How can universities adapt during COVID-19?

A guide for universities to build and scale online learning programs

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The crippling impact of COVID-19 on education systems around the world has been staggering. At the peak of disruption during April 2020, more than [1.6 billion](#) students were affected, representing over 91% of all students in the world. Nearly 70% of the world's students continue to remain impacted due to campus closures. The scale of disruption has surpassed anything we have seen in the post-war era. With millions of students affected, demand for online learning has skyrocketed. Between mid-March to mid-May 2020, there were 18 million new enrollments in courses on Coursera, up 543% from the same period last year.

Unable to deliver on-campus learning, universities scrambled to provide academic continuity through 'emergency remote teaching.' However, most institutions were not prepared for the overnight switch to virtual learning amidst a global pandemic.

Multiple scenarios could play out in the months ahead -- from restricted movement to closed campuses or even a 'cycled academic year' that is open-closed-open. Lab courses that are equipment-intensive and clinical placements that are challenging to replicate remotely may function with social distancing, even as regular classes move online. Considering the unpredictability ahead, higher ed institutions need a response framework that looks beyond the immediate actions. They have to prepare for an intermediate period of transition and begin future-proofing their institutions for the long term.

Here is a guide to help explore near-term, medium-term, and long-term measures that universities can take to transform their teaching and learning in response to COVID-19.

Near-term: Implement remote teaching to adapt classes for an online world

Universities in crisis management mode need to rely on a cross-functional task force empowered to make rapid decisions. Their first response should be to get basic tools in place, [equip faculty to teach online](#), and communicate changes to students.

Institutions have a varying degree of resources to adapt to this crisis. This is an opportunity to harness the special nature of higher ed, where universities are willing to share what they've created with others. The top priority right now is not scaling digital learning; it is transferring courses online to ensure academic continuity for students.

Organize structured support for faculty

Many faculty members have never designed or delivered a course online. They need immediate solutions and foundational guidance to understand pedagogical choices, student experience, and technologies for teaching online. Universities need to allocate sufficient resources in the short run to help instructors embrace a manageable set of tools effectively. Adopting best practices in online pedagogy and hybrid design is aspirational but equally important and should be pursued once learning has stabilized.

Universities can begin to respond by:

- Identifying courses in their existing catalog that are easiest to transition online
- Providing a course design workshop series for faculty to align on online pedagogy
- Sourcing online courses that faculty members can use to supplement their curriculum
- Building an online resource hub to surface best practices and helpful online tools
- Training graduate students to be online enablers for faculty members

Colleges can also reference the vast set of remote teaching resources that leading universities have made available. Many institutions adapted materials from Indiana University's excellent [Keep Teaching website](#), which is licensed under Creative Commons. Many of the University of Michigan's resources are already in use by more than 100 university campuses under similar licensing.

In the near term, institutions need to help faculty adopt remote teaching strategies -- how to supplement video lectures with peer-to-peer interaction and collaboration to hold learners' attention, for example. They have to do this while being mindful of the varying degree of prior online instructional experience and levels of personal and professional stress faculty members are going through right now.

Go live with openly available high-quality content and facilitated learning

Colleges tackling the crisis are hard-pressed to develop high-quality online content from scratch. This task is daunting and will be difficult for most universities.

Fortunately, there are options to ease the immediate transition. Any college or university can integrate ready-made, online courseware from other trusted, leading institutions into their curricula. Dealing very early with the COVID-19 crisis, Duke Kunshan University in China, a partnership between Duke University and Wuhan University, [moved to remote teaching](#) using [Coursera for Campus](#) to serve impacted students during a period of quarantine.

Universities are still responsible for delivering a high-quality learning experience students come to expect from them. They can elevate the experience by combining on-demand online courses with live engagement and custom assessments, facilitating learning as guides and coaches.

Over-communicate, learn and experiment

Learning digitally doesn't fully embody the rich campus experience residential students sign up for. To make the journey easier for them, set expectations, and communicate early and often. Surveying student needs can help surface gaps that need to be addressed and point to what is working.

The crisis has forced rapid experimentation among universities. Medical students at Imperial College London recently sat for [open timed exams held online](#) which can provide an alternate path for universities to consider with regard to proctored exams and ongoing assessments. As the team at Imperial College analyzed the results, it has fundamentally changed the way it will conduct medical exams going forward.

Imperial is leaning on [immersive technologies](#) like Augmented Reality (AR) and Virtual Reality (VR) for education experiments in fields like medicine and engineering. Imperial has also collaborated with Leiden University on [a pioneering trial of Mixed Reality (MR) exams](#). AR headsets, already in use for medical training courses, could be explored to assess students and bring them closer to real-world practice. Through its [Extended Reality (XR) Initiative](#), Michigan is focusing on translating studio-based experiences into the online environment to shape innovation in virtual classrooms.

Medium-term: Prepare to use blended classrooms to mitigate uncertainty

The new normal for the next couple of years could be blended classrooms where some students are physically present and others join online. International student mobility could be restricted, forcing colleges to reassess the diversity of their student population. Even when some students come back to campus, professors who are at a higher health risk may still need to teach remotely. Classes may need to be continually reconfigured as social distancing measures loosen and tighten based on the risk of virus spread. Planning for the fall, colleges have to think about going beyond 'emergency remote teaching' -- a stopgap arrangement at best -- to dynamic and blended approaches that can empower faculty to quickly switch from on-campus to fully online at a moment's notice.

Build resilience to adapt to volatility

University of Michigan is advancing digital teaching methodologies that can adjust rapidly to unanticipated changes. Universities have to work with faculty to make quick decisions -- which courses must be reimagined online and what content can be transferred directly without a significant loss of experience. They have to ramp up resources to support the development of on-demand, self-paced modules as they pivot towards online and hybrid instruction. Institutions have to also anticipate how to serve their community inclusively, to reach every student during a crisis, so classrooms remain accessible to everyone.

Faculty will need to reimagine seminars, making improvements to how they teach online -- a two-hour lecture may actually consist of multiple activities rather than a continuous, monolithic video. Content delivery has to go beyond static lectures to bring in greater interactivity for a more effective [learning](#) experience. Exploring lecture capture technology to record classroom sessions are promising solutions in the current scenario. As the learning environment stabilizes, universities can begin authoring digital content using widely available, low-cost tools, and platforms.

Tools to help with the transition to online learning:

Real-time Communication Tools	Massive Open Online Courses (MOOC)	Learning Management Systems	Assessments and Proctoring
Zoom	Coursera	Coursera	Google Forms
Skype	Alison	Sakai	TypeForm
Google Hangouts	EdX	CenturyTech	Examity
Microsoft Teams	Future Learn	Edmodo	ProctorU
Slack		Google Classroom	WiseFlow
WhatsApp		Moodle	Practique
Facebook Groups		Blackboard	SmarterProctoring
Discord		Canvas	E-portfolio
Voxer			Curriculum Maps

Build community and design inclusive environment for learning

Learning is a deeply human, collaborative experience facilitated by empowered teachers. Faculty play a pivotal role in promoting inclusive experiences for students and encouraging community participation online. Within synchronous sessions, instructors can champion breakout group discussions, live discussion boards, and student presentations. The value of a campus experience -- replete with classroom interactions, group projects, and personal connections -- has to be creatively translated into an online experience.

Outside of the virtual classroom, community engagement can be strengthened through crowd-sourced notes, study groups, virtual coffee/happy hours, and live-streamed events. As institutions rely on online instruction, the digital divide could leave the most vulnerable students behind. Faculty must optimize teaching with the integration of low bandwidth components (e.g. discussion boards, email, collaborative documents, and downloadable video content) with high bandwidth programming (e.g. live video conferencing). With teaching becoming a team sport, placing value on instructional design and learning technologists will be key to bringing interactivity and a greater depth of experience online.

Don't ignore hands-on learning

Many universities are already beginning to explore virtual and take-home labs for courses that require hands-on problem solving, given the uncertainty around access to physical labs in the months ahead. Recent advances in digitally-enabled labs offer numerous possibilities compared to a decade ago, even in fields like life sciences. Colleges will have to similarly consider tech aids across other areas too.

As universities begin to transition to a more robust digital infrastructure during this period, virtualization, guided projects, and gamification will take online learning solutions beyond video conferencing.

Digital Capability Maturity Guide

	DIGITAL NEWCOMERS	EMERGING ADOPTERS	ADVANCED INSTITUTIONS
CATALOG	Less than 3% of courses available online, no stackable content	3-10% of courses available online, stackable content in limited disciplines	More than 10% of courses available online, stackable content in the majority of disciplines
CAPACITY	No experience in creating online courses, no dedicated team or budget	Some experience in creating online courses, 2-5% of the academic budget and at least 10-25 people dedicated to online learning	Sophisticated expertise in creating online content, 5-20% of the academic budget and 50-100 people dedicated to online learning
FACULTY	No experience in teaching online, no faculty receptivity, faculty shortage, no support and training resources	A small pool of trained faculty supported by limited but effective teaching assistants and instructional design resources	Faculty well-versed in teaching online supported by dedicated centers of academic innovation for online learning
TECHNOLOGY	Students and faculty have no or limited access to collaboration tools, video conferencing, laptops, webcams. Poor or no internet connectivity. May have mobile and wifi connectivity but inhibited by expensive data costs.	Students have reliable and adequate access to software and hardware tools and infrastructure. They have affordable mobile and wifi connectivity.	Students and faculty are well-equipped with the latest software and hardware required for high-quality online learning. They have cheap wifi and mobile connectivity.
GOVERNANCE	No digital strategy and mechanism to make quick pivots in a changing environment	Institutional intent and a taskforce dedicated to building online strategy and digital resilience	Digital experiences at the core of the academic portfolio; rapid digital transformation viewed as a risk mitigation strategy against emergent crises
RECOMMENDATION	Buy technology, hardware, and course licenses to facilitate remote teaching. Secure adequate bandwidth and connectivity for students and faculty. Provide openly available resources from peer institutions. Procure access to cloud-based virtual labs that allow for hands-on learning and applied projects. Virtual boot camp to train faculty in basic online learning and teaching best practices.	Upgrade software and hardware for on and off-campus learning. Alternate plans for students with no means to connect online. Accelerate the production of online courses, faculty training. Supplement with open content. Use early adopters among faculty as key architects of the digital response strategy. Empower them with the authority to adopt turnkey solutions. Adopt online labs and applied projects.	Scale the infrastructure across all disciplines. In areas where they don't have digital content, integrate courses available from other universities, widely available through online learning platforms. Explore immersive technologies like Augmented Reality (AR) and Virtual Reality (VR) in fields like medicine and engineering. These universities are well-positioned to become leading contributors to the global higher ed ecosystem, with their expertise and content.

Long-term: Embrace digital transformation to reimagine learning and mitigate risk

Previously, when higher ed institutions thought of digital transformation, it was to achieve greater access, global reach, personalized instruction, and rapid improvements in pedagogical practices. After COVID-19, risk mitigation will become an equally mportant driver of digital transformation. Institutions will look to hedge their academic portfolios with a growing selection of advanced digital learning designed from the ground up to be delivered online.

Digital learning and innovation teams have been at the front lines of institutional response to this crisis. Universities that build digital capabilities will have the resilience to seamlessly pivot through any crisis -- an extended COVID-19 outbreak or a future calamity.

Evolution in the higher education ecosystem happens through "punctuated equilibrium": long periods of relatively slow change interspersed with occasional moments of rapid adaptation. The current pandemic is a punctuation moment. Educators, faced with unprecedented urgency, are working hard to restore teaching and learning using technology, innovation, and collaboration. As universities develop their own digital competencies, what started as a short term response to a crisis could well become an enduring digital transformation of higher education.

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Additional Resources:

Keep Teaching at U-M (Remote teaching guidance)
Keep Teaching at Duke (Strategies for remote instruction)
Moving your classroom online at ICL (digital learning framework)
Coursera Together: Online learning & community resources during COVID-19