

Proposed Curriculum for a Multi-Campus Educator Training Course

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Abstract

Multi-campus education involves instructors teaching students enrolled in the same course at different campus locations. This teaching format presents unique challenges that should be considered by instructors and program directors to maximize equity between cohorts by adapting to site context and leveraging pedagogical best practices. Herein is a proposed curriculum for a training course intended for multi-campus course designers, instructors, teaching assistants, and directors which describes best practices and pedagogical strategies for achieving a positive learning experience for all cohorts. Curriculum modules are explained in some detail, with the entire course available, as described, through the University of British Columbia Canvas Catalog.

A. Introduction

In multi-campus instruction (MCI), instructors host a course at one location while concurrently teaching remote cohorts at other locations using information and communication technology (ICT). Courses taught in this format typically use specially equipped rooms with cameras, microphones, and large projection screens. When executed well, multi-campus courses provide students with a variety of study options, extend the reach of exceptional instructors, and offer institutions opportunities for cost savings. In some contexts, courses taught using ICT help bridge cultural boundaries, improve cross-pollination of ideas between institutions, and bring comprehensive, sophisticated programs to rural areas [1]–[4].

Despite dramatic innovations in teaching and communications technology, there remain significant challenges to implementing multi-campus programs effectively. Educators, including instructors, course designers, teaching assistants (TA), and program directors must be prepared to overcome problems with technology, equity in learning, trust, fairness, and community building through innovative and targeted pedagogy, technology, and management [4]–[7]. Equity in learning can be particularly difficult to achieve as access to libraries, study spaces, lab equipment, and other educational resources can vary significantly with location [8]. Educators supporting remote cohorts (versus instructors who teach at the “local” cohort), often TAs, are typically less experienced with direct facilitation, leading to perceivably inequitable student classroom experience and noteworthy new dynamics in instructor/student interaction [9].

There have been recent efforts to build and validate a framework for the preparation, staging, and delivery of multi-campus courses [10]. Such a framework would provide a scaffold that helps to

emphasize and de-risk the challenges associated with MCI by providing a structure for exploring the subject through conceptualization, design, delivery, and maintenance of multi-campus courses. Institutions engaging in ICT-assisted teaching have also provided training modules, guidelines on best practices, and other documentation to support instructors in successfully delivering multi-campus courses [4]. Many of these resources were difficult to locate, and no comprehensive, thorough, openly available training program for multi-campus educators could be found to support those interested in teaching in this format. To address these challenges, a multi-campus instructional course has been developed as a training program primarily targeting Higher Education Institution (HEI) engineering educators to equip participants with the skills necessary to design and deliver high quality multi-campus programs. This course is designed with the ongoing trend toward technology-driven education in mind [11].

The training course is modular, providing unique completion pathways for course instructors, course designers, TAs, and program directors. Any course attendee may complete all modules with very little redundancy, resulting in approximately 12 hours of material including learning activities. Modules for the curriculum were chosen based on author experiences and literature review on MCI. The objective of the course is to build understanding of what is required by educators to successfully plan, design, implement, and realize the students' learning process in an ICT-assisted, multi-campus course. Learning activities provide interaction, community participation, collaboration, and communication for stakeholders during training to promote pedagogical, technological, and organizational learning of key themes in course.

As implemented, the curriculum includes both self-paced asynchronous and synchronous components and is intended to be offered in conjunction with a learning management system (LMS). A complete course has been developed from the curriculum herein discussed with initial delivery in 2022. Immediate, measurable improvements to the design and delivery of multi-campus courses at the University of British Columbia within Manufacturing Engineering are anticipated with the training course in place. ICT-based education is technology dependent and context sensitive, and multi-campus program curricula and pedagogy must evolve continuously with learning tools to enable success in the classroom [12], [13]. Correspondingly, the training course curriculum herein proposed must also adapt to remain current with technological and educational trends.

This paper provides 1) a proposed curriculum for a multi-campus educator training course designed to inform HEI educators on best practices involving multi-campus teaching; and 2) insights into content and resources applicable to the course.

B. Curriculum Design

Curriculum design for the proposed course is bounded by necessary constraints. The course must be flexible, adapting to the schedules of each participant. The content must be concise and practical to maintain participant engagement, which is particularly critical given the length of the course. To reach a large audience outside the institution, the course must be freely available to members from other institutions. Finally, although initially developed primarily for engineering

programs in a Canadian context, the course should be non-technical to appeal to educators in other programs and a wider, international audience.

There are four groups of educators targeted with dedicated paths in the course, each adopting different roles within a multi-campus educational context:

1. Program Designers engage in the design of multi-campus courses, including the selection of assessments, development of content, and design of learning activities. They require an awareness of context in which the courses will be taught, as well as how to best leverage available resources at each location to ensure equitable learning outcomes.
2. Program Instructors deliver multi-campus courses prepared by Designers, engaging with students within the classroom and both local and remote TAs to maximize the student learning experience throughout the course.
3. Teaching Assistants (TAs) support the course Instructor locally or remotely, fulfilling significantly different roles depending on their location and responsibilities within the classroom.
4. Program Directors are responsible for program level oversight, making decisions regarding resource allocation, faculty training requirements, and infrastructure. Directors are also normally involved in curriculum committees, faculty hiring, capital asset planning, and similar tasks related to preparing classrooms and faculty for successful course delivery.

By providing four pathways for experiencing course by using modularization, the proposed curriculum provides greater flexibility and efficiency in content delivery. Participants are HEI educators where time for professional development and training must be used as efficiently as possible to create value for the institution. Ten modules are proposed, each intended to take approximately one hour to complete. A summary of modules is shown in Figure 1. It is possible for all participants to take all modules, but there is a minimum path to completion highlighting critical learning for each group.

TAs are expected to take modules 0, 1, and 2 to develop a foundation on the challenges and benefits of multi-campus education as well as learn about key roles and pedagogical best practices as a support within the classroom. They are welcome and encouraged to continue with further modules if they wish. Directors are required to take modules 0, 1, and 9, where the most essential knowledge on successfully executing a multi-campus program is conveyed, and Directors are given ample opportunity to ask facilitators questions. Designers and Instructors must each complete seven modules with some overlap to complete the course. The modules, educator group, and anticipated learning format are all summarized in Table 1.

The decision to propose a curriculum containing both synchronous and asynchronous components was chosen to model both forms of course delivery and provide faculty members more flexibility on when to experience the bulk of the content.

C. Modules

Synchronous course modules emphasize collaborative activities and provide opportunities for participant interaction, real time questions, and direction on how to experience the asynchronous

components of the course. They also allow participants to engage in real time discussions with the course facilitators and ask questions as they arise.

Table 1: Schedule of modules, audiences, and learning format for the multi-campus educator course.

| Day | Module | Educator Group | Format |
|-------|-----------------|--|--------------|
| 1 | M0 | All | Synchronous |
| 2-7 | M1 and M2 M1 | Instructors, Designers, TAs Directors/Heads | Asynchronous |
| 8 | M9 | Administrators | Synchronous |
| 8-14 | M3 M4 | Instructors Designers | Asynchronous |
| 15 | M5 | Instructors, Designers | Synchronous |
| 16-20 | M6 M7 | Instructors Designers | Asynchronous |
| 21 | M8 | Instructors, Designers | Synchronous |

Asynchronous course modules are individually structured loosely around the BOPPPS model of instructional design, consisting of a bridge, outcomes, pre-assessment, participatory learning, post-assessment, and summary. Asynchronous modules contain at least one central learning activity and two forms of formative assessment to highlight key learning outcomes for each module.

C.1. Module 0: Introduction and welcome

Module 0 is taken by all participants and provides the welcome and high-level overview of the course. Participants are introduced to the learning pathways, course completion requirements, learning management system for asynchronous content, and are given an opportunity to test their technology and meet their colleagues taking the course. Depending on the size of the cohort, this first module will take 30-60 minutes to complete. Participants are given access to asynchronous modules 1-4 after completing module 0.

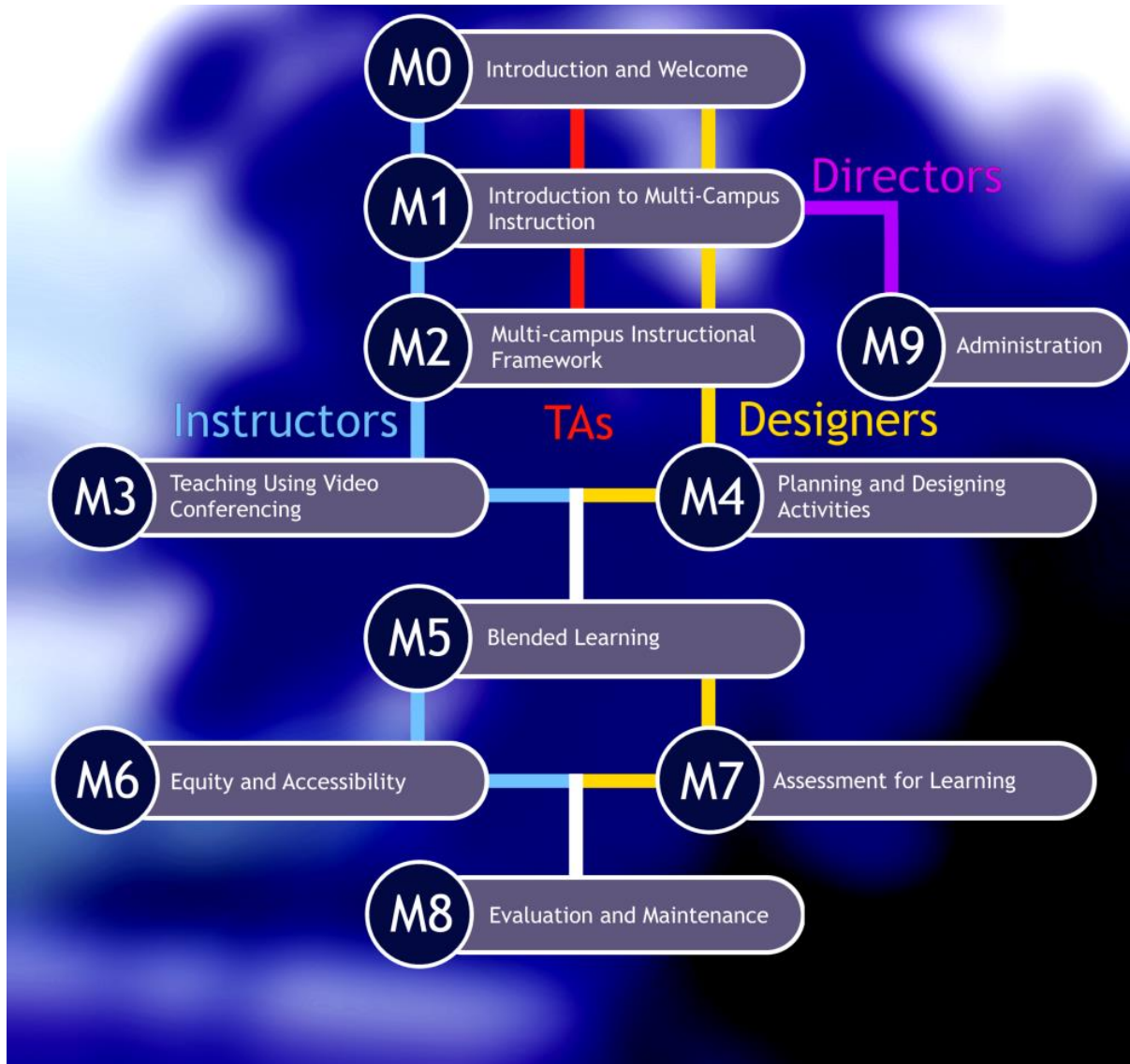


Figure 1: Participant pathways through the proposed multi-campus curriculum.

C.2. Module 1: Introduction to Multi-campus instruction

As the first asynchronous module, the learning outcomes for Module 1 focus heavily on introductory content for multi-campus education. The learning outcomes are:

- Define multi-campus teaching and describe key aspects of its implementation.
- Outline challenges and benefits of teaching in a multi-campus learning environment.
- Frame a discussion on preparing for multi-campus course development.
- Reflect on some best practices for teaching multi-campus courses in an international context.

As implemented, learning material for this module is heavily interactive and includes videos and H5P content such as slideshows to promote engagement. Learning activities are structured around reflection and role playing, where the student considers the possible variety of learning experiences available within a multi-campus learning context. By framing benefits and challenges early in the course, participants are provided motivation to approach the rest of the modules through a very practical lens.

C.3. Module 2: Multi-campus instructional framework

This is an asynchronous module and is the last module required for TAs attending the course. The learning outcomes for Module 2 include:

- Evaluate elements of presence to create a deep and meaningful learning experience.
- Identify relationships/experience among stakeholders in achieving presence to meet students' needs.
- Apply facilitating strategies to increase interactivity and active learning.

Literature related to multi-campus has consistently demonstrated the importance of ongoing evaluation of student learning experience at each location (campus) participating in the course, with the Community of Inquiry (CoI) framework often used to perform this assessment [7], [8], [14]–[16]. The CoI framework provides a means to evaluate teaching presence, cognitive presence, and social presence within the classroom. By providing educators, including TAs, exposure to the CoI framework early in the course, it becomes easier to frame future discussion on best practices and pedagogy in terms of teaching, social, and cognitive presences. When combined, these forms of presence create a community of inquiry that is indicative of a healthy learning experience.

Participants are also exposed to an introduction to roles within a multi-campus course as well as the complex dynamic between instructor/TA and remote/local TAs. Some recommended best practices are proposed and framed within a worksheet that can be used by course educators, including TAs, to plan for contingencies in the event of technical failure or other specific challenges in remote classrooms. This worksheet is referenced in other modules throughout the rest of the training course to provide context and ground the discussion for instructors and designers.

C.4. Module 3: Teaching using video conferencing

Module 3 is the first pathway-specific module intended primarily for those on the Instructor path through the course. Learning outcomes include:

- Discuss what makes teaching using synchronous and asynchronous learning environment effective with focus on overcoming challenges.

- Identify effective pedagogical approaches for students to engage in meaningful interaction with teachers/instructors.
- Reflect on importance of presence during synchronous and asynchronous learning platforms.

Facilitating a course, particularly a student-focussed course with interactive learning activities, is challenging when using ICT. It is easy for students in different cohorts to perceive inequities, especially if there are technology issues or perceived favoritism by the instructor. Module 3 discusses technology, facilitating strategies, and teaching presence within the classroom with the objective of minimizing barriers between students and the instructor.

The conceptual framework for multi-campus courses is also introduced in this module with an emphasis placed on course delivery [10].

C.5. Module 4: Planning and designing activities

Module 4 is the first pathway-specific module intended for those on the Design path and is offered as an alternative to Module 3. Learning outcomes include:

- Consider design elements with a focus on ICT tools that shape multi campus activities.
- Integrate various activities that provide opportunities to communicate and collaborate synchronously and asynchronously in different settings (one on one, small group, whole group) as needed.
- Demonstrate context of sensitivity for enhancing collaboration and mitigating problems.

A key priority for successfully designing a multi-campus course is an awareness of context [10]. Identifying context at each location with a focus on equitable learning is stressed in this module. Constraints on learning activities, particularly in mixed asynchronous/synchronous modalities, is discussed with an emphasis on student to student, student to instructor, and student to content interaction. The conceptual framework for multi-campus courses is also introduced in this module with a focus on preparation and design [10].

C.6. Module 5: Blended learning

This module brings together both the Designer and Instructor participants for a check in/discussion on earlier modules and introduction to blended learning. The content is presented synchronously with most of the time reserved for synthesis, questions, and collaboration. Learning outcomes include:

- Describe and apply strategies to determine if content should be synchronous or asynchronous.
- Contrast different blended learning models.
- Choose technologies and implement blended learning techniques in a multi campus setting.

- Explain the importance of maintaining equity in these environments.

There is a lot of opportunity to implement blended learning methods with MCI. This module gives instructors and designers an introduction to how and when it can be used. Consideration for student equity is emphasised. The importance of the course worksheet is also highlighted, with participants encouraged to contribute to their worksheet as a capstone objective within the course.

C.7. Module 6: Equity and accessibility

Module 6 is an asynchronous module for those on the Instructor path. The module focusses on best practices in the classroom for managing equity and accessibility issues. Learning outcomes include:

- Identify and consider appropriate equity issues given individual learning contexts.
- Evaluate and overcome accessibility limitations at each location.

Equity in learning is a foundational challenge in multi-campus courses as students necessarily experience the course content in different contexts. Hostility may form between student cohorts at different locations if perceptions of equity and accessibility are not conscientiously addressed. Although also important at the design phase, addressing equity and accessibility issues as the course is delivered requires care and transparency. Instructor pedagogy and habits may have a pronounced effect on student perception of equity and accessibility, necessitating careful self-monitoring and reflection by all educators involved in the course.

C.8. Module 7: Assessment for learning

Module 7 is an asynchronous module for those in the Design path. Assessment and grading strategies require planning to ensure that assessments chosen can be fairly delivered and evaluated in a multi-campus setting. The curriculum as implemented is focused on an engineering context where assessments are generally deterministic with clear right and wrong answers. Courses which assess attributes such as communications, teamwork, creative writing, or reflection must adopt both assessments and forms of evaluation that ensure that all students receive qualified feedback that is both sensitive to their learning context and helpful to student learning. Learning outcomes for this module include:

- Identify assessment tools applicable to course teaching.
- Create different assessment methods and use appropriately in course teaching.
- Consider alternative assessment methods (e.g. conferencing, reflective journals).
- Provide feedback on student's learning experience for improving quality.

Effective and fair delegation of assessment is an important consideration in this module as there is a natural inclination to have remote TAs assigned to each site assess the students at each location, although this approach has a significant potential to introduce inequity in learning as only students in the cohort local to the course instructor receive feedback directly from the instructor from these assessments. Alternative assessment and grading strategies are introduced and discussed.

C.9. Module 8: Evaluation and maintenance

This module forms the “capstone” synchronous session for the course, with the expectation that only those on the Instructor and Design paths attend this module. After completing this module participants should be able to:

- Evaluate the effectiveness of their course delivery during and after course completion.
- Assess areas in pedagogy that require improvement.
- Revise course pedagogy to address areas that require improvement.

A key practice in multi-campus courses is ongoing evaluation of the student experience [8]. When problems do occur with one or more cohorts, the impact is rapid and can create significant discontinuities in student communities of inquiry. This module introduces a tool based on the CoI survey for quickly evaluating and contrasting student experience at each location while also introducing journaling and self-reflections for instructors and designers in preparing and delivering course content [17]. By designing and delivering course content with the CoI framework in mind, ongoing evaluation of the student learning environment should show little deviation in perception between cohorts.

Maintenance as a stage within the conceptual model of multi-campus instruction is also discussed and emphasized for its importance in evolving courses based on changing technological and pedagogical best practices.

C.10. Module 9:

Module 9 is reserved for program directors and administrators interested in executing course and programs at a high level that incorporate multi-campus opportunities. The module learning outcomes include:

- Identify what is required from administration to successfully offer a multi campus program.
- Contrast benefits and costs of multi-campus courses at a program level.
- Describe what makes a course suited for this teaching method.
- Highlight resources available, including training, to support their instructional and design faculty.

It is critical that program directors and heads understand the added burden and challenges commensurate with designing and delivering multi-campus courses. At an administration level, there are also challenges in maintaining appropriate oversight at all locations while providing for sufficient independence, keeping classrooms up to date with appropriate technology, and facilitating collegiality between faculty at all locations [18]. Realizing the benefits of a multi-campus program requires careful consideration and planning by directors and curriculum committees at all stages of execution, including program conception, realization, and maintenance.

D. Conclusion

Ten modules are presented totaling approximately 12 hours of learning time, including learning activities. These ten modules are available through paths designed to accommodate the specific interests and time availability of directors, TAs, instructors, and designers. A course adopting this proposed curriculum has been developed at the University of British Columbia with first cohorts attending in 2022 to support a new multi-campus engineering program spanning two locations. The modules are both synchronous and asynchronous with most of the content available to faculty members who will be directly involved in course design and delivery. A learning management system is used for asynchronous course delivery with synchronous components available either face to face or through a remote viewing technology such as Zoom. A worksheet intended primarily for instructors and designers is provided in Module 2 and is referenced through the rest of the course with the intention of providing students with a useful reference to plan the design and delivery of multi-campus courses.

Multi-campus education will likely continue to garner interest given increasing faculty comfortability with using technology in the classroom. There are many challenges in MCI that can lead to significant variations in student experience between locations. We have proposed a curriculum for a multi-campus educator training course intended to highlight benefits, challenges, and best practices in multi-campus education. The course draws heavily from case studies and conceptual work performed internationally, and as frameworks, technology, and models continue to improve the curriculum must be continuously updated to evolve with best practices.

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