

# LEAF+ Insights: Future of Digital Learning

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## 1. LEAF+ Project Background

This project, resourced through the [Learning Engagement and Advancement Fund \(LEAF\)](#)<sup>1</sup>, engaged four divisions at University of Toronto (U of T) in collaborative exploration of post-COVID opportunities focusing on:

- Leveraging instructor capacity and interest in digitally enabled teaching strategies.
- Identifying appropriate resources and strategies to meet emergent faculty and program needs.
- Creating a culture that values enhancement of student learning through meaningful online learning experiences.

Coordination of cross-divisional activities was facilitated by Information Technology Services - Digital Learning Innovation (DLI) portfolio, culminating in the preparation of this integrated report for the VPIUE, combining data from the four participating divisions and other internal and external sources. An environmental scan for other strategy documents and Canadian data sources was also conducted.

Participating divisional teams included:

Division	Unit	Project Leads
Faculty of Applied Science and Engineering (FASE)	Institute for Studies in Transdisciplinary Engineering Education and Practice (ISTEP)	Prof. Greg Evans (Director, ISTEP)
		Dr Qin Liu (Senior Research Associate of ISTEP)
Faculty of Kinesiology and Physical Education (KPE)	Office of Vice-Dean, Academic Affairs	Ashley Stirling (Vice-Dean, Academic Affairs)
University of Toronto Mississauga (UTM)	Institute for the Study of University Pedagogy (ISUP)	Tyler Evans-Tokaryk (Associate Director, ISUP)
		Ruth Childs (Director, ISUP)
		Fiona Rawle (Associate Dean, Undergraduate, UTM)
University of Toronto Scarborough (UTSC)	Centre for Teaching and Learning (CTL)	Karen McCrindle (Associate Dean, Teaching and Learning)
		Lynn Tucker (Associate Dean, Experiential and Global Learning)

Early in the planning process, the project leads identified guiding principles to inform exploratory work regarding the future of digital learning in their respective divisions:

- Promote excellence in teaching and learning through program quality, academic integrity, student engagement.
- Develop humanizing and person-focused approaches for both instructors and student experiences.
- Ensure diversity, equity and inclusion are key considerations in program and course design.
- Create an innovative culture that values enhancement of student learning through meaningful online experiences.

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<sup>1</sup> *Learning Engagement and Advancement Fund (LEAF)*. University of Toronto Faculty of Arts and Science. Retrieved January 12, 2023 from <https://www.artsci.utoronto.ca/faculty-staff/teaching/teaching-learning-resources/funding-opportunities/leaf>

The participating divisions agreed to share quantitative data, leveraging common survey items in instruments designed for both instructors and students. Significant community engagement also took place through focus groups, unstructured interviews, and collection of examples and syllabi, which served as further data collection channels. Survey results and divisional community input were analyzed for common themes to inform this integrated report summarizing the project outcomes and insights on potential strategic actions to support digital learning.

## 2. Current Context: By the Numbers

Data available from recent provincial and institutional publications situated this report in a broader context.

### Canadian Digital Learning Research Association

The Canadian Digital Learning Research Association presented the Ontario response results to a national survey at the eCampusOntario fall conference, highlighting findings regarding the current environment and anticipated trends<sup>2</sup>. These surveys, conducted in Spring and Fall 2022, gathered data from multiple respondents across 36 Ontario post-secondary institutions, including the University of Toronto. The most frequently identified challenges for teaching and learning were faculty fatigue and burnout (72%) and implementation of effective instructional practices (62%). Forecasted trends included an increase in both hybrid courses and programs (67%) and fully online courses and programs (52%).

### EDUCAUSE Technology Research in the Academic Community (ETRAC)

In March 2022, the annual [ETRAC survey](#)<sup>3</sup> was distributed to randomly selected undergraduate students across the U of T faculties and campuses to gather information about students' experiences and perceptions interacting with the technologies provided by the University. While data collection was quite limited with only 138 respondents, the representation was balanced across characteristics such as year level, gender, full or part time study, and students identifying as having a disability. Results for U of T students paralleled results for the full, multi-institution study<sup>4</sup>.

When asked to indicate specific challenges to participating in digital learning activities in March 2022, U of T students identified concerns related to technology access:

- Difficulty meeting technical requirements, including internet connectivity (57%), device malfunctions (24%), and cost of hardware or software rarely or never used for course work (23%).
- Inability to run specific applications or software (22%) and device configuration for course-related tasks (20%) were noted as causes of stress.
- Need for captions of videos (42%), with only 12% reporting satisfactory access to this support.

ETRAC survey responses about online and blended courses were notably mixed among U of T respondents:

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<sup>2</sup> Johnson, N. (2022, November). *The Digital Learning Landscape in Ontario: Implications for the Future of Post-Secondary Education*. Technology in Education Seminar and Showcase (TESS), Toronto.

<sup>3</sup> Information Technology Services, University of Toronto. (2022, February 17). *Annual EDUCAUSE student survey launches March 2022*. <https://its.utoronto.ca/annual-educause-student-survey-launches-march-2022/>

<sup>4</sup> Robert, J. (2022, September) *Students and Technology Report: Rebalancing the Student Experience*. Research report. Boulder, CO: EDUCAUSE. <https://www.educause.edu/ecar/research-publications/2022/students-and-technology-report-rebalancing-the-student-experience/introduction-and-key-findings>

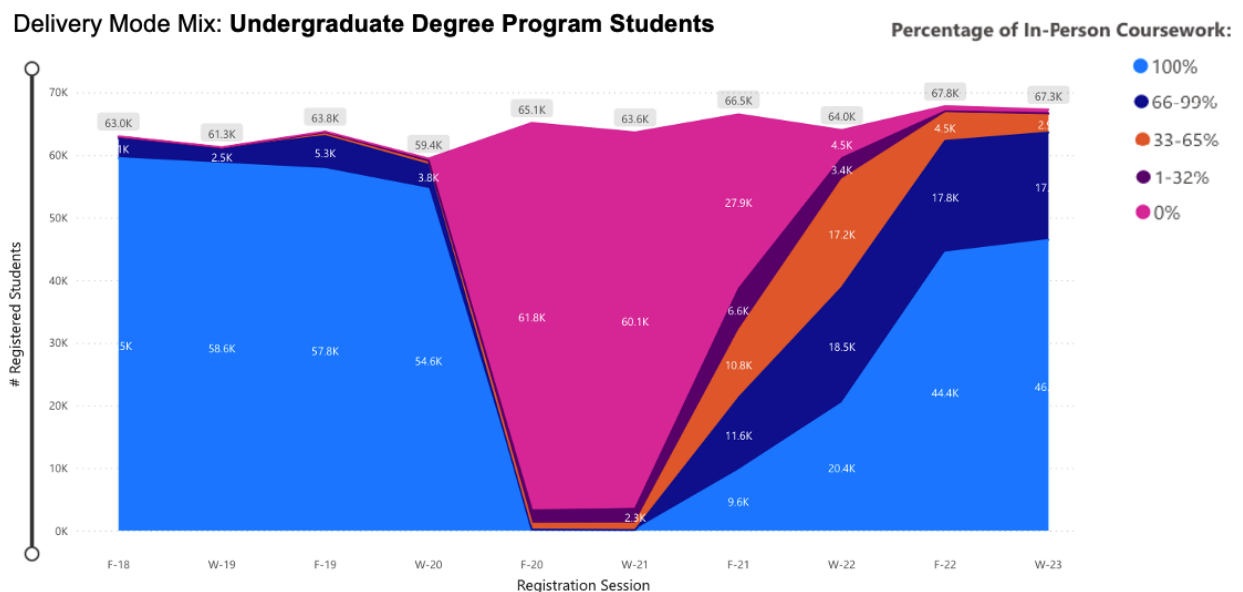
- 36% of students said they were just as likely to take online or blended courses in the future;
- 28% were more likely to take online or blended courses in the future; and
- 24% were less likely to take online or blended courses in the future.

## Accessibility Services Survey 2022

University of Toronto Accessibility Services for the St. George campus shared the results of a spring 2022 survey of students registered with their office, including questions related to their experiences with online learning in previous academic year<sup>5</sup>. Of the 910 respondents, over 80% identified as having mental health or neurological conditions. These students identified challenges with the requirement for increased online learning resulting from the pandemic impacts, with 45% reporting an increased rate of disability-related issues in the transition to online learning. The survey reported that 33% agreed with a statement signaling a preference for online learning, while 45% did not. Challenges to this group of students included lack of community, screen fatigue, and motivation, while benefits noted by respondents included any-pace and any-place learning and ease of access to digital content, such as recorded lectures. Many noted challenges with navigation of new platforms (21%), particularly those students born prior to 1980.

## Shifting Course Delivery Modes

Another source of data has been provided by the Office of the Vice-Provost Academic Programs, in the form of data visualization of the delivery mode mix experienced by students before, during and after the peak of the COVID pandemic impacts. The graph below shows that trajectory from fall 2018 on the left, through the expansion of fully online offerings (shown in pink) during the peak of the pandemic impacts, and subsequent re-balancing for winter 2023.



<sup>5</sup> Nicholson, M., & Oey, R. (2022, November) *Accessibility Services Survey Data, Student Life*. Centre for Teaching Support & Innovation Presentation, University of Toronto.

## Retention of courses in online and hybrid formats

Analysis of course delivery mode data drawn from Repository of Student Information (ROSI) reports in fall 2022 projected of an overall increased count of online and hybrid course offerings for the current academic year, as reflected in the table below.

2019-20 ACADEMIC YEAR online and hybrid course count*		2022-2023 ACADEMIC YEAR online and hybrid course count*	
	Fall and Winter 2019-20		Fall and Winter 2022-23
Undergrad	65	Undergrad	418
Grad	160	Grad	790
Total	225		1208

\* Includes all courses that offer the primary lecture section as a fully online option.

It is projected that approximately 353 undergraduate and 630 graduate courses will provide continuing availability in either online or hybrid delivery mode during the current academic year. Data reports confirming the distribution breakdown across online (synchronous and asynchronous) and hybrid offerings are not currently available.

Together, these sources of data provide insights into the broader environment in which the LEAF+ project work has been undertaken. Findings of the participating divisions are generally in alignment with the findings of these studies cited above and institutional data reports.

## 3. Overarching Themes

### Context: COVID Aftereffects

Trauma of stress and unpredictability, unplanned changes and demands of the past two years continues to inform perceptions of some instructors and students. Though we can now make intentional plans and choices, responses continue to reflect frustration in the turbulent period beyond control of instructors and students during the COVID-19 crisis. While some are excited to be back on campus, others are enthusiastic about the potential continued use of digital learning strategies:

*"...perception "hurray – we are back!" impacts how instructors and students are responding at this time" (Vice-Dean Interview).*

*"Online learning in moderation (and for the right content) is effective and efficient, but it must be balanced with in-person course delivery as well for aspects of a course that require in-person delivery" (FASE Student).*

The collaborative efforts of divisions participating in the LEAF+ initiative provided an opportunity to 'take the pulse' based on input from a range of perspectives, including students, instructors, librarians, staff, and vice-deans.

Analysis of data available confirmed widely varied viewpoints within the community across the roles of student, instructor, and administrator, as well as differences between divisional patterns in preferences and practices across the continuum of online and in-person options for teaching and learning. While the

mix of data formats and the limited sample size for some respondent groups is a recognized constraint, the input collected from across our community has provided signals and signposts to help us plan our path forward.

## Theme 1: Mixed Experiences Informing Future Preferences

Mixed student experiences and needs during the COVID-19 crisis are informing future preferences for online, hybrid, and in-person for both instructors and students.

Within the survey data collected by divisions participating in LEAF+ initiative, perceptions of effectiveness of various modes of delivery and specific teaching strategies varied widely, as reflected in Likert scale data. Some differentiating characteristics include the following:

- FASE students disproportionately preferred face-to-face learning experiences.
- UTSC students showed the highest agreement with effectiveness of content introduced via online recordings (68%), particularly recordings of live in-class or online webinar content (82%).
- KPE students had the highest level of agreement with effectiveness of recorded content, followed by active learning strategies during in-person class time (62%), while FASE students had a lower level of agreement regarding this same teaching strategy (33%).

Students (FASE, KPE, UTSC) affirmed the value of introduction of course materials in **both online and in-person** contexts<sup>6</sup>:

- 54% agreed with ‘I learn more effectively when course materials are introduced to me in online settings.’
- 75% agreed with ‘I learn more effectively when instructors introduce course materials in face-to-face settings.’
- 40% agreed with ‘I learn more effectively when course materials are introduced to me either in-person or online.’

In the ETRAC survey responses, students also fell along a continuum of preference for taking “online or blended” courses in the future. Of those responding with a preference, 22% of students prefer a course that is completely face-to-face, 22% prefer a course that is mostly but not completely face-to-face, 21% prefer a course that is about hybrid (half online and half face-to-face); and 16% prefer a course that is completely online.

*Note:* While synchronous and asynchronous fully online options are well understood, in the data collected through LEAF+ it became evident that instructors and some administrators have varied understanding of the meaning of “hybrid” when applied to course offerings at U of T. Many used the term hybrid in describing negative experiences when attempting to live webcast from the classroom. Frustration has been expressed by academic leaders regarding common use of hybrid to mean “dual-delivery models” rather than the “blended” version of hybrid described in institutional definitions (ROSI, School of Graduate Studies, and Centre for Teaching Support & Innovation).

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<sup>6</sup> Note: Total across modalities is greater than 100% as respondents replied to a Likert scale for each of the modalities.

## Theme 2: Increased Instructor Interest in Online Elements

### *Interest in Online*

When asked to reflect on their level of interest in online teaching pre- and post-COVID, the majority of instructors indicated that their interest in online teaching had increased. A majority also reported that they intend to include more online elements in their courses moving forward. Some are planning on teaching in-person as much as possible but intend to introduce more technology into their in-person courses. Many instructors were concerned about the achievement of learning outcomes for students when courses are delivered in fully online modalities. A vocal group included strong emotional statements about challenging experiences during the pandemic and were thankful to return to traditional classroom methods.

### *Effective Practices*

Across FASE, UTM, and UTSC, the majority of instructors found the following practices to be effective: pre-recorded lecture and/or assigned readings prior to the class and using live class sessions for discussion and other active learning; recording live class sessions (in-person or online) and then posting them afterwards for student use at their discretion; staying active on online discussion forums; and offering online office hours. Other strategies and practices had mixed response on effectiveness (e.g., in-person office hours).

Notably, difficulty engaging students during lecture-based live webinars for large classes and challenges in use of web-casting strategies from the classroom were highlighted by instructors.

### *Learning Assessments*

A majority of instructors favoured in-person learning assessments as being more effective for evaluating learning, with mixed responses towards online timed exams and online open book exams, often noting academic integrity challenges.

## Theme 3: Valuing of Accessibility and Flexibility

Based on experiences of the pandemic, instructors and students have come to know that greater flexibility in modes of course instruction and access to learning materials is possible and students appreciate when these are made available to them.

### *Flexibility*

Perception of the affordances of digital learning strategies was particularly evident in the LEAF+ survey respondents who commented on the following benefits:

- Improved access to digital content, recordings, and captions.
- Improved convenience and choice.
- Lowered anxiety and/or less distraction for students who are less confident or comfortable in classroom setting.
- Added value to both instructors and students navigating health and work/life challenges.
- Saved time/cost of commuting.

### *Accessibility for Students with Disabilities*

In a 2022 survey of students with disabilities undertaken by Student Life - Accessibility Services, 33% showed preference for online learning, while 41% did not.<sup>7</sup> 45% percent of students responding to the survey had increased rate of disability-related issues as a result of the transition to online required during COVID. However, both drawbacks and benefits were noted in the survey results. Concerns related to social connection and motivation are reported, as well as benefits related to ease of access to instructional activities and materials. In the Student Life- Accessibility Services survey approximately half of the student participants reported difficulty navigating new and novel learning platforms when introduced, particularly the older learners.

Within the comments submitted in the LEAF survey data, some students reported benefiting from the structure of the in-person course format:

*"ADHD was way better managed in-person."* (FASE student)

*"...due to my disability, I find in-person lectures much more conducive to my learning because I can focus better and retain more information. The structure it provided was also beneficial to me."* (FASE student)

Others preferred to learn online:

*"...as someone who struggles with multiple anxiety disorders, I discovered that I thrived in an online learning environment because I was able to learn in an environment that minimized the symptoms of my illnesses."* (FASE student)

*"Not everyone is in a position to be able to learn well in an in-person environment."* (UTSC student)

Instructors reflected on access to learning as an opportunity to address equity issues.

*"Technology can be very helpful in removing barriers for students with disabilities to take part in a university education - whether due to their inability to come to class, or their need to learn differently. We should have been employing such many years ago but now post COVID-19 we have no excuse not to."* (UTM Instructor)

In the ETRAC survey, 42% of respondents indicated a need for captions of videos, but only 12% reported having satisfactory access to this support.

## **Theme 4: Balancing Stakeholder Needs During Transformations**

Project team engagement with the community surfaced challenges in supporting effective and sustainable program transformations that balance stakeholder needs, expectations, and program quality.

The LEAF+ data surfaced significant differences between student expectations and instructor perspectives; students expect flexibility and access to digital resources as provided during pandemic, but instructors note concerns regarding additional workload. Divisional leaders interviewed described difficulty in reconciling return to campus with increased inclusivity though provision of digital options. They recognize that continuation of strategies that accommodate students who have been able to thrive

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<sup>7</sup> Nicholson, M., & Oey, R. (2022, November) *Accessibility Services Survey Data, Student Life*. Centre for Teaching Support & Innovation Presentation, University of Toronto.



in the online environment potentially meet a range of needs: accessibility, family obligations, mental health, learning differences.

*“Tension between expectations of faculty workload and institutional expectations for faculty, and student expectations (access, availability, best practices) in an environment that is grappling with new understandings of flex learning.” (Vice-Dean Interview)*

Feedback reflected divisional differences in readiness for change and support for governance processes within leadership, ranging from anxiety about unplanned evolution of program formats to frustration at lack of response from department chairs when changes were proposed by leadership.

LEAF+ survey data showed some instructors are keen to be back in the classroom, while others are enthusiastic about the possibility of re-thinking program and course formats to take advantage of the affordances of digital teaching and learning strategies.

## Theme 5: Importance of Effective Course Design

Students shared feedback about the quality of instruction in both in-person and online environments. The importance of well supported instructors and proven practices for instructional design are reflected in the mix of data gathered from students and instructors. The praise and critiques of both in-person and online strategies suggest that effective course design - rather than the delivery modality - determines the tone of the class, student engagement, and motivation for students and instructors.

### *Strategies for Enhanced Learner Experience*

Student comments in LEAF+ surveys reflected desire for well-designed courses in all modalities explored, including features such as the following:

- Well-structured courses within Quercus, including use of tools and layout.
- Confident/capable use of tools by instructors (e.g., adept use of functions in Zoom).
- Availability of lecture recordings, either live or pre-recorded.
- Avoidance of unnecessarily wide use of novel tools and platforms.

### *Assessment*

Instructors highlighted how online courses with redesigned assessment structures (authentic, scaffolded and balanced) improved student learning (LEAF+ surveys).

### *Learner Engagement*

In LEAF+ survey data, students expressed valuing their time and appreciation for well-designed courses with opportunities for interaction and support for learning:

- Some students struggled with feeling unmotivated or “tired” by extended periods of online learning.
- Other students were frustrated by the need to commute to campus to watch a lecture that could have been recorded, without the disruptions and distractions.

In these examples and others, it is not a specific modality that is seen as problematic, but rather sustaining student engagement in learning activities and providing activities to complement or provide alternatives to traditional lecture formats.

### *Support for Self-Regulation*

Students and instructors in the LEAF+ surveys indicated challenges in self-regulation:

- Different levels of motivation and ability to self-regulate were noted across divisions and contexts.
- Some students found focus and interaction easier in-person because of the structured environment.
- Other students who self-organized preferred courses that offered flexible options, rather than attending in-person for lecture-based activities.

It should be noted that the surveys did not consistently collect data that might provide additional insight into appropriate combinations of modality and choice, such as class size or year of program. One division noted plans to provide more online learning options for students in Years 3 and 4. FASE tracked year of study, and data showed a preference for in-person experiences among first-year engineering students.

## Theme 6: Instructor and Social Presence

Students reported varied perceptions of instructor guidance and direct support, whether in-person or online, during the pandemic. Given additional workload and the feeling of “burnout” described by some instructors, their availability may have been limited by time and bandwidth. What is perhaps most important in the LEAF+ qualitative data is that students value interaction with professors and TAs in all modalities.

### *Enthusiastic, Available Guide*

Instructor presence was highlighted for not just in-person teaching, but a sense of having an enthusiastic, available guide. There were a wide range of suggested and preferred methods to ensure instructor presence for courses.

In LEAF+ data, students’ experiences of instructor and TA presence were generally positive: a majority of KPE students agreed (68%) with the statement that ‘instructor or TA stayed active on online discussion forum’ and even more in FASE (74% agreed) and UTSC (84% agreed) as a measure of the quality of the experience.

### *Online Office Hours*

Online office hours or “student hours” were in general valued for accessibility and interaction, and students expressed frustration when they were not available. In LEAF+ data, FASE students noted instructors offered majority in-person office hours (vs. online office hours); and the opposite for KPE and UTSC (majority reporting online).

Many comments spoke to challenges with online delivery when there was difficulty accessing or low interaction with the professor in online vs. in-person. For example, a few comments spoke to preferring in-person classes, tutorials, or in-person office hours because of the opportunity to connect with TAs or professors before, during, or after class. However, many students explicitly stated identified online office hours as a positive, accessible avenue of engagement with instructors: 15+ comments highlighted flexibility and effectiveness, including accessibility, comfort, reduced need for commuting, and ability to attend quickly.

### *Interactivity Key Whether Online or In-Person*

Qualitative responses in the LEAF+ student surveys showed a variation in student experiences and perceptions of the value of live activities and online connection. Some had experiences which did not engage learners:

*“most of my classmates were simply ghosting the tutorial; a screen full of blank avatars with no activity”* (UTSC student)

However, other students felt less intimidated when meeting online:

*“I found online to be MUCH better. I was able to focus more, I felt more comfortable answering questions, I felt more comfortable asking for help”* (UTSC student).

A combination may be the best option to balance impactful learning activities and supportive interaction with instructors and peers.

*“... rethinking which components are accessible to students as well as when and how and redesigning assessments has made my courses better.”* (UTM Instructor)

*“...online environment allows me to reach students who may be less engaged in the physical classroom.”* (UTM Instructor)

### *Peer-to-Peer Engagement*

Students expressed challenges with peer-to-peer interaction in online settings (e.g., difficulty meeting new people, lower ability to learn from others).

*“There was not much group work needed for most of my courses, and it was hard to make connections and meet new people in an online environment, especially since I was a first-year student still trying to navigate through UTSC and university life in general.”* (UTSC student)

The following preferences described by students signal the importance of social presence:

- Design choices in online or in-person courses that optimize active learning (peer-to-peer engagement for social presence) are valued and are seen to be effective by some students.
- Opportunities to work with peers in-person was preferred by FASE students.
- Group work as an avenue to meeting peers, either online or in-person; note that this may be particularly important for first-year students.
- Reports of better learning through group activities:

*“[Instructor would] post questions for us to discuss [online] in groups and then ask if groups would share their ideas in class. This tactic helped me understand even if I missed a course reading or lecture.”* (UTSC student)

Some instructors favoured use of peer-to-peer instructional methods that combine in-person and online activities to engage students:

*“I designed hybrid assignments that started in class with groups working together and could be completed and uploaded later (self-portrait analysis, group discussion and response, field trip reflections, guest speaker exercises, etc.)”* (UTSC instructor)

## Theme 7: Faculty Development Preference for Varied Modes

### *Time, Capacity, and Interest*

Instructors indicated that time and capacity was the greatest concern. More than ten responses received from faculty members related to increased preparation time due to online/hybrid teaching.

*“Effective online teaching requires resources. In the continued absence of those resources, I will continue to teach in person (subject to public health guidelines of course).”* (FASE instructor)

While several comments reflect the impact of a prolonged period of stress and the reality of COVID “burn out” among instructors, many faculty noted that the pandemic acted as catalyst to develop skills. There appears to be increased interest in continuing to build capacity.

*“I had always wanted to include more online elements (especially those which incorporate active learning) into my teaching, but the pandemic gave an impetus that was not there before.”* (UTM instructor)

### *Course Redesign*

Faculty value support for a course redesign process that emphasizes the following approaches and areas of teaching strategy development:

- Focus on instructional design support, with pedagogical strategy as a starting point.
- Increase tech support: make full use of a tool capacity and integrated use of technology (e.g., Zoom, Teams, Quercus).
- Improve engagement: tools and integration, supporting learning communities online. Instructors identified some specific challenges (e.g., student cameras off, low engagement).
- Support assessment design: Challenges were noted regarding online assessment (e.g., in-person methods translated to online did not succeed, and there are many academic integrity concerns).

There was appreciation for local supports within divisions, as well as resources and programs provided by the Centre for Teaching Support & Innovation. Interest spread over various modalities for professional development: workshops online and in-person; asynchronous and self-paced resources; communities of practice and networking. As is reflected in the themes and needs identified, further exploration will be needed to find the right mix of online and in-person experiences to ensure the undergraduate experience is balanced. Key to this balance will be flexible use of digital learning strategies in appropriate contexts to support instructors when more permanent program and course design shifts are introduced.

## **4. Signposts for the Future – Digital Learning Strategic Frameworks**

Divisions across the University of Toronto share a common vision to promote excellence in teaching and learning, yet local approaches to support for digital learning initiatives take a variety of shapes and forms. Given the decentralized nature of the institution, it may be valuable to consider a shared strategic framework to provide guiding principles as a conceptual basis for program flexibility. An environmental scan surfaced many examples of aspirational and visionary statements regarding digital learning strategy. From the models published, selected examples and actions with potential to inform a University of Toronto strategic framework are described in this section.

### **Program Planning and Course Design**

*Planning for a Blended Future: A Research-Driven Guide for Educators*, a resource for strategic planning for blended learning courses and programs, defines blended learning as “instruction that blends technical,

temporal, spatial, and pedagogical dimensions to create actualized learning”<sup>8</sup>. It proposes that a strategic approach to blended learning allows for optimization across four dimensions (Figure D):

- **Technological:** Capitalize on instructional modality and technologies that optimize student-centered, active learning.
- **Temporal:** Create meaningful, effective choices for when face-to-face or online delivery occurs. Allow for learner flexibility and increased student population location scope.
- **Spatial:** Provide flexibility and optimization of face-to-face and online interactions, with the potential to increase effective access to campus space and resources.
- **Pedagogical:** Support faculty alignment of learning objectives with effective instructional modality, pedagogical practices, and technologies.

Consideration of optimal positioning across these dimensions could support articulation of either program or course level affordances.

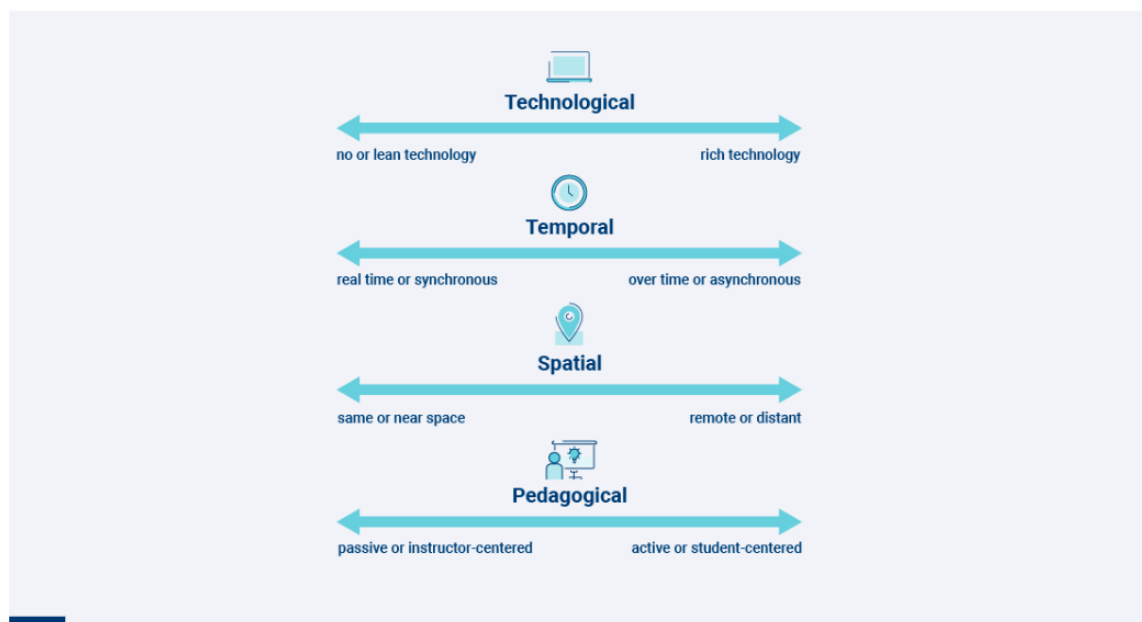


FIGURE D. Four-dialectical model of blended learning.

Image source: *Planning for a Blended Future: A Research-Driven Guide for Educators* (2021)

While divisional cultural context, disciplinary needs and curriculum review processes vary, models such as this may support curriculum planning and decision-making, complementing existing guidelines and resources currently available within the University (see Appendix 1).

## Digital Transformation in higher education

Recent articles refer to a new era in higher education with digital transformation, or “Dx,” positioning learning technologies and digital platforms as foundational within our current teaching and learning environment. A recent article in the EDUCAUSE Review, *Digital Transformation in higher education*, outlines an approach to Dx through a framework articulating seven areas of focus and corresponding

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<sup>8</sup> Joosten, T., Weber, N., Baker, M., Schletzbaum, A., & McGuire, A. (2021). *Planning for a Blended Future: A Research-Driven Guide for Educators*. Every Learner Everywhere Network. <https://www.everylearnereverywhere.org/resources/planning-for-a-blended-future/>

strategic responses that higher education institutions can implement to enhance digital teaching and learning<sup>9</sup>. This strategic model is shown in Figure A below, excerpted from the article<sup>10</sup>.

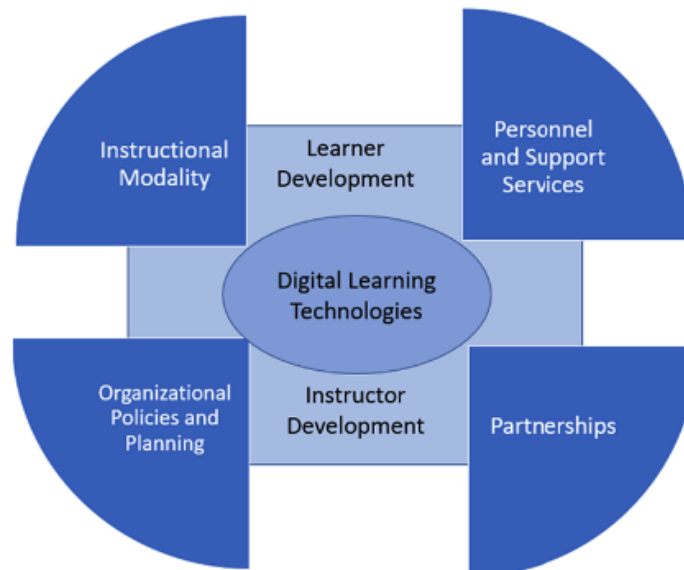


Image courtesy of Florence Martin and Kui Xie.

**Figure A**

Image source: *Digital Transformation in higher education: 7 areas for enhancing digital learning* (2022)

Several areas of Dx activity align with community feedback reflected in the LEAF+ project’s overarching themes, and have the potential to support continued integration of digital learning within the U of T context:

- **Instructional Modality:** Expanding the range of learning modalities or offering courses in more than one modality to provide the opportunity for students to access the format that works best for them.
- **Learner Development:** Providing students with support, including technical support, time management, and self-regulation, access to office hours, and community building activities within the digital space.
- **Organizational Policies and Planning:** Supporting digital teaching and learning initiatives across subject areas using research-informed practices in leadership and decision-making; valuing digital teaching and learning innovations.
- **Instructor Development:** Evolving opportunities and resources for faculty development reflecting changing needs, aiming to expand instructors’ pedagogical and technological skills and their knowledge about accessibility, intellectual property, academic integrity and other online teaching-related concerns.

<sup>9</sup> Martin, F. & Xie, K. (2022, September 27). *Digital Transformation in higher education: 7 areas for enhancing digital learning*. EDUCAUSE. <https://er.educause.edu/articles/2022/9/digital-transformation-in-higher-education-7-areas-for-enhancing-digital-learning>

<sup>10</sup> Martin, F. & Xie, K., 2022, p. 4.

The EDUCAUSE guide posits that Dx can help higher education institutions operate effectively, stay competitive in an increasingly digital world, and prepare learners for the digital workplace.

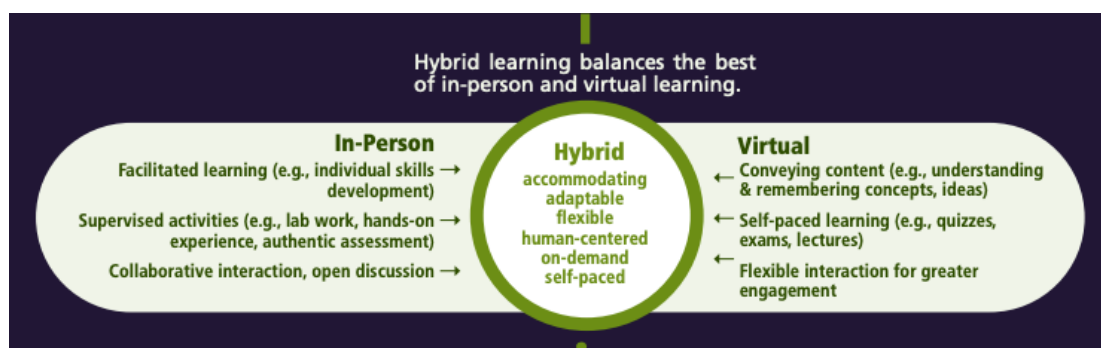
## A Hybrid Future

Feedback garnered through the LEAF+ project work signals that the university is currently at a critical juncture in digital learning transformation, seeking options that will leverage the capacity gained through the pandemic experience while retaining valuable aspects of the in-person experience. Community input suggests that an intentional and well-designed balance of in-person and online activities, in the form of hybrid learning, may serve as common ground in addressing the needs of the U of T community.

In exploring the potential of this modality, it will be important to clarify and reinforce understanding of hybrid course delivery in the University of Toronto context. In current governance and registrarial practice, “hybrid” is a term used to describe courses or programs featuring a structured replacement of selected in-class activities with online elements, as designed by the instructor. This reduction of in-person class time can provide flexibility and resilience, while mitigating concerns regarding increases in teaching workloads. Instructor comments indicated that clarification of the definition of hybrid in the course design context will be important to reduce anxiety and confusion, and to differentiate this model from dual-delivery live-webcasting, also known as “hyflex”.

### Affordances of Hybrid Course Design

The *2021 Foresight Report: The Hybrid Futures*, published by eCampusOntario, projects that many institutions will be moving towards a balanced hybrid-by-design approach, harnessing the best of in-person and virtual learning technology, flexibility, and student supports<sup>11</sup>. In the diagram below (Figure B from the report) the focus is on providing a learning experience characterized by adaptability, accommodation, and human-centeredness, while capitalizing on new educational technologies for enhanced teaching and learning<sup>12</sup>. ECampusOntario also notes that campuses leveraging hybrid models as we emerge from the pandemic are responsive to evolving and shifting learner needs and preferences, diverse learning environments, and external factors such as climate change, ongoing pandemic impacts, and demographic trends.



**Figure B**

Image source: *Foresite Report: The Hybrid Future* (2021)

<sup>11</sup> eCampusOntario. (2021). *2021 Foresight Report: The Hybrid Future*. <https://www.ecampusontario.ca/wp-content/uploads/2021/10/The-Hybrid-Futures-Tagged-20210915.pdf>

<sup>12</sup> eCampusOntario, 2021, p. 3

In conjunction with the LEAF+ environmental scan for pertinent literature, examples of *hybrid course formats* were identified and are provided for information (see Appendix 2). These models are currently being explored by instructors participating in the University of Toronto [Flexible Learning Initiative](#)<sup>13</sup>, a funded program aiming to build capacity for innovative approaches to teaching and learning. While no examples of *hybrid program formats* are currently offered by undergraduate divisions, several graduate professional degrees are now available in hybrid format at the University of Toronto (Appendix 3).

### *Action Planning for Hybrid Learning*

A final recommended resource to inform the development of institutional frameworks and facilitation of an effective combination of in-person and online experiences is the *2022 EDUCAUSE Horizon Action Plan: Hybrid Learning*<sup>14</sup>. The authors envision a future in which the “online versus face-to-face” dichotomy has been replaced by a continuum of instructional modalities<sup>15</sup>. To achieve broader cultural change, the authors recommend support for leaders and instructors in thinking strategically about online learning modalities and optimizing in-person instruction for activities that are pedagogically better in a shared physical location.

The *EDUCAUSE Horizon Action Plan* guide draws on suggestions from a pool of subject matter experts who share examples of actionable initiatives to support the success of online programming and to enhance curriculum design. Recommended actions include supporting research in this domain, expanding instructor professional development, gathering student insights, rethinking learning spaces, and recognizing the role of digital learning professional staff as key contributors.

## 5. Summary

As noted in the introduction, our goal within the LEAF+ Digital Futures project was exploration of post-COVID opportunities including: enhancing instructor engagement in digitally enabled teaching strategies; provisioning appropriate resources and processes to support transformative initiatives; and developing a culture that values the affordances of online learning experiences.

Based on the input from community members as well as the guidance from current literature, the following potential action items have been identified to advance success through support of the people, process and technologies that will underpin the future of digital learning at the University of Toronto.

- Explore program options that increase flexibility for students and instructors by alleviating geographic or temporal constraints.
- Mine institutional data to inform and iterate on program planning and collect feedback on the effectiveness of the new strategies that have been introduced.
- Support professional development programs that incentivize and recognize instructors who are leaders in pioneering new digital modalities.

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<sup>13</sup> University of Toronto, Office of the Vice-Provost, Innovations in Undergraduate Education. *Flexible Learning Initiative*. Retrieved January 13, 2023 from <https://www.viceprovostundergrad.utoronto.ca/awards-funding/flexible-learning-initiative/>

<sup>14</sup> Robert, J. & Pelletier, K. (2022). *2022 EDUCAUSE Horizon Action Plan: Hybrid Learning*. Boulder, CO: EDUCAUSE. <https://library.educause.edu/-/media/files/library/2022/10/2022horizonactionplanhybridlearning.pdf?la=en&hash=4CBA2ED1CA613B5D431C5899D62FFA911FC895CC>

<sup>15</sup> Robert, J. & Pelletier, K. 2022, p. 4



- Maintain focus on the selection and tuning of impactful instructional strategies across modalities and application of evidence-informed principles of effective course design.
- Learn more about students' needs and approaches that will enable them to succeed academically and prepare for their future.
- Expand experiential learning by integrating hybrid learning strategies to provide equitable access to internships, volunteer work, and community program opportunities.
- Encourage research-based or evidence-informed methodologies and frameworks to guide strategic program planning and course design.
- Avoid unnecessarily wide use of novel platforms, and instead prioritize effective use of institutionally supported tools.

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## Appendix 1

### Online Course and Program Planning Resources

Key references for program planning for the University of Toronto:

- [Changing Mode of Delivery](#) (VPAP website)
- [Guidelines for Online Learning in Graduate Academic Programs](#) (SGS website)
- [Online Learning Terms Defined](#) (CTSI website)
- [Guidance to Divisions When Considering Proposals to Change Course Mode of Delivery from In Person to Online or Hybrid - Feb 2022](#) (VPAP sharepoint – limited access)

The following are key considerations to support strategic alignment, coordinate program planning, continue quality of course offerings and create coherence of student experience, adapted from *Guidance to Divisions When Considering Proposals to Change Course Mode of Delivery from In Person to Online or Hybrid – Feb 2022* (linked above) provided by the Office of the Vice-Provost, Academic Programs and Information Technology Services, Digital Learning Innovation.

#### **Divisional Strategic Alignment**

Does the proposed course delivery format align with strategic aims of the division?

Considerations could include:

- Leadership in pedagogical innovation
- A strategic mix of in-person and online experience, or alignment with the intended primary delivery mode for the program
- Inclusive and flexible options for students (e.g., students on placements)
- Digital literacy and virtual communication as key learning outcome for graduates

#### **Scheduling Impacts**

Does the change of modality address administrative challenges?

Considerations could include:

- Create flexible and summer programming allowing students to catch up or get ahead
- Increase enrolment potential in target courses
- Ease schedule or waitlist bottlenecks
- Accommodate cross-divisional collaborative program structures

#### **Program Level Tuning**

What is the overall impact on the fabric of academic programs?

Considerations include:

- In combination with other course delivery mode changes, has cumulative impact for a “typical” student experience/pathway been considered?
- What is the overall experience of students through a required sequence of core courses?
- Are ongoing supports available in online formats to ensure student success and equitable access to services?
- Are supports to faculty available (instructional design, technical support, equipment)?

#### **Course Pedagogy**

Has consideration been given to appropriateness of the delivery mode for context/content?

Considerations could include:

- Is content or course activity better suited to digital formats?
- Are labs or practical components improved by offering online?
- Will online learning meet the needs of students at the course year level (1-4)?
- Would a hybrid course be more appropriate than fully online?
- Does the delivery mode improve student experience?

### Course Design Approach

Does the planned course design include components that support student engagement?

Considerations could include:

- *Instructor presence* (e.g., discussion forums, office hours, Q&As)
- *Peer-to-peer interactions* (e.g., group work, peer feedback, collaborative assessments)
- *Interactive online activities* (e.g., online tools for assignments, formative assessment, active and experiential learning)

Have instructor support resources and strategies been leveraged?

Considerations could include:

- [Online Course Guidelines](#) may be a useful resource.
- Instructors may meet with educational developer and/or ed tech professional for course design review to ensure success; For example [CTSI review service](#) or local divisional teaching centre support.

## Appendix 2

### Hybrid course design formats

Blended course design conceptualization should consider academic requirements, institutional factors, and the students. *Essentials for Blended Learning: A Standards-Based Guide*<sup>16</sup> a resource used in the U of T [Flexible Learning Initiative](#), recommends considering the following aspects:

- Amount of learning time onsite versus online
- Learning theories or teaching philosophy
- Comfort with and availability of technologies
- Core learning materials available or required
- Mode(s) that suit learning outcomes
- If and how onsite time is used to maximum benefit
- How learners' involvement (spectrum) could alter the course dynamics

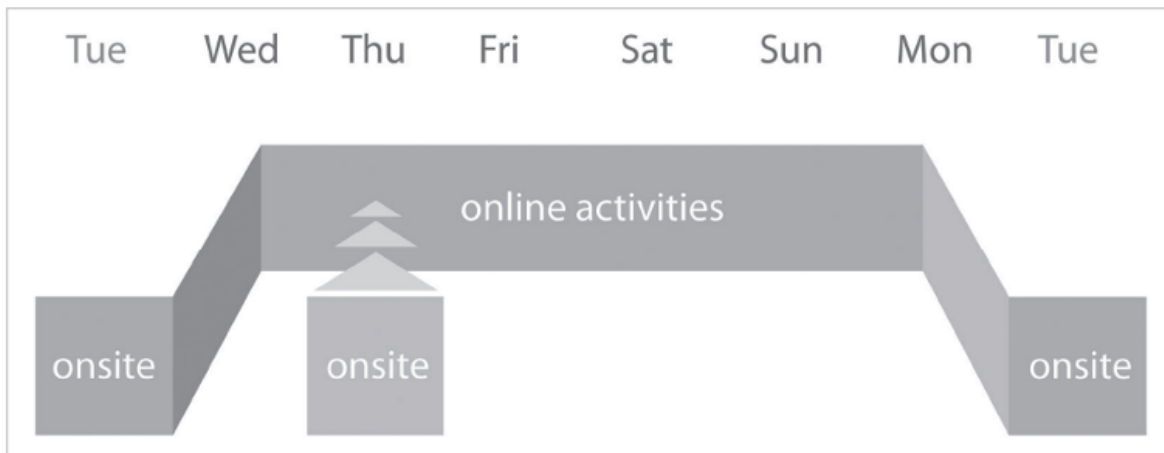
Blended course design can take many formats, with Stein and Graham illustrating a few examples, included below. A blend of online and in-person interaction involves the use of technology to facilitate the multiple modes, flexibility, and student engagement.

Instructors may choose online activities that would not be feasible onsite. A hybrid or blended course can leverage strengths of onsite and online environments. For example, onsite learning may take advantage of the face-to-face, in real-time environment for learner-centered and hands-on experiences. Blended or hybrid courses can decrease costs and maximize resources and time for instructors, students, and the institution. The figure below (figure 2.1 from Stein and Graham) displays this concept of selecting some

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<sup>16</sup> Stein, J. & Graham, C.R. (2021). *Essentials for Blended Learning: A Standards-Based Guide (2<sup>nd</sup> ed.)* Taylor & Francis.

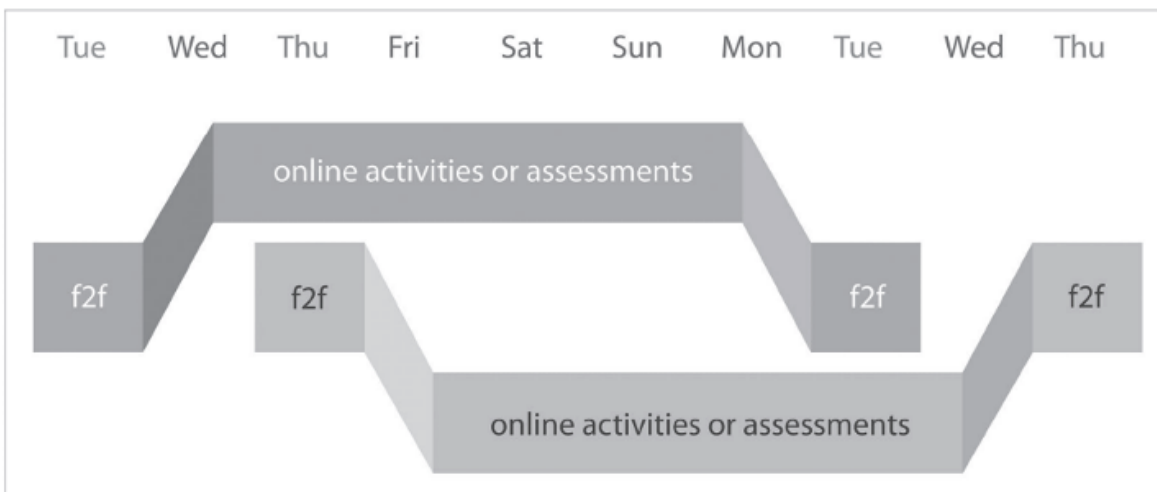
course aspects to keep onsite and selecting to transition other onsite learning into online learning in the redesign of the course.



**Figure 1.2** Moving learning experiences online

Image source: *Essentials for Blended Learning: A Standards-Based Guide (2021)*

Figure 1.3 from Stein and Graham further displays an institution’s approach to maximize resource efficiency by implementing a blended or hybrid model. Two courses are able to use the physical space using this approach (i.e., classroom scheduling capacity is doubled).

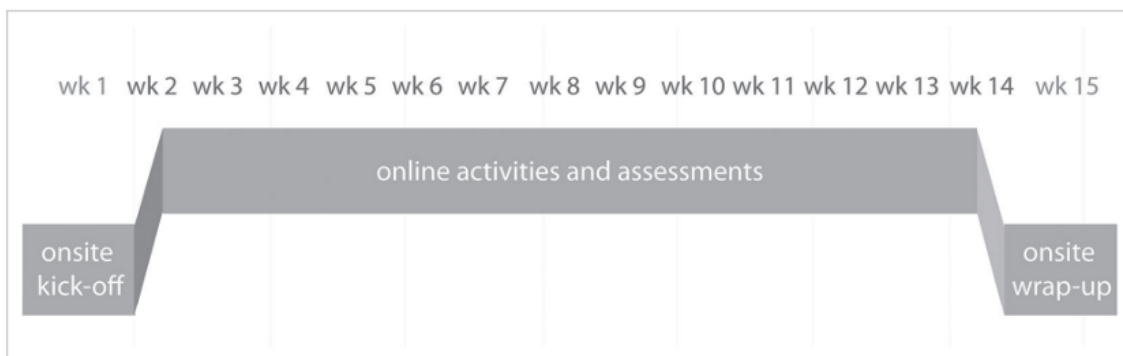


**Figure 1.3** Two blended courses maximizing a single classroom

Image source: *Essentials for Blended Learning: A Standards-Based Guide (2021)*

Hybrid course designs can vary to accommodate timing and type of learning activities. For example, Figure 2.1, a ‘bookend’ course design, has an onsite kick-off, online activities and assessments for the bulk of the course, and ends with an onsite wrap-up<sup>17</sup>.

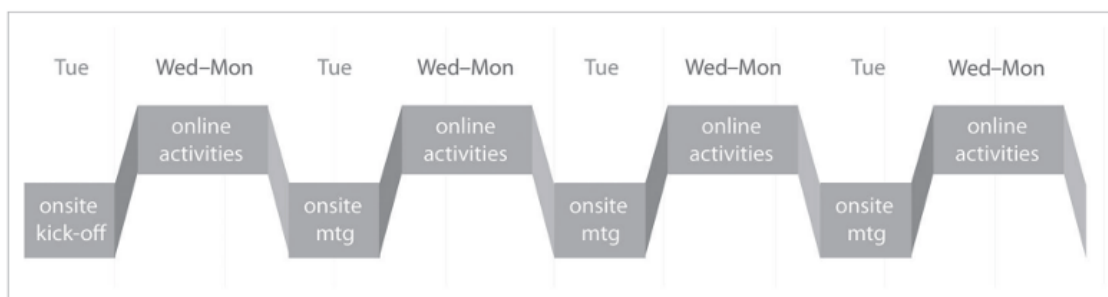
<sup>17</sup> Stein & Graham, 2021, p. 27



**Figure 2.1** Framing a blended course with onsite meetings

Image source: *Essentials for Blended Learning: A Standards-Based Guide (2021)*

Other hybrid courses have a periodic pattern, such as Figure 2.1, which has a consistent rotation of weekly onsite meetings followed by online learning activities<sup>18</sup>.



**Figure 2.2** Typical rhythm of a week-to-week blended course

Image source: *Essentials for Blended Learning: A Standards-Based Guide (2021)*

## Appendix 3

### Hybrid program formats

The following program-level examples are drawn from graduate programs at the University of Toronto. Each program has displayed flexibility and adaptability to the learner population (e.g. needs, access, and individual choice) and program output (e.g. type of learning material, program learning goals, partnerships).

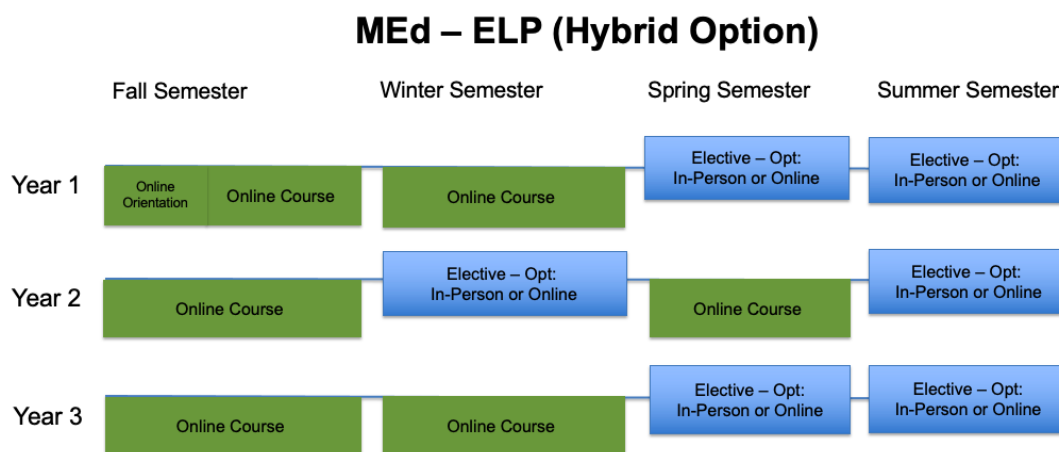
#### *Example 1: MEd – ELP*

The MEd – ELP ‘Coursework Only’ option is available in two delivery models:

- **Regular MEd stream:** Students are accepted every year and can register on a full-time or part-time basis.
- **2022: Online/Hybrid (part-time) cohort-based stream:** Available in select years, this option is ideal for students who cannot travel to OISE regularly. Students move through the program as a cohort and register part-time.

<sup>18</sup> Stein & Graham, 2021, p. 28

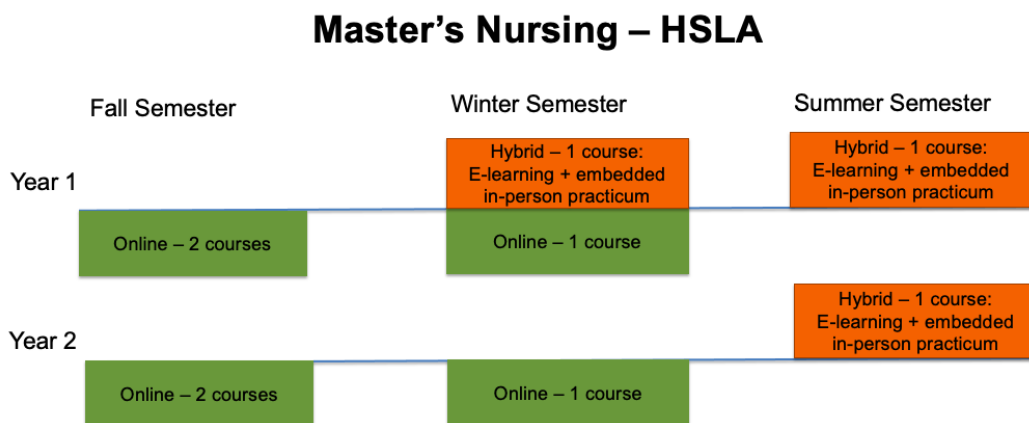
Figure 3.1 displays the MEd – ELP (Hybrid Option) layout. There are 10 half-courses in total for the program: 6 half-courses are offered in set terms for cohort members and 4 half-courses are open electives, chosen by each student individually, which can be taken online or in class.



**Figure 3.1**

*Example 2: MN – HSLA*

The MN – Health Systems Leadership and Administration (HSLA) program (Figure 3.2) is designed to prepare nurses for formal leadership roles in healthcare systems in Canada and internationally. It balances accessibility of online learning with the necessity of practicum experience in a hybrid/blended format.



**Figure 3.2**

*Example 3: MSW - ITR*

The Master of Social Work in Indigenous Trauma and Resiliency (ITR) was created when the Ontario Federation of Indigenous Friendship Centres (OFIFC) and the Middleton- Moz Institute approached the Factor- Inwentash Faculty of Social Work at the University of Toronto, suggesting a unique collaboration to develop capacity in Indigenous communities. The MSW - ITR is designed and dedicated to students preparing for advanced social work, in Indigenous communities affected by historical and generational trauma. The MSW - ITR balances theoretical knowledge, personal development, and skill-building through intensive face-to-face week-long courses, majority online distance learning, and field placements (practicums, additional 40-hour community intervention opportunities). The MSW – ITR blends

accessibility of online learning, with distance practicum work in communities, with F2F 5-day intensives for specific coursework (e.g., topic-related, Elder access, etc.). Figure 3.3 displays the outline of the MSW – ITR program.

### Master’s Social Work - ITR

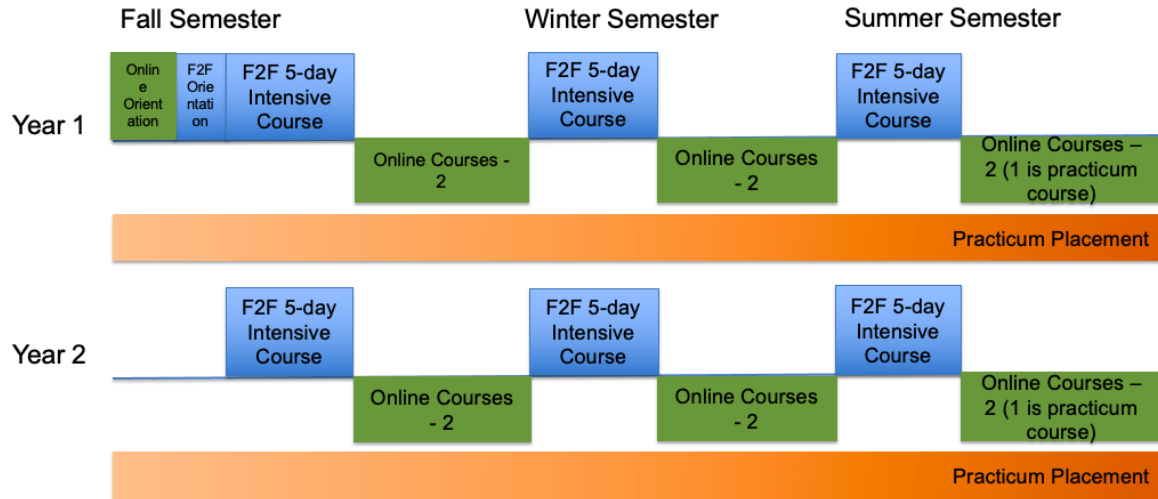


Figure 3.3