Certification of Forest Management</p>

Course Status

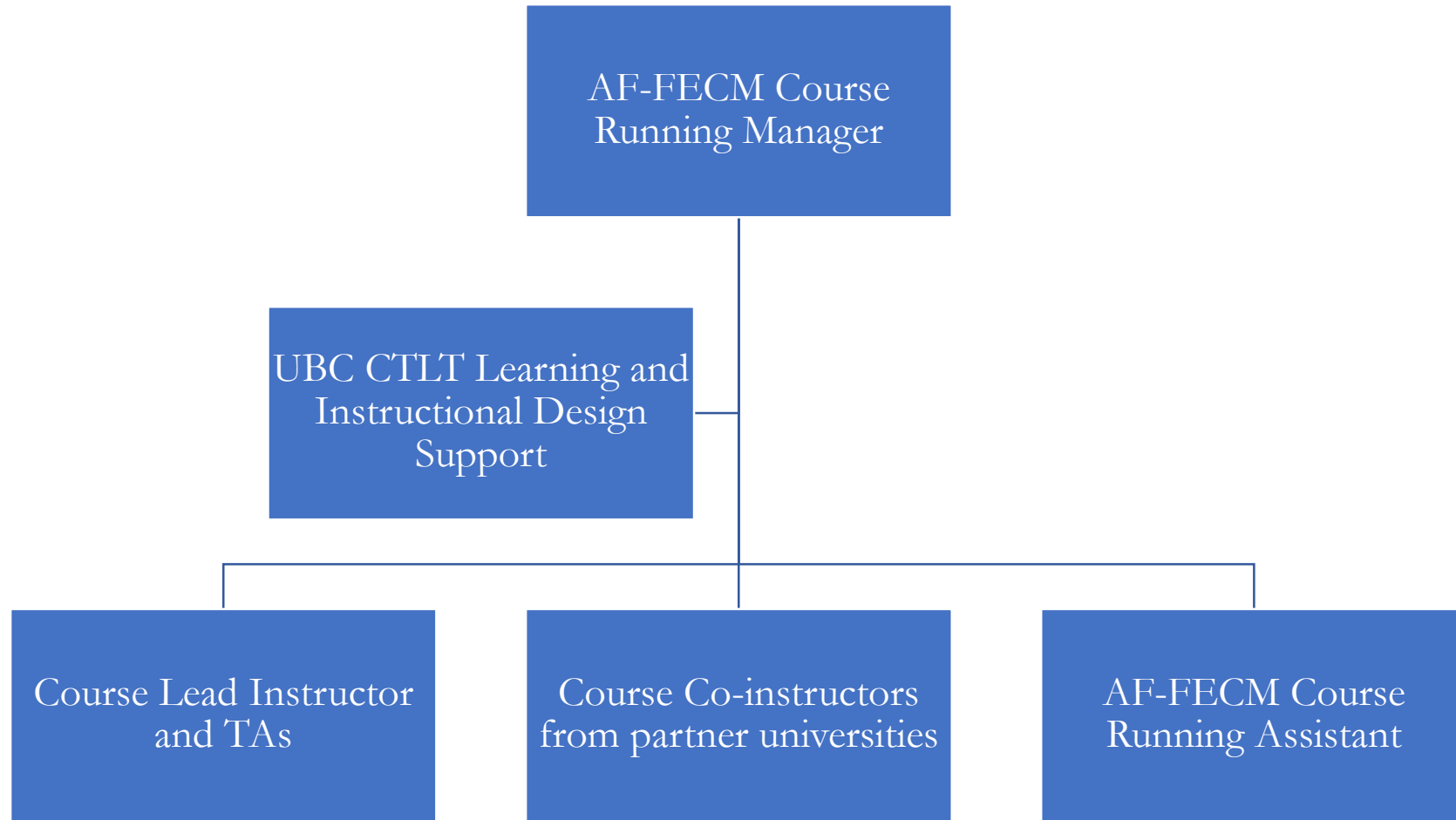
Coming Up

Nothing for the next week.

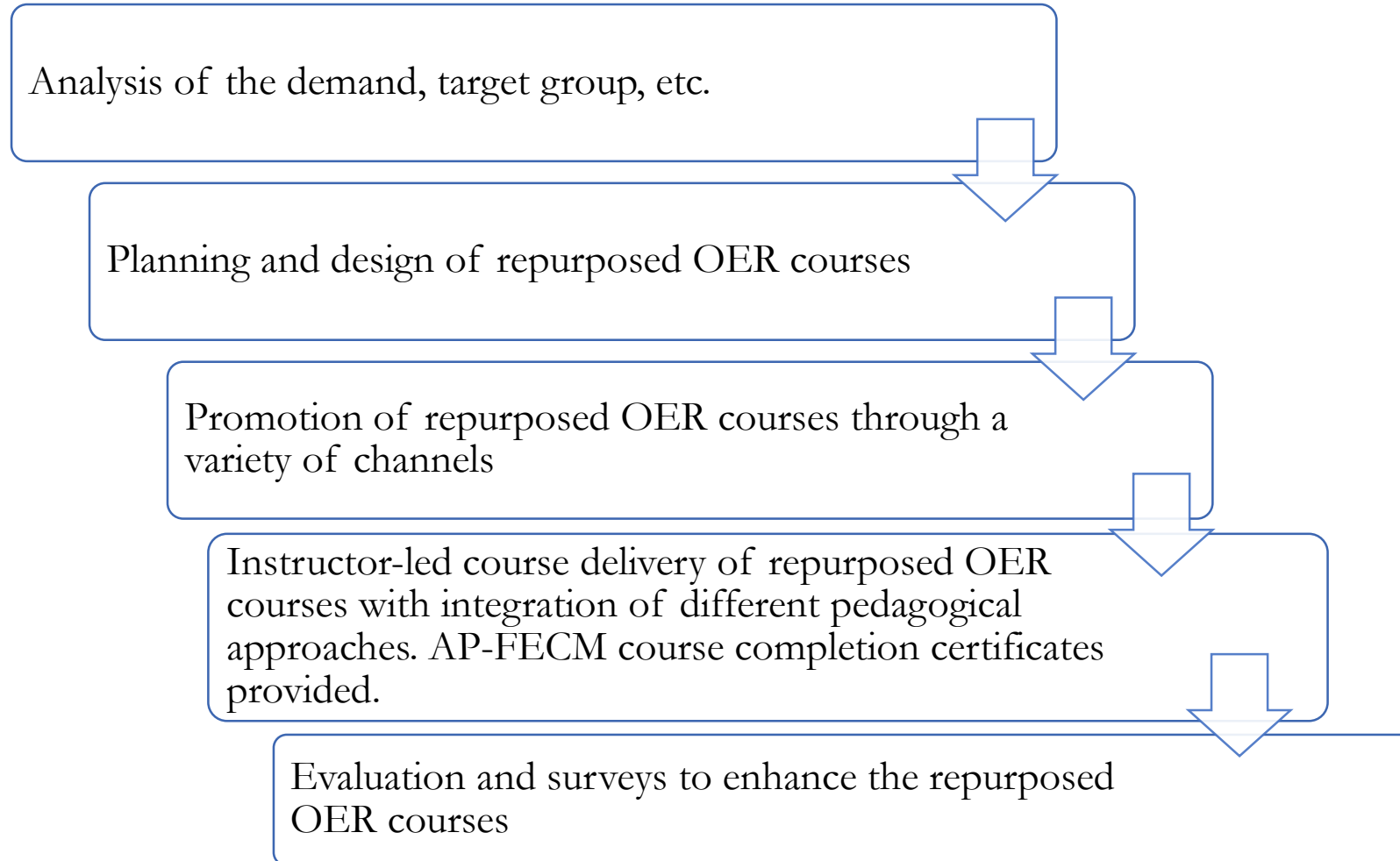


**Outcome 2:
SFM repurposed OER
courses implementation**

2.1 Team-based Course Operation management Model



2.2 Repurposed OER Course Development and Implementation Model



2.3 Courses offerings

Offerings Before Pandemic

2016

2017

2018 ◀◀

2019 ◀◀

Typically one subject + 100-200 students

Offerings during Pandemic

Offerings (Feb-April 2020)
during COVID-lockdown in
China

**1,565 students 32 universities from
China:** Undergraduate students, Graduate
students, Professionals

Offering (Sep-Dec 2020)

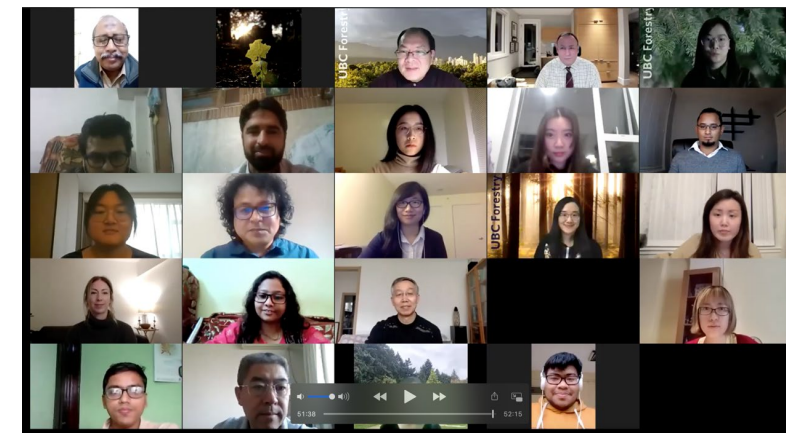
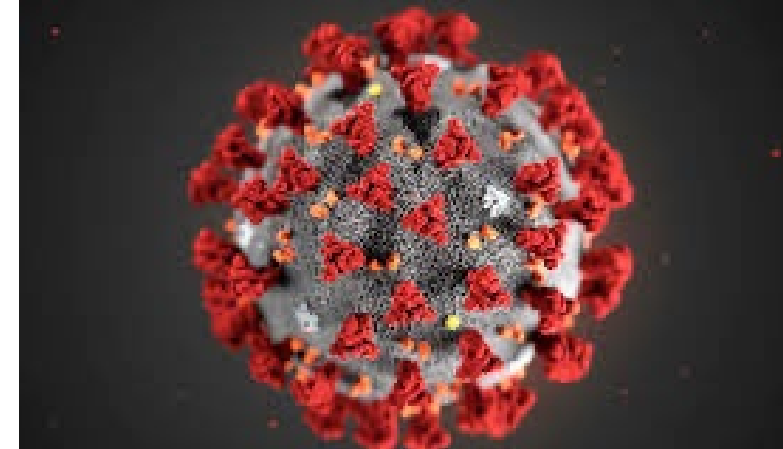
**1,224 students from 135 Universities from Asia
Pacific Region:** Undergraduate students, Graduate
students, Professionals

○ Spring Term (Feb-May): 8 SFM online courses to Chinese universities

- Geomatics in Forestry (Data Collection and Measurement) (Phase II)
- Urban Forestry in the Asia Pacific Region (Phase II)
- Sustainable Forest Management in the Changing World (Phase I)
- Forest Governance, Public Relations, and Community (Phase I)
- Development Forest Resource Management and Protection (Phase I)
- Restoration of Degraded Forest Ecosystems & Forest Plantation Development (Phase I)
- International Dialogue on Forestry Issues (Phase I)
- Contemporary Topics in Forestry

○ Fall Term (Sep-Dec): 5 SFM online courses to Asia-Pacific universities

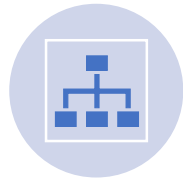
- Geomatics in Forestry (Data Collection and Measurement) (Phase II)
- Urban Forestry in the Asia Pacific Region (Phase II)
- Sustainable Forest Management in the Changing World (Phase I)
- Forest Governance, Public Relations, and Community (Phase I)
- Development Forest Resource Management and Protection (Phase I)



2.4 Impacts and students' feedbacks



Served a critical need for **168** universities and over **5000** students in the Asia Pacific Region



Created a Co-management Model with both Teaching and Administration Teams

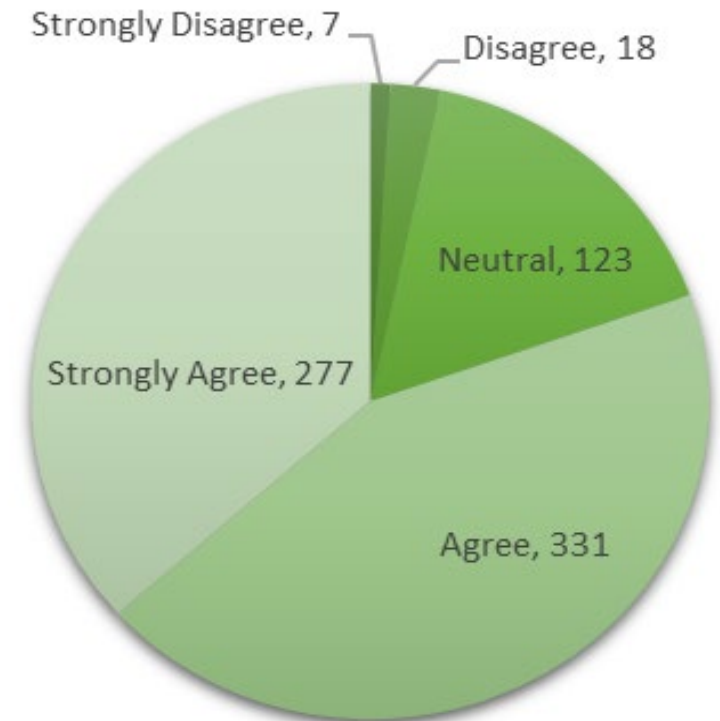


Pre-course Workshops for instructors and teaching staff were offered




A mixed model of asynchronous and synchronous teaching

Overall Student Satisfaction



80.42%

of the after-course survey respondents on average answered "agree" or "strongly agree" to liking the online courses



**Outcome 3:
Establishment of the AP-FECM
Course Completion Certificate
&
UBC's Graduate Certificate
Programs**

3.1 AP-FECM Course Completion Certificate program

- Students who complete the online courses receive a certificate issued by the AP-FECM Executive Office

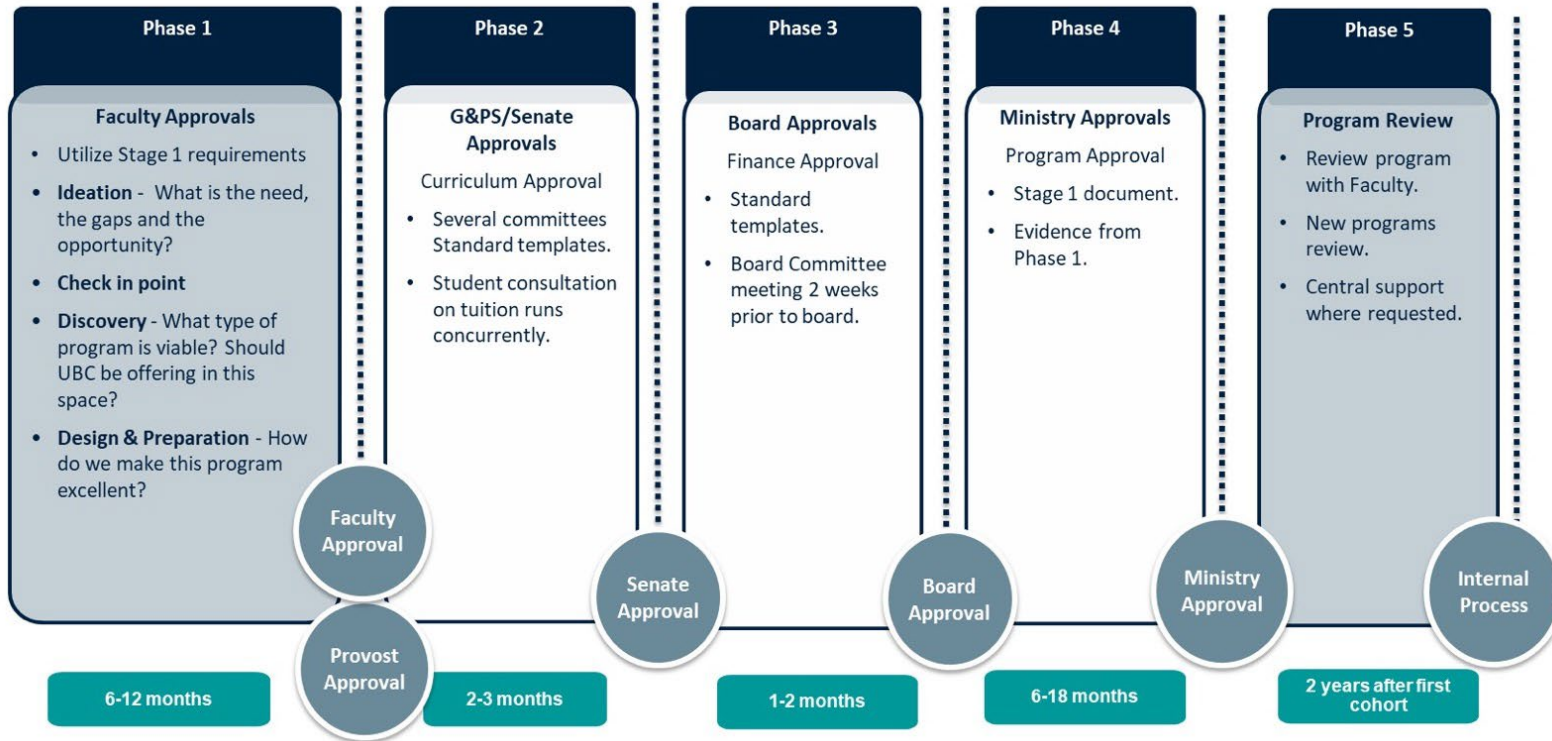


The AP-FECM Sustainable Forest Management Certificate

3.2 UBC Certificate Credit Program

---Online Graduate Certificate in Forest Management and Conservation

UBC Credit Programs Approval Process



<https://academic.ubc.ca/vpa-initiatives/new-program-proposals/credit-programs-approvals-process>

The screenshot shows the UBC Faculty of Forestry website page for the Online Graduate Certificate in Forest Management and Conservation. The page features a navigation menu with options like ABOUT, PROGRAMS, PEOPLE, RESEARCH, NEWS, ALUMNI, GIVING, and STUDENTS. The main content area includes a large image of a forest and a prominent heading: "Online Graduate Certificate in Forest Management and Conservation". Below the heading, there is a sub-heading: "Fully customizable for your convenience, this fully digital program can be completed by professionals working full time within 1-2 years." and a button labeled "APPLY FOR THIS CERTIFICATE PROGRAM". The page also includes a breadcrumb trail: "Home > Programs > Certificate Programs > Online Graduate Certificate in Forest Management and Conservation". The main heading is repeated in a larger font: "ONLINE GRADUATE CERTIFICATE IN FOREST MANAGEMENT AND CONSERVATION". Below this, there is a section titled "What is the Graduate Certificate in Forest Management and Conservation (GCFMC)?" and a list of links: "Courses and Timeline", "Tuition and Fees", and "Admission Requirements".

<https://forestry.ubc.ca/programs/certificate/forest-management-conservation/courses-and-timeline/>

Program Requirements:

Students must complete 15-credits (5 courses) in a maximum of two years.

One required (core) course, which must be completed in the first term:

❖ **FOPE 500: Sustainable Forest Management in a Changing World (Phase I)**

Students can then customize their certificate by selecting four additional courses that suit their unique interests, within the elective pool:

- FOPE 501: Geomatics in Forestry: Data Collection and Management (Phase II)
- FOPE 502: Introduction to Urban Forestry in the Asia Pacific Region (Phase II)
- FOPE 503: Climate Modelling and Forest Applications (Phase II)
- FOPE 504: Structure and Composition of Tropical Forest Ecosystems (Phase II)
- FOPE 505: Ecological Processes in Tropical Forests (Phase II)
- FOPE 506: Forest Conservation in Asia: Challenges and Opportunities (Phase II)
- FOPE 507: International Forestry Issues, institutions, and Multi-Lateral Agreements (Phase I)
- FOPE 508: Forest Ecosystem Services and Community Livelihoods (Phase II)
- FOPE 509: Plantation Design and Management (Phase II)

**Output 4:
Promotion and
management of the
project**



5.1 AP-FECM in spotlight

CNIE 2016 Award – Excellence and Innovation in the Integration of Technology in Educational Practices/Collaboration



Award Prix
Excellence & Innovation

in the Integration of Technology in
Educational Practices/Collaboration / *dans*
l'intégration de la technologie dans les
pratiques et la collaboration en éducation

CNIE RCIÉ
Canadian Network for
Innovation in Education
Réseau canadien pour
l'innovation en éducation

5.2 AP-FECM in spotlight on XXV IUFRO World Congress

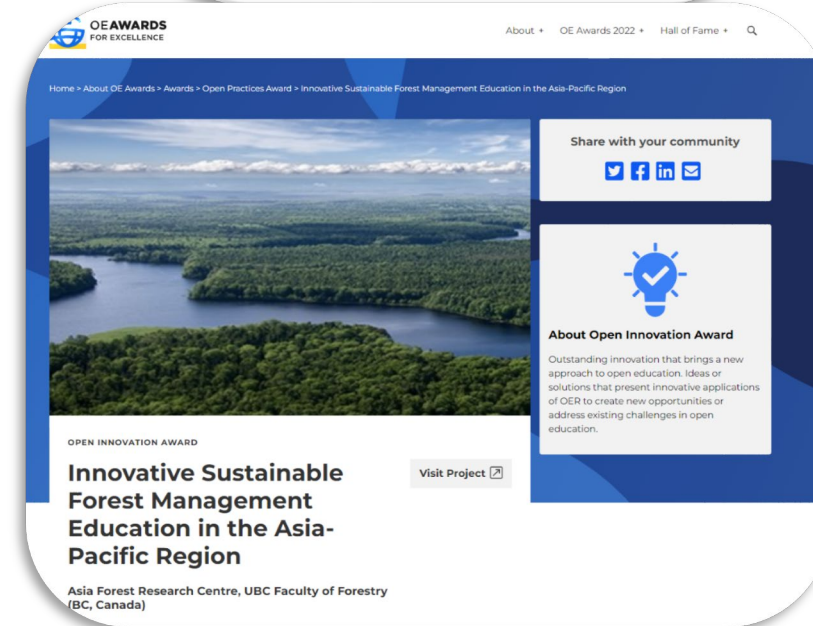
IUFRO Award - Best Practices in Forest Education – Tertiary 2019



5.3 AP-FECM in spotlight

Open Innovation Award 2022

<https://awards.oeglobal.org/awards/2022/open-innovation/apfecm/>



5.4 Silver Lining for Learning TV Show

The image shows a Zoom meeting interface on the left and a Silver Lining for Learning website page on the right. The Zoom meeting features a 3x3 grid of participants: Chris Dede, Yong Zhao, Curt Bonk, John Innes, Hailan Chen, Joanna Zhong, Chris Crowley, and Anil Shrestha, UBC. The website page displays the title 'Episode 51 | Innovative Sustainable Forest Management Education in the Asia-Pacific Region' by Curtis Bonk, dated Mar 13, 2021. A large graphic below the title reads 'Innovative Sustainable Forest Management Education in the Asia-Pacific Region' and includes the website 'silverliningforlearning.org', 'Episode #51', and the date 'March 20 5:30pm Eastern'. Small portraits of the participants are shown at the bottom of the graphic.

Links

https://v.youku.com/v_show/id_XNTEyNjU0ODAxNg==.html

<https://www.youtube.com/watch?v=yeEZrUkDilc>

5.6 New website

Upgrade the website in 2022

<https://apfecm.forestry.ubc.ca/sfm-online-courses/>

UBC THE UNIVERSITY OF BRITISH COLUMBIA

Faculty of Forestry
Executive Office of the Asia Pacific Forestry Education Coordination Mechanism

AP-FECM ▾ Dean's Meetings SFM Online Courses Publications News and Events ▾ Asia-Pacific Young Scientists Association ▾ Contact

SFM ONLINE COURSES

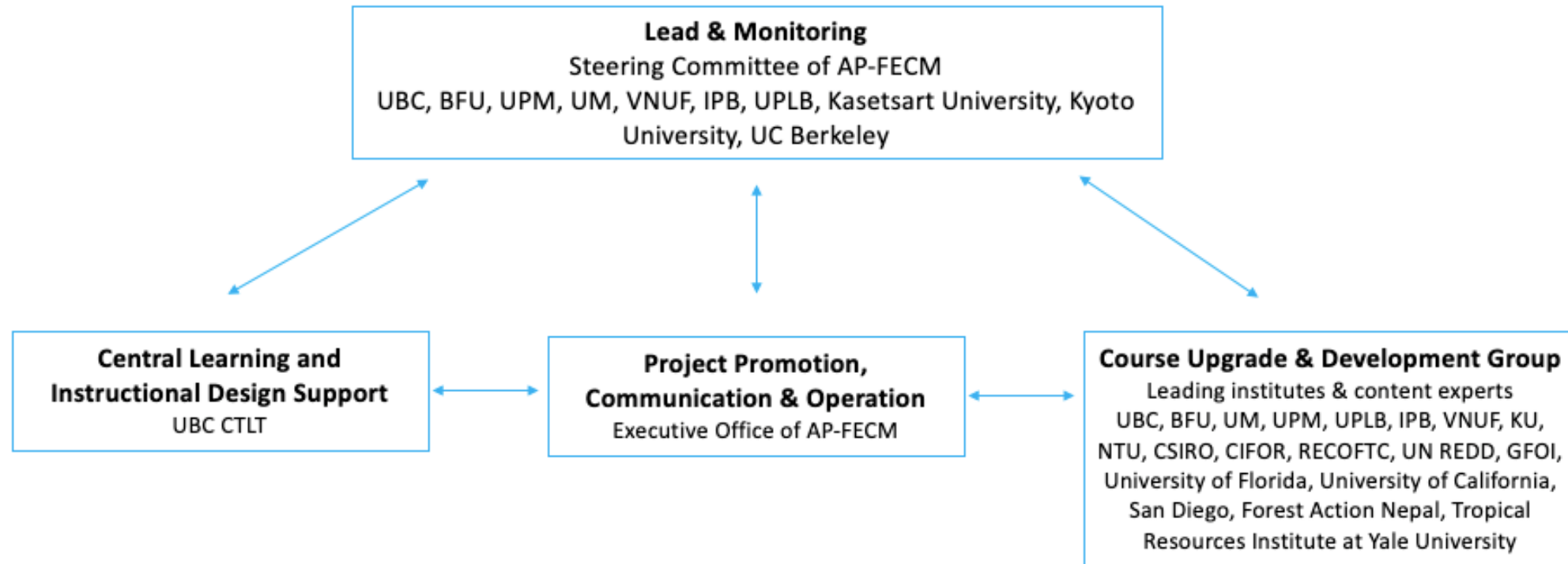
Click on an item below to see more:

- BACKGROUND AND INTRODUCTION +
- AP-FECM SFM OER COURSES +
- AP-FECM REPURPOSED OER COURSE COMPLETION CERTIFICATE PROGRAM +
- UBC ONLINE GRADUATE CERTIFICATE IN FOREST MANAGEMENT AND CONSERVATION (GCFMC) PROGRAM +
- AWARDS +
- EVENTS +

AP-FECM SFM OER Courses

- FODE 001-OER – Sustainable Forest Management in a Changing World**
[Go to Canvas site](#)
[View introduction](#)
- FODE 002-OER – Forest Governance, Public Relations, and Community Development**
[Go to Canvas site](#)
[View introduction](#)
- FODE 003-OER – International Forestry Issues, Institutions, and Multi-Lateral Agreements**
[Go to Canvas site](#)
[View introduction](#)
- FODE 004-OER – Forest Ecosystem Services and Community Livelihoods**
[Go to Canvas site](#)
[View introduction](#)

5.6 Project Management



➤ Conclusions

- The AP-FECM and UBC's Graduate Certificate programs were successfully established;
- 14 SFM online courses as OER;
- Integration of emerging educational technologies and pedagogies into the online courses;
- More than 130 universities were involved and over 70k OER users were achieved;
- Many praises and good feedbacks were received from the AP region.
- The platform for exchange of ideas and experiences on SFM education
- Forest education gaps were minimized....

➤ Lessons Learned

- A team-based approach;
- A mixed model of asynchronous and synchronous teaching;
- Students centered pedagogical model and learning activities;
- More supports for students who have special needs or difficulties in accessing high bandwidth technology;
- Further development of phase III and more courses development to adapt to changing context and need of forestry education.



Future Plan for Innovative Sustainable Forest Management Education in the Asia-Pacific Region

SFM online course development (Phase III)

- Proposed courses
 1. *AI and Big Data application in forestry*
 2. *Silvics and Silviculture*
 3. *Abiotic disturbances*
 4. *Biotic disturbances*
 5. *Biodiversity conservation and wildlife management*
 6. *Watershed management and forest hydrology*
 7. *Forest economics and planning*
 8. *Sustainable management of non-timber-forest-products (NTFP)*
 9. *Agroforestry*
 10. *Forest resources assessment*

Further Cooperation among AP-FECM members

- UBC Forestry will assist partner universities of repurposed OER courses
 - **University academic degree**
 - **Capacity building/training for mid-term career professionals**
- Instructor-led course delivery of repurposed OER courses by our summer programs



Thanks!
&
Discussions