Course Development Guide

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Contents

Introduction

The Course Design Guide serves a reference for University of Manitoba (U of M) course authors and instructors who are creating or revising online, blended, or face-to-face courses. This guide is designed to facilitate the development of a course framework and is intended to prompt you to consider the many steps in the development process. The guide has been created in a workbook format to walk you through the creation of the course from preliminary planning to delivery.

Institutional supports for course development available at the U of M are listed in Appendix A.

Support Teams at The Centre

In addition to using this guide to create and revise courses, The Centre of the Advancement of Teaching and Learning (The Centre) encourages all instructors to utilize the expertise of the teams within The Centre as you strengthen your knowledge and understanding of good teaching practices.

The Development and Consultation team facilitates teaching workshops for departments and as part of the teaching and certificate program. They can also provide assistance with face-to-face course and program development, and can perform classroom observations and provide feedback.

The Flexible Learning team guides departments and instructors through the online/blended course design and development process.

The Learning Technologies and Solutions team provides support for educational technologies used at the university, including: UM Learn, WebEx, and iClicker.

The Research, Evaluation, and Innovation team offers support in the development of program evaluations, teaching research, teaching grants, and the Scholarship of Teaching and Learning (SoTL).

- Teaching workshop schedules and online registration are available on The Centre website: https://centre.cc.umanitoba.ca/
- One-on-one consultations at The Centre and can be arranged by emailing: TheCentre@umanitoba.ca

Terminology

Some of the terms used throughout this resource may be new to you or have a specific meaning within the context of teaching and learning. Here are some of the terms referenced within this guide:

Face-to-face (f2f) course:

> Face-to-face learning reflects how teaching has traditionally been done: content is delivered in a classroom, and students attend class. Instructional interaction occurs in-person.

Online course:

> Students enrolled in an online course do not physically attend classes as all course components (e.g. learning activities) are delivered online or via web-conferencing. The student may be required to come to campus (or another location) to write tests or exams.

Blended course:

> Blended courses integrate online with face-to-face components in a planned, pedagogically sound manner by substituting online activity for face-to-face time, or vice versa. Components are optimally integrated such that the strengths of each are blended into a unique learning experience congruent with the context and intended educational purpose (Garrison & Vaughan, 2008).

> Class time is divided between face-to-face and online delivery, with one-third of the former f2f class time replaced by online, one-third online, and the remaining one third be any combination of online or f2f (i.e., Blended courses will have online components constituting minimum one-third). As soon as a single trip to campus for a class session is required, the course is defined as blended, not online. The student may be required to come to campus (or another location) to write tests or exams.

Synchronous course:

> Synchronous online courses happen in real time. The instructor and students are engaged at the same time though in different locations, and interact through the internet in an online environment.

Asynchronous course:

> In asynchronous online courses, students and the instructor are at different locations and, unlike synchronous courses, interaction happens at different times. Communication within asynchronous courses is similar to email: one person initiates communication by writing a message at one point in time and it is read and responded to by another person at a later time. Unless you have arranged for online meetings, courses in UM Learn are typically asynchronous, as communication from the instructors and among students happens at different points in time throughout the course.

Web-enhanced learning:

Learning is supplemented by web materials, resources, or activities made available through the Learning Management System (LMS). Face-to-face time remains the same, despite the addition of a web component. The flipped classroom is a form of web-enhanced learning which involves the practice of giving students access to lectures electronically and using the f2f class time for interactive activities.

UM Learn:

UM Learn is the LMS used at the U of M. UM Learn supports face-to-face, online, or blended learning and facilitates and enhances traditional teaching and learning methods. It provides an immediate and open platform for communication and collaboration within courses and supports student accountability. In addition, the LMS enables the digital sharing of resources, streamlines course content management and simplifies monitoring student progress.

UM Learn has an assortment of tools that enable you to integrate technology into your course. A list of the tools available in UM Learn has been included as Appendix B to help you optimize the learning supports offered to students.

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Chapter 1: Guiding Principles

The principles in this section present factors you need to consider when effectively designing a course.

This section will outline the guiding principles of Constructive Alignment, Universal Instructional Design, Quality Matters, and Indigenous Ways of Knowing. Consideration of these principles is essential to developing a course that is rooted in best practices that will optimize student success.

The guiding principles outlined in this resource are applicable to f2f, blended and online courses.

> If you have questions about how to integrate these principles into your course design, support is available by emailing The Centre: TheCentre@umanitoba.ca

Constructive Alignment

Constructive alignment is an outcomes-based approach to teaching in which what the students should achieve (the learning objectives) and how they should express their learning (the assessment) is clearly stated before teaching occurs.

This approach to teaching is learner-centered since the focus is on what the student has to achieve and how they will achieve the required standard. The constructive alignment model requires alignment between the intended learning objectives, what the student does in order to learn, and how the student is assessed. Since this approach begins with the end in mind, it is also referred to as Backward Design.

From a course design perspective, this means that the first thing to do when developing a course is to identify program accreditation requirements (if applicable) and course goals to establish the course learning objectives. Once you know what you want the students to know, understand and be able to do by the end of the course, you need to develop assessments. Each assessment will outline what will be considered as evidence of learning and will capture how well a student has achieved the desired objective. Finally, construct teaching activities that create opportunities for students to work actively with the facts, concepts, or practices they will need to perform effectively and achieve the desires objectives.

> More information about Constructive Alignment can be found on the The Centre website: https://centre.cc.umanitoba.ca/development/resources/course-alignment/
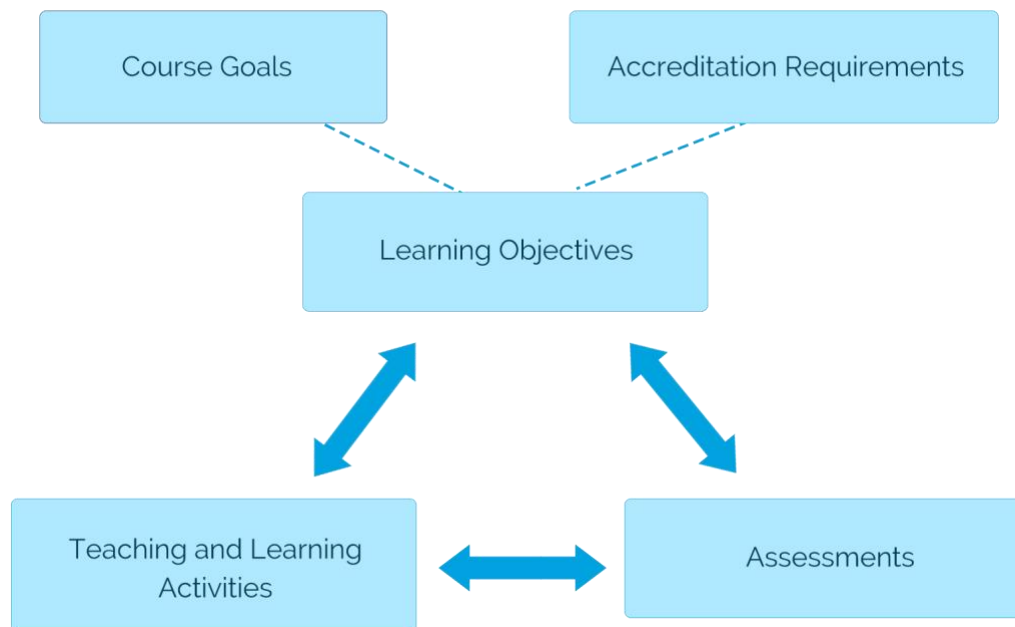
Figure 1 - Constructive Alignment in Course Development

Universal Instructional Design (UID)

Students come from a variety of ethnic and racial backgrounds. For some, English is not their first language. Also represented in most classes are students with a diversity of ages and learning preferences. In addition, increasing numbers of students with disabilities are enrolled in post-secondary courses. Their disabilities include blindness, low vision, hearing impairments, mobility impairments, learning disabilities, and health impairments.

"Students are in school to learn and instructors share this goal. How can educators design instruction to maximize the learning of all students? The field of universal design (UD) can provide a starting point for developing a framework for instruction. You can apply this body of knowledge to create courses that ensure lectures, discussions, visual aids, videos, printed materials, labs, and fieldwork are accessible to all students." (DO-IT, University of Washington, 2015)

Universal Instructional Design (UID) is an educational design approach that seeks to provide access to learning for all students. By considering the potential needs of all learners, UID recognizes and removes barriers that impede learning. (Burgstahler, 2015)

UID supports the principles of Constructive Alignment and Quality Matters, which are also outlined in this section.

UID Component	What it Looks Like for Instructors
Creating Welcoming Classrooms	Including a greeting and bio from the instructor in UM Learn
	Formally introducing yourself on the first day of class and drawing attention to your contact information in the course syllabus
	Being present and available before class begins
	Calling on students by name
	Creating opportunities in class for students to work with peers and have topical conversations
	In online environments, encouraging students to use different modalities to introduce themselves to other participants
Determining the essential components of a course	Clearly stating the lecture topics, the nature of course assignments and methods of evaluation in the course outline
Communicating clear expectations	Stating course expectations in course syllabus
	Using Gradebook in UM Learn so students can track their progress
	Providing grading rubrics for assignments before assignment deadline
Designing teaching methods that consider diverse learning styles, abilities, ways of knowing, and previous experience and background knowledge	Post the course outline in advance of class
	Using a variety of teaching styles, such as incorporating video clips and having small-group activities in addition to traditional lecture and class discussion
Providing constructive feedback	Providing students with numerous opportunities for feedback from instructors, T.A.'s, and peers
	Tracking attendance on UM Learn as part of a holistic record of performance within course
	Reviewing test/exam answer key and where (text or lecture handout) answer can be found
Exploring the use of natural supports for learning, including technology, to enhance the opportunities for all learners	Utilizing features, such as discussion boards, on the course website in UM Learn
	Providing course resources electronically or by email through UM Learn
	Ensuring MS Word documents posted to the course website use the Styles tool to establish

	headings and other navigational cues to assist students and increase accessibility
	Using videos that are captioned and/or include transcripts
Creating multiple ways for students to demonstrates their knowledge	Providing assignments that ask students to demonstrate their knowledge and skills in a variety of ways, both individually and as a group, such as: weekly discussion participation, multiple choice tests, self-assessments, oral presentations, written assignments, small group multi-media projects, mid-term and final examinations
Promoting interaction among and between faculty and students	Integrating opportunities for student interaction during the course, such as: having students write down and hand in a question they have about the lecture topic, sharing questions they have in response to a speaker or video that instructor can answer later in an email post or live discussion, allowing anonymous submission of questions
	Structure face-to-face lectures to include learning activities every 10-15 minutes
	Seek mid-semester feedback from students to identify challenges

Adapted from Higbee, 2015

More information about Universal Design can be found on the The Centre website
https://centre.cc.umanitoba.ca/development/resources/course-alignment/
https://centre.cc.umanitoba.ca/universal-instructional-design-in-online-courses/

Quality Matters© (QM)

Quality Matters (QM) is a quality assurance association that has developed an internationally recognized peer review process dedicated to the continuous improvement of online course design.

QM provides educational institutions with the tools and training to evaluate the design of online and blended courses. Colleges and universities use the tools in developing, maintaining, and reviewing their own courses and in training at their faculty.

The QM Rubric™ is used for assessing quality and assisting the course design of online and blended courses for higher education. The components of the Rubric are supported by national standards of best practice, literature reviews of online learning research, and instructional design principles.

A set of 8 General Standards and 42 Specific Review Standards are used to evaluate the design of online and blended courses. The rubric has a scoring system used by the Review Team to determine whether a course meets Standards.

- Further information about the QM Higher Education Course Design Rubric Standards can be found here: https://www.qualitymatters.org/qa-resources/rubric-standards/higher-ed-rubric

- If you are designing an online course or would like access to the QM Rubric, you can contact the Quality Matters Coordinator at The Centre by email: Quality.Matters.Coordinator@umanitoba.ca

Indigenous Ways of Knowing
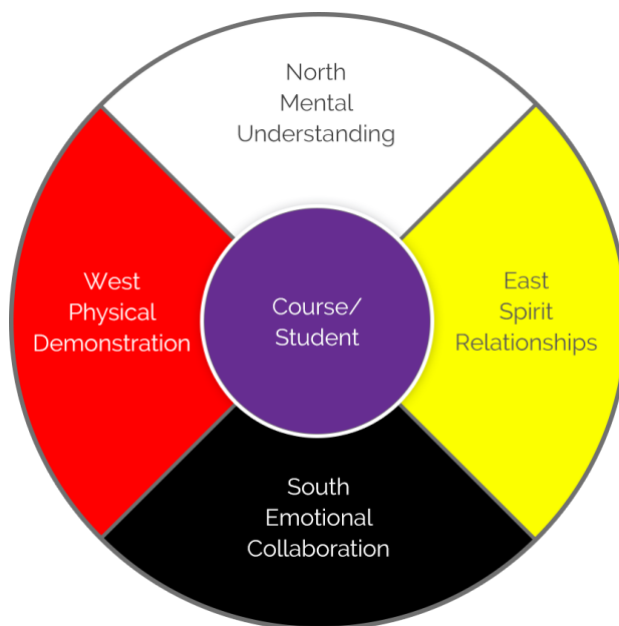
This Learning Circle is an empowering approach that focuses upon student success in education. It shifts from a linear cause-effect model to a circular dynamic that interconnects the four aspects of self that is recognized and contained in the worldview of Indigenous education.

This circle is divided into five segments with the centre being the student/course. Spirit is located in the East segment of the wheel whereas the South reflects Emotion. The West is the Physical aspect of self, and finally, the North, is the mental, cognitive aspect.

The Learning Circle is a lens that can assist the educator in creating an instructional focus. Using the circle as a guide also acknowledges the Indigenous point of view that "All Life is A Circle" and provides a holistic approach to learning that enables students to take responsibility for their own learning.

These four aspects should be activated through the course content, as well as the delivery of the content. The role of the course designer is to maintain a balance between all aspects by creating situations and experiences that provide opportunities for development in all aspects.

Concepts:

Course/Student: The course and the student are central to the other four segments that will assist in creating an environment for balance and success; inclusion of the four concepts within the course design will provide a holistic learning experience that will be engaging for both educator and learner in multiple educational arenas.

(East) Spirit: In the east, teachers are encouraged to facilitate links between students so that the sharing of individual stories can take place; collaborating with others, connecting in ways that explore one's own place within the world around them.

(South) Emotional: An important part of learning within the Sacred Hoop is the presence of a teacher-learner relationship; creating opportunities to connect and check in with students, providing individualized and constructive feedback to foster student success.

(West) Physical: This segment of the hoop reflects the manifestation of learning; creating opportunities for the student to demonstrate their learning and allowing expression of learning in a variety of ways.

(North) Mental: The north section reflects the cognitive abilities of a student; the knowledge and concepts the student will need to understand within the course, conveyed by clearly stated objectives and outcomes.

The integration of these five aspects into course design is supported by the principles of universal instructional design and constructive alignment, and will result in a course that creates an opportunity for success for all students.

> Further information about integrating Indigenous perspectives into your curriculum and teaching practices can be found on The Centre website: https://centre.cc.umanitoba.ca/indigenous/
>
> Additional support is also available from an Indigenous Initiatives Educator; to be connected with an Educator, email The Centre at: catl_info@umanitoba.ca

Timeline of Course Development

Regardless of whether you are creating a course for face-to-face, blended, or online delivery, there are a number of stages in the course development process.
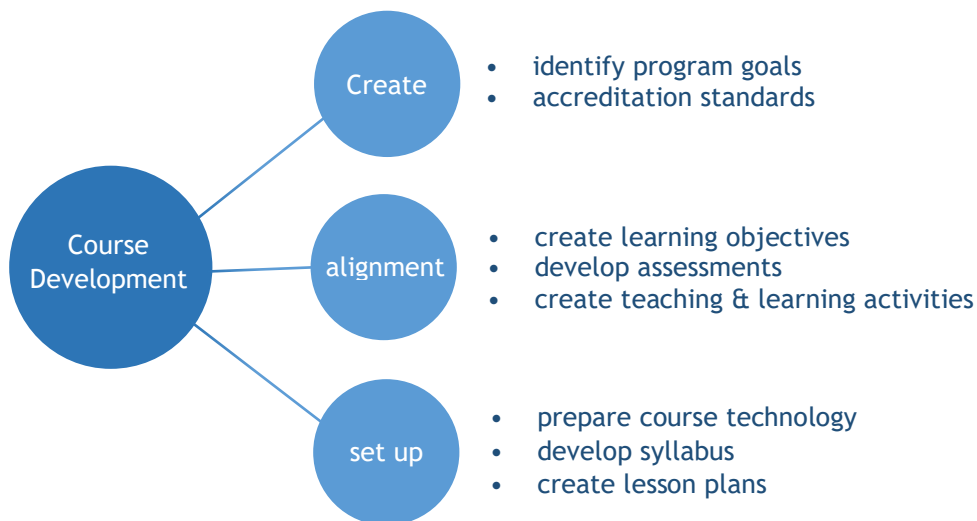
Timeline Development of Online and Blended Courses

The Flexible Learning Team within The Centre facilitates the development or revision of online and blended courses. The design and (re)development of a course is a collaborative endeavour and may involve multiple academic support staff such as, Faculty Development Specialists, Instructional Designers, and Media Specialists, in addition to your expertise as the course author. It is an intensive process and depending upon the amount of time you have available and the resources needed, can take anywhere between 25-250 hours over 1-4 months. As the content expert, you should complete the Course Design Framework worksheet in Appendix C as the first step in this process, and prior to contacting The Centre to make an appointment.

In addition to the Framework worksheet, please review the Face to Face & Blended Course Development information on The Centre website, where you can also submit a consultation request.

Timeline Development of Face-to-Face Courses

The length of time required to develop a new face-to-face course will depend upon several factors, including: faculty teaching experience, the amount of time faculty have to devote to course development, the availability of the resources required for teaching and learning activities, and coordination with other units/departments within the university (for example, to create videos you plan to use in your instruction).

Successful courses require time for thoughtful planning, so ideally, course development for a new, face-to-face course should begin one to three months before the first enrollment. This resource was designed as the companion guide to the Course Design Framework worksheet in Appendix C, which will lead you through the steps for designing a face-to-face course.

- Additional support for developing a course can be found within this guide and on The Centre website under Teaching Resources and Course Development. The Centre also offers a number of professional development workshops to support instructors in their course planning and teaching; registration is available online through The Centre website.

- Workshops, Lunch Hour sessions, and other teaching events at The Centre: https://centre.cc.umanitoba.ca/development/

- Questions relating to course design can be emailed to The Centre: TheCentre@umanitoba.ca

Preliminary Analysis

Good planning is critical to effective course design; you want to start by considering your learners and the context in which you will deliver the course. It is recommended that you **complete this form prior to meeting with educational support staff at The Centre.**

Context of the Teaching/Learning Situation How many students are in the class? Is the course lower division, upper division, or graduate level? How long and how frequent are the class meetings? How will the course be delivered: live, online, or in a classroom or lab? What physical elements of the learning environment will affect the class?	
General Context of the Learning Situation What learning expectations are placed on this course or curriculum by: the university and/or department? the profession? society?	

Nature of the Subject Is this subject primarily theoretical, practical, or a combination? Is the subject primarily convergent or divergent? Are there important changes or controversies occurring within the field?	
Characteristics of the Learners What is the life situation of the learners (eg. working, family, professional goals)? What prior knowledge, experiences, and initial feelings do students usually have about this subject? What are their learning goals and expectations?	
Characteristics of the Teacher What beliefs and values does the teacher have about teaching and learning? What is his/her attitude toward: the subject? Students? What level of familiarity does he/she have with this subject? What are his/her strengths in teaching?	

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Chapter 2: Constructive Alignment: Course Goals & Learning Objectives

Aligning your course content and assessments with the course objectives is useful for students, as it focuses their attention on the most important aspects of the learning material. When objectives and assessments are misaligned students may become frustrated that class content is not reflected in test content, or instructors may feel that even though students are passing the course, they have not grasped the material to the desired extent. Course alignment establishes a clear sense of purpose and direction for students.

Having a clear course plan enables instructors to purposefully incorporate various teaching strategies, like active learning, and will lead to results-based teaching where students will demonstrate their understanding of the big ideas of your course. In the absence of a plan, precious instructional time can stray toward teaching that may not be mentally engaging nor directly tied to the course goals.

Think of it this way: When you plan to travel, you prepare for the trip with the destination in mind, factoring in typical local weather conditions, as well as activities that you plan to do while you are there. Making these considerations helps you to prepare and pack for a trip in a way that optimizes your chance of success in not only reaching your destination, but in having positive experiences and memories that will endure over time. Thoughtful planning, in the form of constructive alignment, will pay dividends in your teaching and help you and your students to successfully reach your destination - the objectives - by the end of term.

Stages of Constructive Alignment Design

The four stages of constructive alignment design are outlined below:

1. Course Goals (Establish course relevance)

2. Learning Objectives (Identify desired results)

3. Assessments (Determine acceptable evidence)

4. Teaching Strategies (Plan learning experiences and instruction)
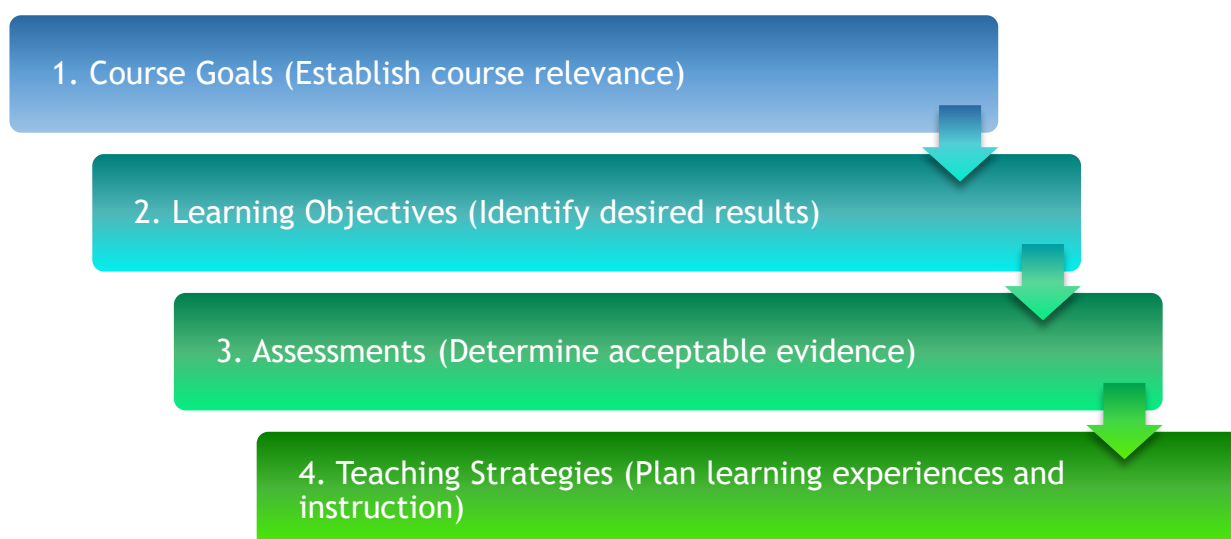
Course Goals

Course goals represent the enduring, comprehensive vision of a program or course. Begin your course planning by looking at 'the big picture' and examining how your course fits in to the broader context: how does your course fit into the program or profession? Is the course part of an accredited program? If the course fulfills requirements for multiple programs, or is not a requisite for any one particular program, what skills and personal development are anticipated as a result of taking this course? Answering these types of questions will help you to establish your course goals. Another good starting point is the U of M Course Calendar course description, which should correspond with your course goals.

When creating course goals for alignment, consider who your students are and how the course will facilitate movement on the continuum of their academic growth and development. A list of suggested verbs related to ongoing development has been provided to assist you in developing your course goals.

Suggested Verbs for Couse Goals

Understand	Appreciate	Comprehend	Grasp	Know
Be aware of	Be conscious of	Learn	Value	Apprehend
See	Accept	Be familiar with	Perceive	Have knowledge of

Examples of Course Goals:

Students within this course are challenged to consider how the natural and built environments shape and are shaped by multiple socio-cultural and political factors.

Curriculum and teaching practices aim to link students' learning experiences to the world graduates will confront.

Design using wood as a structural material in light-frame buildings will be examined; including the consideration of design constraints associated with sawn lumber as well as based composite materials. Emphasis will be placed on utilizing computer based design aids.

Once you have established your **course goals**, add them to your Course Design Framework worksheet under the *Course Goals* column

Learning Objectives

The second step in course alignment is establishing the desired results – in this case, the learning objectives. Consider how your large goals can be broken down into smaller objectives that can be targeted within your course. The learning objectives should clearly align with your goals and should be structured so that fulfilling the learning objectives results in achieving the course goals.

Your objectives should articulate the knowledge and skills you want students to gain by the end of the course. If your course is part of an accredited program, the accreditation requirements will guide the formation of the course objectives. Determining course objectives is a crucial step in course development, as it will influence your choice of textbook, the selection of the type and order of assignments, and the teaching strategies to be used.

Terminology: Outcomes or Objectives?

The terms 'learning outcomes' and 'learning objectives' are sometimes used interchangeably, and other times mean distinctly different things. In this guide, the term learning objective will be used to refer to the knowledge or skills that students are expected to acquire by the end of the course. These objectives stem from the overarching course goals – the broad concepts your objectives will collectively address. You may wish to break down your learning objectives further into lesson objective(s) for additional clarity; this is discussed in further detail in Chapter 6: Lesson Planning.
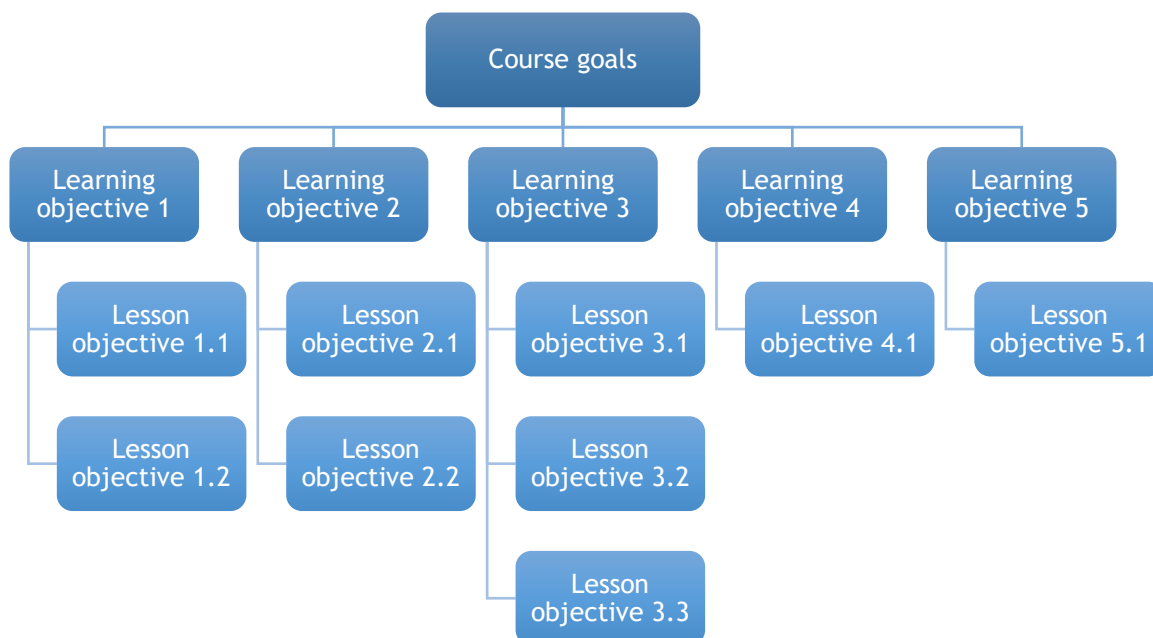
Creating learning objectives may seem overwhelming at first; summarizing the intended learning of your course in a select number of objectives can be challenging. When trying to determine the learning objectives, education authors Grant Wiggins and Jay McTighe suggest asking yourself the following three questions to help you focus on the key content:

What should participants hear, read, view, explore or otherwise encounter?

This knowledge is considered knowledge worth being familiar with. Information that fits within this question is the lowest priority content information that will be mentioned in the lesson, unit, or course.

What knowledge and skills should participants master?

The knowledge and skills at this substage are considered important to know and do. The information that fits within this question could be the facts, concepts, principles, processes, strategies, and methods students should know when they leave the course.

Worth being familiar with

Important to know and do

Enduring Understanding

What are big ideas and important understandings participants should retain?

The big ideas and important understandings are referred to as enduring understandings because these are the ideas that instructors want students to remember sometime after they have completed the course.
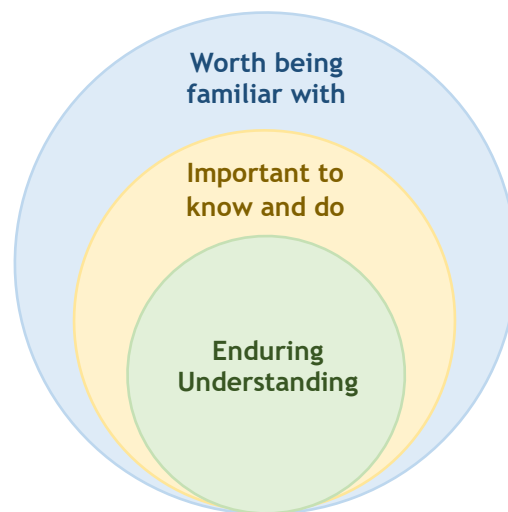
By answering the three questions presented at this stage, instructors will be able to determine the best content for the course. The **enduring understandings** should be adapted to form concrete, specific learning objectives for the students. In doing so, you will have identified the desired results that you want students to achieve.

While there is not a standard number of course objectives to aim for, it should be a manageable number for you to assess during the course. It is better to teach fewer topics well than to try to cover many topics briefly.

Elements of a Learning Objective – ABCD Model

A learning objective is a statement that describes what a student should know or be able to do by the end of your course, so the focus of each learning objective is the student. When constructing your learning objectives, it is important to use language that is clear and specific. All learning objectives contain three essential elements: a statement of who (the learner), how (the action verb), and what (the content), and may include details providing further clarification.

The ABCD model will facilitate the development of clear, comprehensive learning objectives. While the ABCD model is the gold standard in writing learning objectives, there may be instances when the condition (C) and the degree (D) components may be difficult to write. At minimum, all objectives should clearly state the audience (A) and the behaviour (B) expected within the course.

AUDIENCE	BEHAVIOUR	CONDITION	DEGREE
Who	*What*	*What they use to do it*	*How well they do it*
Describes the intended learner of the instruction	Describes the learners' capability; centered on <u>action verbs</u> that are observable and measureable	Equipment or tools that may (or may not) be utilized in completion of the behaviour; can also include environmental conditions (i.e. in a classroom or lab, on a project or exam, given certain equipment or resources, etc.)	States the standard or criteria for acceptable performance *may or may not be not relevant for each learning objective (i.e. completion time, accuracy, proportion, quality/standard, type, quantity, etc.)
Examples:			
By the end of this course, students should be able to…	…state Newton's law of motion…	…without referring to online or print resources.	
By the end of this lab, students will be expected to…	…demonstrate how to determine the outside diameter of an object…	…using a dial caliper in a lab setting…	…with 100% accuracy.

Each learning objective should only contain ONE action verb. Choosing the appropriate verb is crucial to writing an effective learning objective; the verb you use will help guide the choice of assessment method. Verbs that are ambiguous or unobservable should be avoided in learning objectives, as you want to measure achievement. Course goals, on the other hand, are less specific and may contain verbs that are vague, such as those outlined below.

Words to Avoid in Learning Objectives:

Understand   Appreciate   Comprehend   Grasp   Know

Be aware of   Be conscious of   Learn   Value   Apprehend

See   Accept   Be familiar with   Perceive   Have knowledge of

Bloom's Taxonomy Domains

It is important to establish the Enduring Understandings for your course so that you can create learning objectives that reflect the type of skills and/or knowledge students should gain. In 1956, educational psychologist Benjamin Bloom developed a classification system of skills and learning behaviour, known as Bloom's Taxonomy, based on three domains: cognitive, psychomotor and affective. Bloom's Taxonomy has been updated over time and is still widely used in education.

Cognitive skills relate to students' knowledge of the subject matter and how students demonstrate this knowledge. Because these skills relate to thinking, they are included in the learning objectives of virtually every course.

Psychomotor skills are reflected in the ability to manipulate specific objects correctly and efficiently to accomplish a specific purpose. These skills are important in art, architecture, drama, linguistics, some engineering fields, all laboratory sciences, health-related fields, and foreign languages.

Affective skills specify emotional abilities you want your students to develop, such as receiving, responding, and valuing. While you cannot observe your students' inner feelings, you can observe their demonstration of emotions, empathy and open-mindedness. These skills are essential in disciplines such as health sciences, counseling, management, human resources, marketing, psychology, and architecture.
Depending on your discipline, your course may include skills from more than one domain.

Bloom's Taxonomy Sublevels

Bloom's Taxonomy is a useful reference when developing learning objectives as it categorizes learning behaviours from basic to the most complex. The sublevels can be viewed as degrees of difficulty, and it is recommended that your course objectives reflect various levels of difficulty, as students' fundamental learning grows throughout the course.

> **Please note:** you do not need to include a learning objective based on each of the categories; develop learning objectives that are appropriate for your course and fit within the context of your program.

In general, it is reasonable to expect students in first and second year courses to meet learning objectives drawn from the lower levels of the taxonomy, since many courses during this time are comprised of foundational content. Second and third year courses should be more advanced, as the content extends beyond foundational knowledge, and should therefore challenge students with objectives stemming from the mid-range of the taxonomy. Fourth-year and graduate students should be learning using a high cognitive level, with objectives primarily based on the advanced levels of Bloom's Taxonomy.

Create
Evaluate
Analyze
Apply
Understand
Knowledge

4th year & graduate level courses

1st year level courses
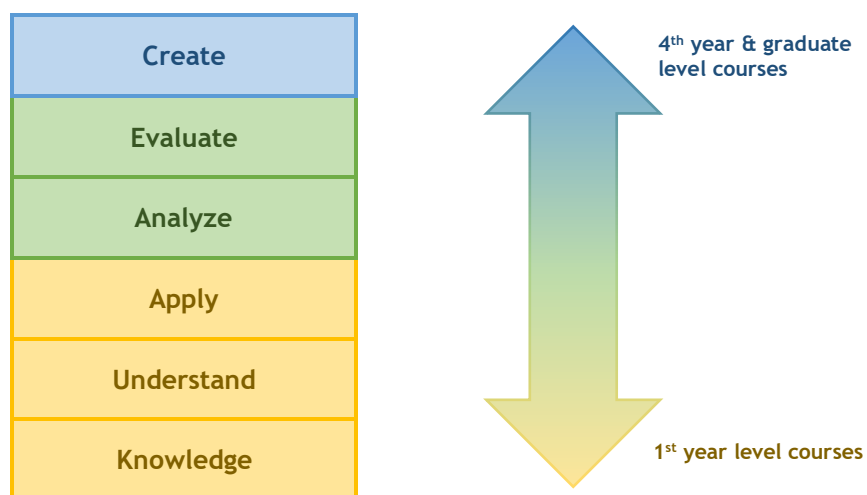
Bloom's Taxonomy Action Verbs

Bloom's Taxonomy includes action words for each learning category that will assist you in writing your objectives.

Cognitive Domain Action Verbs

Cognitive Domain (thinking, knowledge)

Action Verbs for Bloom's revised Taxonomy (revised by Anderson and Krathwohl 2001)					
					Create
			Analyze	**Evaluate**	design
					compose
Remember	**Understand**	**Apply**	analyze	reframe	create
			contrast	criticize	plan
define	explain	solve	distinguish	evaluate	formulate
identify	describe	apply	separate	order	invent
describe	interpret	illustrate	select	appraise	hypothesize
list	paraphrase	modify	categorize	judge	substitute
name	summarize	calculate	connect	support	write
state	classify	sketch	divide	compare	construct
match	compare	complete	prioritize	discriminate	integrate
select	differentiate	interpret	subdivide	recommend	modify
locate recall	discuss	teach	survey	assess	produce
reproduce	distinguish	administer	conclude	choose	rearrange
tabulate	estimate	employ	correlate	convince	rewrite
enumerate	translate	establish	diagram	defend	adapt
	generalize	examine	dissect	find errors	anticipate
	give examples	list	estimate	grade	collaborate
	group	predict	outline	measure	devise
	order	simulate		predict	make
	report			rank	negotiate
				test	originate
				critique	propose
				justify	reorganize
				persuade	

(Adapted from: https://www.fitnyc.edu/documents/cet/writing-program-student-learning-outcomes.pdf)

Bloom's Digital Taxonomy Verbs

Bloom's Digital Taxonomy was devised by Andrew Churches and acknowledges the integration of technology and designed tools in to the classroom as a way to facilitate learning.

Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
bookmarking	advanced search	acting out	advertising	arguing	adapting
bullet pointing	annotating	administering	appraising	assessing	animating
copying	associating	applying	attributing	checking	blogging
defining	boolean search	articulating	breaking down	criticizing	building
describing	categorizing	calculating	calculating	commenting	collaborating
duplicating	classifying	carrying out	categorizing	concluding	composing
favouring	commenting	changing	classifying	considering	constructing
finding	comparing	charting	comparing	convincing	designing
googling	contrasting	choosing	concluding	critiquing	developing
highlighting	converting	collecting	contrasting	debating	devising
identifying	demonstrating	completing	correlating	defending	directing
labelling	describing	computing	deconstructing	detecting	facilitating
liking	differentiating	constructing	deducing	editorializing	filming
listening	discussing	demonstrating	differentiating	experimenting	formulating
listing	discovering	determining	discriminating	grading	integrating
locating	distinguishing	displaying	dividing	hypothesizing	inventing
matching	estimating	examining	distinguishing	judging	leading
memorizing	exemplifying	executing	estimating	justifying	making
naming	explaining	explaining	explaining	measuring	managing
networking	expressing	implementing	illustrating	moderating	mixing/remixing
numbering	extending	interviewing	inferring	monitoring	modifying
quoting	gathering	judging	integrating	networking	negotiating
recalling	generalizing	editing	linking	persuading	originating
reading	grouping	experimenting	mashing	posting	orating
reciting	identifying	hacking	mind mapping	predicting	planning
recognizing	indicating	loading	ordering	rating	podcasting
recording	inferring	operating	organizing	recommending	producing
retelling	interpreting	painting	outlining	reflecting	programming
repeating	journaling	playing	planning	reframing	publishing
			pointing out	reviewing	roleplaying
					simulating

retrieving	paraphrasing	preparing	prioritizing	revising	solving
searching	predicting	presenting	questioning	scoring	structuring
selecting	relating	running	separating	supporting	video blogging
tabulating	subscribing	sharing	structuring	testing	wiki building
telling	summarizing	sketching	surveying	validating	writing
visualizing	tagging	uploading			
	tweeting	using			

Psychomotor Domain Action Verbs

Psychomotor Domain (doing, skills)

Perception	Set	Guided Response	Mechanism	Complete Overt Response	Adaptation	Organization
Definition: senses cues that guide motor activity.	**Definition:** is mentally, emotionally, and physically ready to act.	**Definition:** imitates and practices skills, often in discrete steps.	**Definition:** performs acts with increasing efficiency, confidence, and proficiency.	**Definition:** performs automatically.	**Definition:** adapts skill sets to meet a problem situation.	**Definition:** creates new patterns for specific situations.
Sample Verbs: - detect - hear - listen - observe - perceive - recognize - see - sense - smell - taste - view - watch	**Sample Verbs:** - achieve a posture - assume a body stance - establish a body position - place hand, arm etc. - position the body - sit - stand - station	**Sample Verbs:** - copy - duplicate - imitate - manipulate with guidance - operate under supervision - practice - repeat - try	Sample Verbs: - complete with confidence - conduct - demonstrate - execute - improve efficiency - increase speed - make - pace - produce - show dexterity	**Sample Verbs:** - act habitually - advance with assurance - control - direct - excel - guide - maintain efficiency - manage - master - organize - perfect - perform automatically - proceed	Sample Verbs: - adapts - reorganizes - alters - revises - changes	Sample Verbs: - designs - originates - combines - composes - constructs

Affective Domain Action Verbs

Affective Domain (attitudes, feelings, beliefs)

Receiving	Responding	Valuing	Organization	Internalizing
Definition: selectively attends to stimuli.	**Definition:** responds to stimuli.	**Definition:** attaches value or worth to something.	Definition: conceptualizes the value and resolves conflict between it and other values.	Definition: integrates the value into a value system that controls behavior.
Sample Verbs: • accept • acknowledge • be aware • listen • notice • pay attention • tolerate	**Sample Verbs:** • agree to • answers freely • assist • care for • communicate • comply • conform • consent • contribute • follow • obey • participate willingly • read voluntarily • respond • visit • volunteer	Sample Verbs: • adopt • assume responsibility • behave according to • choose • commit • desire • exhibit loyalty • express • initiate • prefer • seek • show concern • show continual desire to • use resource to	Sample Verbs: • adapt • adjust • arrange • balance • classify • conceptualize • formulate • group • organize • rank • theorize	Sample Verbs: • act upon • advocate • defend • exemplify • influence • justify behavior • maintain • serve • support

Checking Learning Objectives

Once you have drafted your learning objectives, assess how effective each one is with this rubric for evaluating learning outcomes:

Dimension	Excellent	Common Errors	Needs Revision	Missed the Point
Objectives are observable, assessable, and measurable.	Objectives are assessable and measurable. The instructor can observe (usually see or hear) and evaluate each learner's performance by clear standards—for example, how well, how many, to what degree.	Some objectives use verbs that refer to a learner's internal state of mind, such as know, understand, or appreciate, which an instructor cannot observe and assess. Or some objectives are too general to specify standards for evaluation.	Objectives do not describe (1) observable performances that are assessable and measurable and/or (2) what the learners will be able to do.	Objectives list the topics the course will cover or what the instructor will do. Or objectives use verbs that refer to a learner's internal state of mind, which an instructor cannot observe and assess.
Most objectives require high levels of cognition.	Most objectives reflect high levels of cognition (application, analysis, synthesis, and evaluation).	All or almost all the objectives require low levels of cognition (knowledge and comprehension), such as recognize, identify, define, or describe.	Not enough objectives address higher levels of cognition, given the level of the course and the learners.	Some objectives consistently use verbs that refer to a learner's low-level internal state of mind, such as know, understand, or appreciate.
Objectives are achievable.	Objectives are realistic for the course length and credit hours and the level of the learners.	Objectives are too numerous for the instructor to assess or the learners to achieve.	Objectives are too advanced for the course length or credit hours for the learners.	Objectives don't use action verbs to describe what the learners will be able to do.
Objectives are relevant and meaningful to the learners.	Objectives are relevant to the learners and their personal or career goals.	Not all the objectives and their benefits are clear to the learners.	The learners can't make sense out of the objectives.	Objectives don't indicate what the learners will be able to do.

(adapted from Nilson, 2016)

Example of Alignment of Course Goal and Learning Objectives

One of the first steps in designing a course is creating learning objectives that align with your course goals. Here is an example of learning objectives that are aligned with a course goal. The "Presence of Alignment" column explains how the learning objectives are aligned to the course goal.

Course Goal	Learning Objective	Bloom's Taxonomy Domain and Level	Presence of Alignment
Students within this course are challenged to consider how the natural and built environments shape and are shaped by multiple socio-cultural and political factors.	Recall geographic development theories	Cognitive - Remember (Low Level)	Students are asked to drawn upon foundational knowledge (theories) necessary for fulfilling the goal of identifying how theories influence, and are influenced by, external factors
	Practice natural resource management methods and environmental decision making	Cognitive - Apply (Mid Level)	Students will put methods into practice: through their management methods and decision-making, they will identify values and additional factors of influence, as outlined within the course.
	Assess a current environmental health program for its effectiveness within its targeted population, as well as for areas of improvement	Cognitive - Evaluate (High Level)	Students will demonstrate their ability to assess a program based on factors that influence environmental health, such as socio-cultural and political factors present in both natural and built environments.

Once you have evaluated and finalized your **objectives**, add them to your Course Design Framework worksheet under the *Learning Objectives* column. Fill in the *Bloom's Taxonomy Domain and Level* column as well.

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Chapter 3: Constructive Alignment: Assessment

Once your course begins, you will want to assess your students' learning throughout the term. These check-ins will range from low-stakes activities that result in informal feedback, to high-stakes graded assignments and tests. Assessments allow the instructor to check the degree to which the students are meeting the learning objective.

Creating multiple opportunities to evaluate student learning throughout the course is beneficial to both you and your students: it fosters an engaging learning experience for your students and helps to shape and focus your teaching.

Developing an Assessment Plan

When determining how you will evaluate student work in your course, start by selecting a course objective. Determine what students will do to achieve the objective and how you will measure the students' success in achieving that objective. How will the students – and you – know they have met the objective(s)? What will that assessment look like? For example, will be it be a test? A report? A presentation?

Choose a course objective → Determine what students will do to achieve the objective → Identify how student achievement will be measured → Develop an evalution tool

Once you are clear what students will do, develop a tool that you will use to measure student success. Review the cognitive level you used in your objective and be sure your assessment reflects the same level. For example, if the objectives focus mostly on knowledge and comprehension, then so should your test questions.

Provide supporting structures - templates, peer review, examples, multiple drafts, guidelines for library research, etc. to facilitate student success in meeting the learning objectives. As students advance and achieve greater levels of competency and knowledge, fewer of these supports may be necessary.

Summative Assessment

Summative assessment is done at the end of an instructional period, like a chapter, unit, or course, and is used to determine a grade. Your summative assessments should be aligned with your learning objectives. An aligned summative assessment is the tool or set of tools you will use to determine the extent to which your students have achieved your learning objective by the end of the course. This will often take the form of a graded quiz, a project, a presentation, or a final exam.

Peer and Self-Assessment

While tests and essays as common forms of summative assessment, peer and self-evaluation are also recommended forms of assessment.

Peer assessment asks students to review the work of their classmates according to specific performance standards; for example, a student may review a peer's lab report checking for correct formatting, or to check that each paragraph in an essay begins with a topic sentence. In addition to verifying that performance standards are met, they may also provide suggestions for improvement and or pose questions that identify areas needing revision.

Self-assessment prompts students to reflect on their own progress and achievement, to identify areas requiring further development and to develop a plan for improvement.

Peer and self-assessment can provide students with more varied and frequent feedback than an instructor can provide. Giving and receiving peer feedback offers numerous benefits to students: it helps them to develop communication, critical thinking and collaboration skills. However, peer assessment can also present unique challenges. The validity and accuracy of peer assessment can be inconsistent due to personal relationships, weak comprehension of concepts, or lack of experience providing feedback. These setbacks can be avoided by creating opportunities for students to practice giving feedback and by providing clear criteria for assessments.

- Methods for developing effective peer and self-assessments, along with evaluation samples, can be found on The Centre website at:
  https://centre.cc.umanitoba.ca/development/resources/assessing-group-work/

- There are a number of UM Learn tools that support peer and self-assessment. If you would like help setting up UM Learn tools for assessment, you can schedule an appointment with an UM Learn Expert or register for a workshop.

- Book an appointment or register for a UM Learn workshop here:
  https://centre.cc.umanitoba.ca/technology/umlearn/

- If you would like further assistance creating peer or self-assessments for your course, support is available at The Centre and can be arranged by emailing:
  TheCentre@umanitoba.ca

Example of Alignment of Summative Assessments with Learning Objectives

Once you have established learning objectives that are aligned with the course goal(s), the next step is to determine what type of assessment you will use that will align with the learning objective. Here is an example of summative assessments that align with learning objectives and a course goal. The "Presence of Alignment" column explains how the items align together. The "Supporting Technology" column explains technology tools that can be used to achieve the summative assessments in an online or blended context.

Course Goal	Learning Objective	Bloom's Taxonomy Domain and Level	Summative Assessment	Presence of Alignment	Supporting Technology
Students within this course are challenged to consider how the natural and built environments shape and are shaped by multiple socio-cultural and political factors.	Recall geographic development theories	Remember (Low Level)	Students complete a fact-based quiz	Students are asked to remember facts and assessment reflects the lower-level cognition of recalling information	iClicker: Pose questions to students to test recall of key terms and concepts
	Practice natural resource management methods and environmental decision making	Apply (Mid Level)	Lab Report: students interpret the results collected from the field trip and how environmental quality is impacted by their management practices	Students are asked to not only recall but also apply methods; assessment creates a classroom experience where students apply theory (methods) to real data while support and guidance of instructor is available	UM Learn: Each group posts their determination of environmental impacts based on lab report data to the discussion board

	Assess a current environmental health program for its effectiveness within its targeted population, as well as for areas of improvement	Evaluate (High Level)	Group project: use a program logic model to assess the success of a particular environmental program and present findings to the class	Students gain practice as they collaborate with peers, learning how to implement a logic model to assess a program.	UM Learn: Instructor creates groups so students can share resources online and collaborate to develop logic model

Revisit your Course Design Framework worksheet and add the **Summative Assessments** you will use that align to your learning objective(s)**Bloom's Taxonomy Domain and Level** column as well.

Formative Assessment

Formative assessment occurs throughout the course and provides the student with feedback about their learning. It is an opportunity for students to practice a skill or demonstrate their understanding of a key course concept and is typically ungraded and anonymous, though some instructors do assign nominal weight (1-5%) to these evaluations to encourage student uptake. This type of assessment is geared strictly toward helping students to learn better.

This form of assessment benefits both students and instructors: as students receive guidance on how to enhance their learning, this will yield better student assignments. In turn, student motivation is boosted as students recognize your interest in their progress. Instructors are also provided with instant feedback about their students' learning which they can use to shape their teaching within the course.

Formative assessment is significant because it can identify student misconceptions and learning gaps as they develop, rather than relying on a midterm exam or other major graded assignment to reveal struggles in meeting the learning expectations within the course. The most effective formative assessments prompt your students to review, retrieve, apply, analyze, synthesize, or evaluate the material in your lectures, classroom activities, and reading assignments, as well as their prior learning experiences.

Formative assessments can be used at multiple points in your lesson. They lend themselves well to student-active lecture breaks and serve as effective warm-up activities at the start of class to identify your students' prior knowledge of the lesson topic. Including a formative assessment near the end of your lesson is also an accurate way to measure if student have achieved the intended learning objective.

Formative Assessment Strategies

Practice Questions and Exercises

Provide students with practice questions and exercises that will be similar to the summative assessments they will be asked to do. Formative assessments should be similar in type to summative assessments, as these align with your learning objectives for the course. Students should be provided with opportunities to demonstrating their learning that reflect the summative assessment methods used in the course.

Submitting Assessments in Stages

Establishing deadlines for students to complete a major assignment in stages creates multiple opportunities for feedback. For example, you could set deadlines for students to select topics, gather resources, develop an outline, and submit their first draft. By creating multiple project milestones, students will get constructive feedback at various stages to address any major problems in their work.

Develop clear criteria for what elements should be present, or what questions must be answered for each stage and mark each stage as either pass or fail. Be sure that students understand that feedback focuses on major issues in their work, and making suggested changes does not guarantee an 'A'.

Digital Content from Textbook Publishers

Some textbook publishers provide instructional resources that can be integrated into UM Learn, including assessments, case studies and test questions that you may want to consider including in formative assessments.   As with any formative assessment, you will want to take care to review content from publishers, ensuring that the assessment resources you are considering align with the learning objective and the Bloom's taxonomy domain and level you are targeting.

> 🔗 Assistance with integrating textbook publisher content into your course via UM Learn is available. You can book an appointment with UM Learn support at: https://umlearntrainer.youcanbook.me/

iClicker

iClicker is a student response system used at the U of M that can be used in f2f, online, or blended classes to interact with and engage your students.

Students can use iClicker by downloading the iClicker Cloud/REEF app to their mobile device or laptop to access the response system. Instructors use iClicker software to display a question on a screen and students provide their answers via the app. Responses are captured in real-time and the software aggregates the results and creates charts of the student responses. Student responses can be anonymous or linked to specific students.

iClicker is an ideal technology integration for formative assessment since it provides immediate feedback to students about their own understanding of course topics; this feedback also helps to guide the instructor's teaching.

The University of British Columbia and the University of Colorado have developed *Clicker Resource Guide*, a helpful resource that includes a guided approach to including clickers in your teaching. The guide also offers tips for writing effective clicker questions and includes sample questions from courses in a range of disciplines. You can find this resource at: www.cwsei.ubc.ca/resources/files/Clicker_guide_CWSEI_CU-SEI.pdf

Additional examples of formative assessment activities can be found on The Centre website: https://centre.cc.umanitoba.ca/development/resources/providing-feedback-to-students/#types-and-examples-of-feedback

Additional information about iClicker registration for workshops about using iClicker are available on The Centre website: https://centre.cc.umanitoba.ca/technology/

Example of Alignment of Formative Assessments with Learning Objectives and Summative Assessments

Now that you have chosen a summative assessment to align with each learning objective, you will need to develop a formative assessment you will use to support students as they work toward completing the summative assessment and achieve the learning objective(s).

Here is an example of summative assessments that align with formative assessments, learning objectives and a course goal. The "Presence of Alignment" column explains how the items align together. The "Supporting Technology" column explains technology tools that can be used to achieve the assessments in an online or blended context.

Course Goal	Learning Objective	Bloom's Taxonomy Domain and Level	Summative Assessment	Formative Assessment	Presence of Alignment	Supporting Technology
Students within this course are challenged to consider how the natural and built environments shape and are shaped by multiple socio-cultural and political factors.	Recall geographic development theories	Remember (Low Level)	Students complete a fact-based quiz	Practice quiz questions	Both assessments ask students to remember facts and reflect the recollection of information outlined in the objective	iClicker: Pose questions to students to test recall of key terms and concepts
	Practice natural resource management methods and environmental decision making	Apply (Mid Level)	Lab Report: students interpret the results collected from the field trip and how environmental quality is impacted by their management practices	Group Activity: As a group, make an environmental decision using a mock lab report and field trip data. Present final decision to the class	Assessments ask students to put theory into practice; initially thorough collaboration, then they build on this by applying methods and identifying impact	UM Learn: Each group posts their determination of environmental impacts based on lab report data to discussion board
	Assess a current environmental health program for its effectiveness within its targeted population, as well as for areas of improvement	Evaluate (High Level)	Group project: use a program logic model to assess the success of a particular environmental program and present findings to the class	Turn in group project in stages for early feedback Practice presentations in small groups in class with peer feedback	Assessments challenge students to assess a program in a structured way, as stated in objective, initially with guidance of instructor, culminating in assessment of program	UM Learn: Instructor creates groups so students can share resources online and collaborate to develop logic model. Using the dropbox, groups submit project in stages electronically

Revisit your Course Design Framework worksheet and add the *Formative Assessments* you will use that align to your learning objective(s)

Rubrics

A rubric is a descriptive scoring grid used for assessing student performance. The grid contains the required criterion for the assessment and uses a rating scale with 3-5 levels. Rubrics are a common method for evaluating student work and can be used for both formative and summative evaluation. Including your rubric with the assignment details will clearly outline the assignment expectations for students from the onset.

There are several benefits to using a rubric. A well-designed rubric can:

- Provide objectivity when grading (particularly useful if several marker/graders will be assessing student work)

- Increase reliability and validity in assessments

- Clarify how quality is defined

- Make the criteria for assessment transparent to students

- Promote high expectations

- Support student self-reflection on learning and performance

- Reduce time spent evaluating student work

Types of Rubrics

	Advantage	Disadvantage	Works best when...
A **Holistic Rubric** provides a single score based on the overall quality of a student's work or performance on a task	• quick scoring • provides overview of student achievement • emphasis on what student can demonstrate (rather than what they cannot)	• does not provide detailed feedback • may be difficult to provide one overall score if student work is at varying levels across the criteria • criteria cannot be weighted	• you want a quick snapshot of achievement • a single dimension is adequate to define quality • used for formative evaluation • used for summative evaluation of work containing higher-level thinking or those where multiple responses are acceptable (no single 'right' answer)
An **Analytic Rubric** provides specific feedback along several criterion	• provides more detailed feedback identifying areas of strength or weakness • scoring is more consistent across students and graders • each criterion can be weighted to reflect importance	• more time consuming to create and score • may not be used consistently among graders	• you want to see relative strengths and weaknesses • detailed feedback is desired • you want to assess complicated skills or performance • used for student self-assessment of understanding or performance

(adapted from Schreyer Institute for Teaching Excellence)

Creating Rubrics

Analytic Rubrics

An analytic rubric is structured as a grid with the levels of achievement outlined in the top row and the criteria being assessed in the first column. The following steps illustrate how an analytical rubric is created.

1. Identify the purpose of the assessment for which you are creating a rubric. Consider which learning objective(s) you want students to demonstrate in their completed assessment. Determine what criteria or essential elements must be present in the student's work to

ensure that it is high in quality and decide how you will weigh them relative to each other. If some components are weighted differently, be explicit about that on the rubric.

2. Create a brief statement or phrase for each criterion. For example:

> Organization
> (Report contains sections which follow a logical sequence.)

3. Determine the number of levels of achievement you will include on the rubric and how they will relate to your institution's definition of grades as well as your own grading scheme.

   If the rubric is to be used for summative assessment, numerical scores can be assigned to each level of accomplishment to calculate the level of proficiency for each learning objective as a percentage.

   Some examples of level of achievement:

Unacceptable	Marginal	Proficient	Distinguished		
Beginning (1)	Developing (2)	Competent (3)	Exemplary (4)		
Needs Improvement	Satisfactory	Good	Accomplished		
Novice	Intermediate	Proficient	Distinguished	Master	
Poor	Minimal	Sufficient	Above Average	Excellent	
Unacceptable	Emerging	Minimally Acceptable	Acceptable	Accomplished	Exemplary

4. Create descriptions for each criterion that outline in observable and measurable detail what the performance at each achievement level looks like. Including level descriptors will help to ensure consistency in grading from section to section and amongst multiple markers.

   Write a sentence or two describing the highest level of performance of the criteria. The words that can indicate various levels of performance are the words you will change as you write descriptions for the remaining levels.

5. Leave space for additional, tailored comments or overall impressions and a final grade.

> Further information and resources about rubrics and a sample analytic rubric can be found on The Centre website:
> https://centre.cc.umanitoba.ca/development/resources/grading-with-rubrics/

Template for Analytic Rubric

	Beginning 1	Developing 2	Accomplished 3	Exemplary 4	Score
Criteria #1	Description reflecting beginning level of performance	Description reflecting movement toward mastery level of performance	Description reflecting achievement of mastery level of performance	Description reflecting highest level of performance	
Criteria #2	Description reflecting beginning level of performance	Description reflecting movement toward mastery level of performance	Description reflecting achievement of mastery level of performance	Description reflecting highest level of performance	
Criteria #3	Description reflecting beginning level of performance	Description reflecting movement toward mastery level of performance	Description reflecting achievement of mastery level of performance	Description reflecting highest level of performance	
Criteria #4	Description reflecting beginning level of performance	Description reflecting movement toward mastery level of performance	Description reflecting achievement of mastery level of performance	Description reflecting highest level of performance	

Holistic Rubrics

Unlike an analytic rubric, a holistic rubric does not list separate levels of performance for each criterion. Instead, a holistic rubric combines multiple criteria to create more generalized levels of performance.

The steps for creating a holistic rubric are similar to that of an analytical rubric.

1. Determine all the skills and abilities students need to demonstrate in order to achieve the learning outcome. Three to five criteria are a reasonable number to include within each level. For example:

   > Clarity, organization, and grammar.

2. Determine the appropriate levels of accomplishment.

3. Write a description of how a student would demonstrate the learning outcome for each level of accomplishment. Typically, each sentence addresses a different criterion. Descriptors for each level must be included in a holistic rubric.

4. Leave space for additional, tailored comments or overall impressions and a final grade.

A sample holistic rubric for a research paper can be found on Queens University's Teaching and Learning in Higher Education website: http://www.queensu.ca/teachingandlearning/modules/assessments/35_s4_05_types_of _rubrics.html

Template for Holistic Rubric

Score	Description
5	Demonstrates complete understanding of the problem. All requirements of task are included in response.
4	Demonstrates considerable understanding of the problem. All requirements of task are included.
3	Demonstrates partial understanding of the problem. Most requirements of task are included.
2	Demonstrates little understanding of the problem. Many requirements of task are missing.
1	Demonstrates no understanding of the problem.
0	No response/task not attempted.

Evaluating and Revising Rubrics

If you find that presented work meets criteria on the rubric but nevertheless seems to have exceeded or not met the overall qualities you're seeking, revise the rubric accordingly for the next time you teach the course. If the work achieves highly in some areas of the rubric but not in others, decide in advance how the assignment grade is actually derived. You may want to reconsider the weightings of various components as a way to address this grading issue.

Assistance with creating rubrics is available at The Centre and can be arranged by emailing TheCentre@umanitoba.ca

Developing Online Rubrics

If an assignment is being submitted to an electronic drop box in UM Learn, you may be able to develop and use an online rubric. The scores from these rubrics are automatically entered in the online grade book in the learning management system.

- If you are interested in learning more about creating rubrics within UM Learn, consider taking one of the UM Learn workshops that are offered at The Centre. The UM Learn workshop registration page can be found here: https://centre.cc.umanitoba.ca/technology/umlearn/

- If you have a specific question about using UM Learn, one-on-one help with is also available, either in-person or over the phone. You can book a 30-minute meeting with a UM Learn Expert through The Centre website: https://umlearntrainer.youcanbook.me/

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Chapter 4: Constructive Alignment: Teaching Strategies

Your selection of teaching strategies is critical to your students' learning and success within your course. Teaching strategies include how you will teach (your teaching methods) as well as what you will have the students do (known as active learning strategies). When selecting teaching strategies, you want to select methods that will enhance learning.

Your teaching strategies should:

- Be linked to the purpose of your lesson
- Involve the students in the process of learning
- Tap into and build upon the students' skills, knowledge, and experience
- Vary throughout the term (in terms of cognitive level engaged)
- Use varied approaches (i.e. case study, projects, concept map)
- Spark motivation, interest and excitement

Modern teaching methods include the use of technology. As with any teaching method, instructors need to be mindful to choose technologies based on their ability to create a more stimulating, enriched learning environment for students. Technology should be used because it can effectively help students to achieve the course learning objectives, not because it is something that students already use in their personal life and it seems like an easy way to engage students.

Lectures and Active Learning

Research shows that using active learning strategies helps students to think conceptually, develop critical thinking and problem-solving skills, transfer knowledge to new situations, retain knowledge, enhance communication skills and nurture an enduring interest in the material. Studies also show that most content from a lecture-only class is not retained by students; over half of the content is forgotten within 3 to 4 days.

Lecture can be an effective teaching method, if used appropriately. Lecture works best when it is used in combination with active learning strategies. The attention of even the most motivated student diminishes after 15 minutes, so plan your class as a series of 10-15 minute mini-lectures, with student-centered teaching strategies in between. The activities that occur during these lecture breaks create an opportunity for students to re-engage with content and to discuss and clarify material. Limiting the length of pre-recorded lectures used in online courses to 10-15 minutes is also good practice.

A 60-minute Lesson with Mini-lectures					
Mini-lecture 1 15 minutes	Active Learning Teaching Strategy ~ 5 min	Mini-lecture 2 15 minutes	Active Learning Teaching Strategy ~ 5 min	Mini-lecture 3 15 minutes	Active Learning Teaching Strategy ~ 5 min

Elements to Consider When Selecting Teaching Strategies

Effective teaching includes using a variety of teaching strategies to engage learners, but with so many methods to choose from it can be hard to know which strategies are best.

When determining the teaching strategies to include in your course plan, it is helpful to consider three elements: the Bloom's taxonomy domain and cognitive level that you want students to achieve, how the technology available that will enhance the performance of the instructor and students, as well as how the strategies align with your course objectives and assessments.

Each of these elements will be discussed further within this chapter. Considering strategies through the lens of these three elements should help you select teaching strategies that are appropriate for your course.
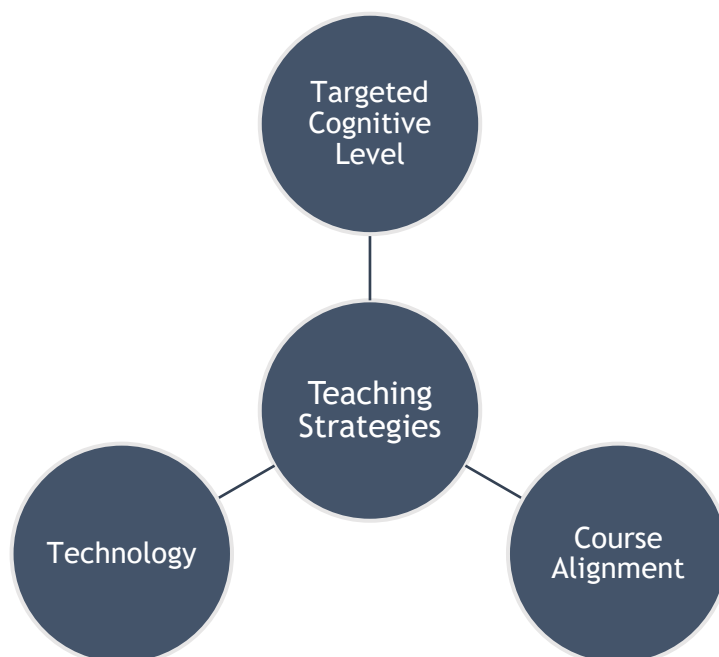
For further guidance with selecting teaching strategies that are appropriate for your lesson, you can book a consultation at The Centre by emailing: TheCentre@umanitoba.ca

Selecting Teaching Strategies: Targeted Cognitive Level

Selecting teaching strategies is really about choosing the best tool for the job (helping students meet the learning objectives.) When deciding how to teach your content and determining the active learning strategies to use, begin by looking at the objective related to your lesson. Where does the objective fall in relation to Bloom's Taxonomy; does the objective use verbs from a category with a low level of cognitive difficulty or a high level?

Strategies: Low Risk vs High Risk

Low risk strategies are those that require students to demonstrate skills at a relatively low cognitive level: activities that seem manageable to students, increasing their willingness to participate. These strategies usually require minimal advance preparation by the instructor. Low risk strategies are ideal for facilitating student learning relating to objectives stemming from a category with a low level of difficulty.

High risk strategies are teaching methods that prompt students to work at a higher cognitive and academic level. These activities require students to demonstrate more sophisticated skills. If your objective surpasses the lower categories of Bloom's Taxonomy, you should be utilizing high risk strategies in your lessons. High risk strategies generally require advance preparation by the instructor.

Bloom's Taxonomy - Cognitive Domain
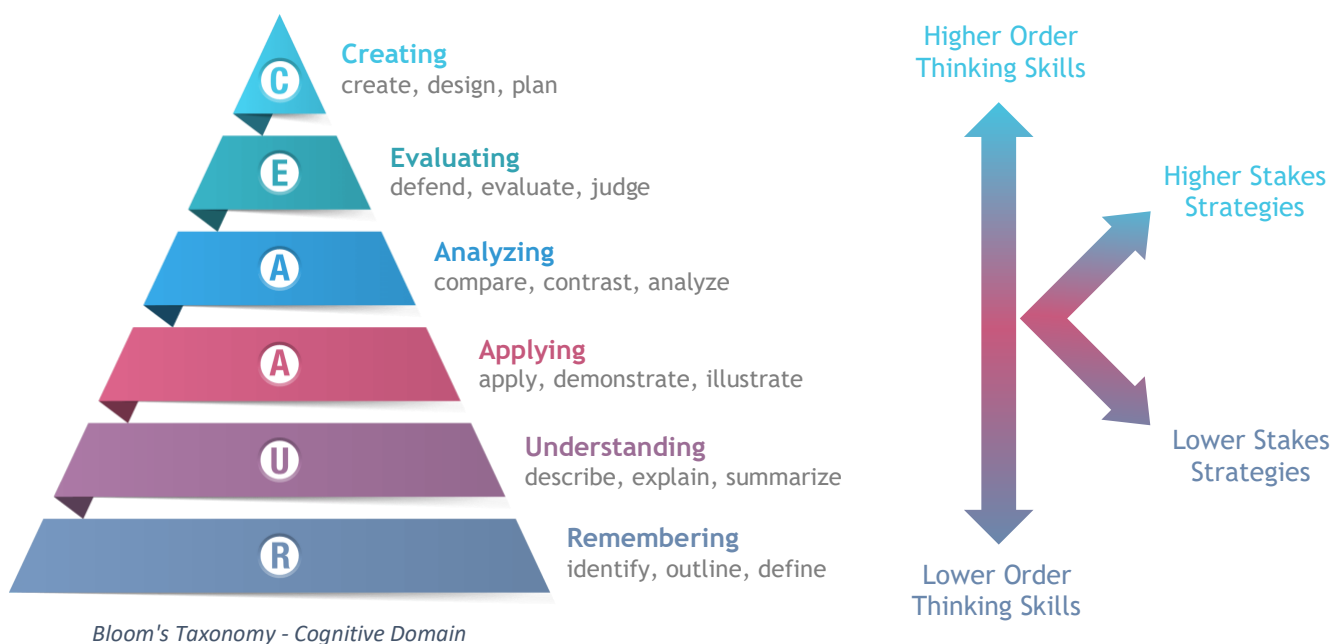
Examples of low risk and high risk teaching strategies that can be used in f2F, online, and blended courses have been included in this chapter to help you design an aligned lesson. Keep in mind that a variety of other factors including class size, classroom arrangement, delivery modality (f2f or in-person, synchronous or asynchronous), and topic context should also inform your selection of teaching strategies. Consider the pedagogical benefit of the strategies you are considering and how they align with your learning objectives.

Selecting Teaching Strategies: Technology

> 66 "Educational technology is like any other element of course design." (Nilson, p.45) 99

As you design your course, it is worthwhile to consider using technology that will enhance the productivity of you, your students, and your teaching assistants or graders. For example, consider if a technology will reduce the time spent on routine record keeping or communication. A LMS can streamline communication with students, as it allows you to share online resources and post announcements, assignments, grades, and handouts, saving class time.

UM Learn

UM Learn is the LMS used at the U of M and it is managed by The Centre. UM Learn has an assortment of tools that enable you to integrate technology into your course.
A list of the tools available in UM Learn has been included in Appendix B to help you optimize the learning supports offered to students.

> More detailed information about UM Learn and links to book an appointment with a UM Learn Expert or register for UM Learn workshops can be found here:
>
> https://centre.cc.umanitoba.ca/technology/umlearn/

iClicker

iClicker is a student response system used at the University of Manitoba that can be used in f2f, online, or blended classes to interact with and engage your students. More detailed information about how to use iClicker effectively appeared in Chapter 3 – Constructive Alignment: Assessment.

> Additional iClicker resources and registration for workshops about using iClicker are available on The Centre website: https://centre.cc.umanitoba.ca/technology/iclicker-cloud/

Webex

WebEx is a synchronous online meeting tool that can be integrated into UM Learn. It enables you to meet with your online class in real-time. Other features WebEx offers include:

- Share course materials/resources: PowerPoint, Word, pdf, and video files
- Chat function permits classroom discussion (spoken via microphone or written via keyboard) and can be moderated by instructor
- Create virtual breakout rooms for group work/discussion
- Record lesson and make it available for viewing at a later date
- Enable presenter rights to students so they can present to the rest of the class

> Information about using Webex to deliver online lectures and additional support for using Webex can be found here: https://centre.cc.umanitoba.ca/webex-support/

Selecting Strategies: Course Alignment within a Lesson

Course alignment should be embedded throughout your course and throughout your lesson: How you ask students to engage with the content should lead them toward achieving the course objectives, and should imitate the way you will assess their skills. In turn, your course objectives will inform the types of teaching strategies you choose to use in the classroom.

For example, let's say that a course learning objective is for students to apply critical thinking skills and professional standards to practice. In order to measure this at the end of the course, students will be required to respond to a case study on the final exam. Knowing this, your lecture should include the principles and concepts students should be applying in their analysis of a professional dilemma. In turn, students should be provided with opportunities to work in groups so they can further develop their critical thinking skills by putting the principles from the lecture into practice.

In an online or blended course, this group work could be supported by using the Discussion or Groups tool in UM Learn, as illustrated in Alignment of Teaching Strategies with Assessments and Learning Objectives. Course alignment is present in this example because the lesson content, the learning activities and the summative assessment all support student achievement of the learning objective (critical thinking). Alignment between learning objective, assessments and teaching strategies is demonstrated on the following page.

Example of Alignment of Teaching Strategies with Learning Objectives and Assessments

As you have worked through this Course Design Guide, you have been gradually completing your Course Design Framework worksheet. Recording the teaching strategies and supporting technology you will use should bring you to the completion of your worksheet. The following chart illustrates examples of teaching strategies that align with assessments, learning objectives and a course goal, technology that supports the strategies, and the explanation of how the items align together.

Course Goal	Learning Objective	Bloom's Taxonomy Domain and Level	Summative Assessment	Formative Assessment	Teaching Strategies	Supporting Technology	Presence of Alignment
Students within this course are challenged to consider how the natural and built environments shape and are shaped by multiple socio-cultural and political factors.	Recall geographic development theories	Cognitive - Remember (Low Level)	Students complete a fact-based quiz	Practice quiz questions	iClicker	UM Learn Quiz: quiz created as ungraded assessment for students to complete as means of self-assessment iClicker: Question is displayed and students enter their response on their device. Responses can be displayed anonymously and immediately for discussion.	Students are asked to remember facts and assessments that reflect lower-level cognition of recalling information, and is further supported by the instructor's use of iClicker in class to pose basic recall questions to students

Course Goal	Learning Objective	Bloom's Taxonomy Domain and Level	Summative Assessment	Formative Assessment	Teaching Strategies	Supporting Technology	Presence of Alignment
	Practice natural resource management methods and environmental decision making	Cognitive - Apply (Mid Level)	Lab Report: students interpret the results collected from the field trip and how environmental quality is impacted by their management practices	Group Activity: As a group, make an environmental decision using a mock lab report and field trip data. Present final decision to the class	Review newspaper articles that show real life examples of environmental decision making and the consequences of these decisions	Microsoft Word/PowerPoint: Using Word, students create graphic representation of the data used to support their environmental decision and include graphics in PowerPoint presentation UM Learn: newspaper articles can be shared digitally with students on course site; this could be assigned as pre-class reading	Students are asked to not only recall but also apply methods; assessments are opportunities to demonstrate ability to apply theory to real world application. The teaching strategy further supports application of theory by identifying presence of methods in current issues.

Course Goal	Learning Objective	Bloom's Taxonomy Domain and Level	Summative Assessment	Formative Assessment	Teaching Strategies	Supporting Technology	Presence of Alignment
	Assess a current environmental health program for its effectiveness within its targeted population, as well as for areas of improvement	Cognitive - Evaluate (High Level)	Group project: use a program logic model to assess the success of a particular environmental program and present findings to the class	Turn in group project in stages for early feedback Practice presentations in small groups in class with peer feedback	Case study in which students must work through a program logic model Video clips that show examples of past presentations and giving feedback	UM Learn: Share video clips and feedback samples with students Case study can be shared digitally with students; this could be assigned as pre-class reading Post logic model for students to use in project Create online groups for each project group to discuss project, upload work at required milestones and instructor can provide written or video feedback Students could present final project to class as a discussion post	Students must use high level cognition by applying theory so they can then assess a program. Teaching strategy supports students by demonstrating application of theory through the use of a logic model. Students then put theory into practice as they assess program by working through a logic model as part of their assessments.

Once you have determined the **teaching strategies** you will use, record them in your Course Design Framework worksheet under the *Teaching Strategies* and the *Supporting Technology* column

Sample Low Risk Strategies

Low Risk Strategy	Brief Description	Pedagogical Benefit	Supporting Technology
Ball Toss	The instructor poses an open-ended question to an issue or problem. They toss a ball to a student who must give their response. The student then tosses the ball to another student who shares their response. Continue on in a similar manner.	Enables several students to share their ideas. Gamification can provide motivation and interest for some students.	Not applicable: strategy for f2f class.
Brainstorming	Students generate ideas about a topic or a question posed by the instructor.	Helps students focus their attention on topic. Encourages critical thinking and risk taking.	UM Learn Discussion: Instructor posts a question or topic to the Discussion board and students respond online.
Directed Paraphrasing	Ask students to summarize to a partner, in 3-5 concise sentences, what they have learned about the topic.	Enables the instructor to gather a sense of students' understanding or misconception on a topic. Builds summarization skills.	UM Learn Discussion: Instructor posts topic and student pairs respond with their topic summary.
Focused Listing	Select a topic the class has just studied and ask students to make a list of the 5-7 important words that best describe the topic.	Enables the instructor to gather a sense of students' understanding or misconception on a topic.	UM Learn Assignments & Quizzes: Students can create a list and submit it to a Dropbox as an assignment, or complete it as a prepared quiz question.
One Minute Reflection	Give students one minute to jot down a response to a question such as "What was the most important thing you learned during this class?", "What is still unclear?", or "Summarize the unit we just completed in one sentence." Ask students to leave their responses with you at the end of class.	Builds reflective practice skills. Can give the instructor a "snapshot" of what students are thinking, what they have learned, and what aspects of the topic are still unclear.	UM Learn Discussion: Discussion group of 1 + instructor is created for each student to record their response.

Pause Procedure	Pause for two minutes every 15 minutes in a lecture, encouraging students to discuss and rework notes in pairs.	Encourages students to consider their understanding of the lecture material, including its organization. It also provides an opportunity for questioning and clarification.	Not applicable: strategy for f2f class.
Q & A	Questions may be closed (lower cognitive level, one suitable answer) or open (higher cognitive level, multiple answers). Questions may be posed by the instructor or students.	*The pedagogical benefit depends on the type and level of question posed. Generally closed questions are used to check for understanding. Open questions are used to promote higher order skills (i.e. reasoning, problem solving, and evaluation). Instructor posed questions can help arouse student interest and curiosity. Student questions can formulate personal connections with course content and promote interaction.	UM Learn Discussion: Instructor (or students) posts questions to discussion board and students post response.
Sequencing	Give students the steps in a process that are jumbled. Ask them to work together to reconstruct the proper sequence.	Strengthens students' logical thinking processes and test their mental model of a process.	UM Learn Quizzes: A quiz is created with a sorting question for students to complete.
Surveys, iClickers or Other Student Response System	Pose a multiple choice question to the class. Students individually record their responses, either paper based or electronically. If electronically, display their responses immediately and discuss reasoning for responses.	Provides immediate feedback to students Encourages students to explain their reasoning to each other and learn from each other. Gamification can provide motivation and interest for some students.	UM Learn Surveys: Survey questions are created and students submit their responses. iClicker: Question is displayed and students enter their response on their device. Responses can be displayed anonymously and immediately for discussion.
Think-Pair-Share	Ask student to think about their answer to a question and then turn to a peer to discuss their answers. Ask groups to share their responses and follow up with the instructor explanation.	By asking students to explain their answer to a neighbor and to critically consider their peers' responses, this approach helps student articulate newly formed mental connections.	Not applicable: strategy for f2f class.

Thumbs Up / Down / Sideways	Make a statement about the content and tell students to put their thumbs up if they agree with the statement, thumbs down if they disagree or thumbs sideways if they don't know. Discussion on why the choices were made can follow.	Quickly assesses students understanding and/or opinions.	iClicker: Ask students to assess their agreement with the statement and to register their level of agreement (high, medium, low) or how confident they are in their understanding of content. Display the results and discuss.
Value Line	Present students with an issue and ask them to stand in a line depending on where they stand on the issue (on end is strongly agree and the other strongly disagree). After instruction, ask students to line up again to see if their opinions are the same or different.	Getting students to discern their position on an issue in relation to their peers encourages them to think about and clarify their reasons for holding that position.	Not applicable: strategy for f2f class.

Sample High Risk Strategies

High Risk Strategies	Brief Description	Pedagogical Benefit	Supporting Technology
Case Studies	Students apply course knowledge to devise a solution to the problem or dilemma presented in a realistic story or situation.	Requires students to apply theoretical knowledge to a real world problem and to analyze the problem from different perspectives. Imparts students with critical thinking, interpersonal, and communication skills.	UM Learn Assignments: Students submit their solution to the problem as an ungraded assignment visible only to the instructor. UM Learn Discussion: The dilemma is shared with the class on a discussion board and students post their solution as a discussion thread. Groups: Students are divided into small groups, a discussion board for each group is created to facilitate discussion among the group as they develop a solution.
Community Based Learning	Partner with an off-campus community partner such as a local expert, industry, etc. The community partner comes to the classroom to present students with a real-life problem. Over the duration of the term, students apply what they are studying in the curriculum to analyze the problem and provide potential solutions.	Brings an outside and knowledgeable authority to the class to inspire students. Offers students an authentic learning experience to apply theory to the specific project.	UM Learn/WebEx: In online courses, guest speakers log in and speak to class in real time via WebEx. *Integration of WebEx in UM Learn and scheduling of WebEx session need to be arranged in advance through UM Learn support.

High Risk Strategies	Brief Description	Pedagogical Benefit	Supporting Technology
Computer Simulation	On the computer, student play out a hypothetical situation and assume responsibilities without incurring real-world consequences.	Enables students to learn from the consequences of their actions. Gamification can provide motivation and interest for some students.	UM Learn release conditions: Content is released as students complete specified tasks, or achieve a specific grade on a task. Content is not visible until the student meets the associated condition. (It creates an if this-then that scenario within a course.)
Concept Map	Concept maps are visual representations of the relationships between concepts. Students write the main concept in the center of a piece of paper. They then brainstorm other concepts that relate to the main concept and draw lines to indicate the relationships between the concepts.	Builds connections between various concepts/topics in a visual manner.	Not applicable: strategy for f2f class.
Debates	Divide the class into three groups, the pro group, con group, and judges. After presenting the class with an issue, have the pro and con groups debate their sides, providing evidence to support their claims. At the end of the debate, the judges determine who won the debate.	Gives the debaters practice in finding evidence and devising arguments. Gives the judges practice in critically assessing evidence and arguments.	UM Learn Discussion: Each side of the debate can post their evidence to support their stance and the judges can weigh in by commenting, as needed.

High Risk Strategies	Brief Description	Pedagogical Benefit	Supporting Technology
Demonstrations or Experiments	The instructor models the task and then asks students to practice the steps to complete the task.	Models the correct steps and protocols to perform a skill.	UM Learn Assignments or ePortfolio: Students can upload a video of themselves performing a skill as an artefact of their learning.
Field Trip or Clinical	A planned class visit or practicum outside of the traditional classroom.	Links the classroom to the real-world to apply theory to practice. Students learn to make sound professional judgements in real-world situations.	Not applicable: strategy for f2f class.
Flipped Learning	A flipped classroom reverses the traditional approach. Students cover content before class by watching recorded lectures for homework. Class time is spent deepening understanding of the content through meaningful active learning exercises and completing assignments, labs, and tests.	Focus is on student-centered learning; students can review content as needed. Provides opportunities for instructors to work with students on content they most need support with in class, rather than students struggling with content alone while they work on assessments outside of class.	Most UM Learn tools can be utilized in this teaching model, based on their relevance to lesson content.

High Risk Strategies	Brief Description	Pedagogical Benefit	Supporting Technology
Forum Theatre	Use theater to depict a situation and then have students enter into the sketch to act out possible solutions. For example, if students were watching a sketch on an escalating interaction between a nurse and patient, have students brainstorm possible suggestions for how to deescalate the situation. Ask for volunteers to try to act out the updated scene.	Provides students with opportunities to apply theoretical knowledge to a real world problem. Students may demonstrate interpersonal and communication skills, as well as the ability to think on their feet.	Not applicable: strategy for f2f class.
Gallery Walk	The class is divided into groups and each group is provided with a question or topic. Groups write their response on flip chart paper and post them on the wall. Groups then circulate to another flip chart paper, review the original responses, and then add additional answers. Groups continue to circulate until they have visited each paper. A debrief of the responses follows.	Promotes interaction and collaboration between students. Instructors can gauge the depth of student understanding of concepts and challenge misconceptions.	Not applicable: strategy for f2f class.

High Risk Strategies	Brief Description	Pedagogical Benefit	Supporting Technology
Game Based Learning	Involves designing learning activities so that game characteristics and game principles exist within the learning activities themselves. Examples include Jeopardy, board games, ball toss, iClickers.	Promotes engagement and sustained motivation in learning.	iClicker: The instructor can present a variety of question types with iClicker. Student response time is limited, adding a sense of anticipation and excitement. The immediacy of results and ensuing discussion presents a dynamic learning environment.
Guided Imagery	Provide students with some background on the situation they will be visualizing. Ask them to close their eyes and turn on their imaginations. Encourage them to make use of all of their senses as they image: sight, sound, smell, physical sensation, taste, and emotion. Suggest an image to the students, one sentence at a time and pause for several seconds after each sentence to allow them to process what you are saying and to visualize the picture. After describing the image, put students in groups to share their reflections about what they were imagining during the exercise. Students can also be asked to write a reflection paper.	Enables students to create mental images and use their creative imaginations.	UM Learn Content: Instructor can upload a video or image to course content for students to view. UM Learn Groups: A discussion board for each group is created for students to share their reflections.

High Risk Strategies	Brief Description	Pedagogical Benefit	Supporting Technology
Jigsaw	Divide a larger topic into four pieces. Each student is given one of the four pieces to become an expert on. After each person has become an expert on their piece, they teach the other students about their piece. At the end, the instructor asks comprehension or application questions to ensure students understood all of the components.	Promotes interaction and collaboration between students.	Not applicable: strategy for f2f class.
Problem Solving	Students are given problems to solve, either individually or in groups. The instructor asks students to show on the board how they solved the problem. As they solve the problem on the board, ask students to talk aloud their thought processes.	Besides developing problem solving skills, problems can be used for motivation, to collaborate with peers, and receive immediate feedback from the instructor. Having students talk aloud how they solved the problem helps the instructor to see their thought processes and gaps in knowledge.	UM Learn/WebEx: Through UM Learn, students can meet in real-time via WebEx. Students can be granted presenter rights in WebEx to present their problem solving to the rest of the class.

High Risk Strategies	Brief Description	Pedagogical Benefit	Supporting Technology
Project-based Learning	Students, often in teams, design or create something to constitute a major assignment in the class. To complete their project, students may draw on course material and/or supplement it with outside research.	Promotes interaction and collaboration between students. Students develop higher order skills such as problem solving and project management.	UM Learn Group Assignment: A group assignment submission folder is created for students to submit their project work.
Readings Review	Assign one or two questions related to the readings and have students share their responses. The instructor then addresses and challenges students' misconceptions on the subject matter.	Motivates students to complete the readings. Connects readings to content discussed in class. Instructor is able to clear up misconceptions on the subject matter before it becomes further ingrained and inhibit learning of new material.	UM Learn Discussion: Instructor posts questions to discussion board relating to readings and students post responses.
Responsive Lecture	Students generate a list of open-ended questions about course material and then rank the importance of the questions. The instructor uses the ranking of the questions as the outline for the lecture and/or discussion.	Students are more invested in a lecture whose content they have chosen.	UM Learn Assignment & Survey: Students submit their list of questions to instructor as an ungraded assignment. Instructor uses the student questions to create a survey for students to rank the questions.
Role Play	Students assume different roles in small groups and act out the parts with the varying perspectives they would have.	Demonstrates to students varying perspectives on a topic. Can also be used to have students tap into their feelings, attitudes, and beliefs.	Not applicable: strategy for f2f class.

High Risk Strategies	Brief Description	Pedagogical Benefit	Supporting Technology
Send/Pass-a-Problem	Students, or the instructor, generate a list of problems. Each team records its problem on the front of an envelope. The teams records possible solutions to the problem on a piece of paper. At a predetermined time, the ideas are placed in the envelope and forwarded to another team. The members of the second team, without looking at the ideas already generated, compile their own list of responses. The envelope with the two sets of ideas is forwarded to a third team which now looks at the suggestions provided from the other teams, adds its own, and then synthesizes the ideas from all three teams.	Demonstrates students' ability for problem-solving, evaluation, synthesis, and collaboration.	Not applicable: strategy for f2f class.

High Risk Strategies	Brief Description	Pedagogical Benefit	Supporting Technology
Team-Based Learning	Students formed into teams of 5-7 people that work together throughout the course. Teaching is designed around units of instruction, known as "modules," that are taught in a three-step cycle: preparation, in-class readiness assurance testing, and application-focused exercise. A class typically includes one module. Students prepare for each module by completing work outside of class and apply their knowledge with their peers in class.	Supports the development of deeper learning through reflection, critical thinking, and debate. Exercises help reveal common student misconceptions, and interactions among team members allows learners to compare their current understandings with their peers and to construct new understandings. Exercises are centered on problems relevant to the course goals and future professional practice.	UM Learn: Instructor delivers module resources to students through Content tool and develops and administers readiness tests with the Quizzes tool. WebEx: Used to facilitate synchronous meetings of individual groups and entire class.
Thinking-Aloud Pair Problem Solving (TAPPS)	One student is the explainer and the other is the questioner. The explainers outline the issues at hand and then give detailed descriptions of how they would solve the case or problem. The questioners listen, but they can also pose questions or offer helpful hints. At a given point, the students reverse roles.	Requires students to apply theoretical knowledge to a real world problem and to analyze the problem from different perspectives. Imparts students with critical thinking, interpersonal, and communication skills.	Not applicable: strategy for f2f class.

High Risk Strategies	Brief Description	Pedagogical Benefit	Supporting Technology
Three-Step Interview	The instructor usually poses the interview questions, focused on content material and having no right or wrong answers. One student interviews another within specified time limits (Step 1). The two then reverse roles and conduct the interview again (Step 2). Two pairs combine to form a foursome, and the students introduce to the rest of the group the ideas posed by their partners (Step 3). An extra question can be added for pairs working more rapidly than others.	Helps students reinforce and internalize important concept-related information based on lectures or textbook material.	Not applicable: strategy for f2f class.
Web 2.0 Technologies	Using websites and applications such as blogs, wikis, social networks, discussion forums, file sharing, podcasts.	*While each Web 2.0 technology has its own pedagogical benefit, the general benefits of each are to foster collaborations, interactivity, and content sharing.	UM Learn Content: Include links to online resources in course content area such as learning modules and discussion posts.

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Chapter 5: Syllabus

The course outline, or syllabus, serves as a course road map for both the instructor and students. The content guides the instructor and students in their allocation of time and other resources over the course of the term. By this point in the course design process, you have already developed content for your syllabus through the construction your curriculum alignment plan. A syllabus also describes what students can expect of their instructor and, in turn, what the instructor's expectations are of students. It serves as a learning contract between the instructor and students, and is often required for course transfer. There are three resources that you should refer to before you begin developing your syllabus: ROASS, Schedule A and a U of M syllabus template.

ROASS

[Responsibilities of Academic Staff with Regard to Students](), more commonly referred to as ROASS, is a U of M policy that provides specific direction to academic staff with regard their responsibilities to students and the type of information to include in syllabi.

Schedule A

In addition to providing required course-related content, the ROASS procedure also stipulates that academic staff need to provide information regarding specific policies and supports relevant to students; this content is referred to as Schedule A. The information within [Schedule "A": Policies and Resources]() must be provided to students during the first week of class either digitally in UM Learn or Aurora, or as a paper copy. A [template of Schedule A]() content has been created by The Centre for your use; simply copy the content from the template and paste it into your syllabus or UM Learn/Aurora course page.

U of M Recommended F2F Course Syllabus Template

A [template]() has been created to provide a structure that can be used by academic staff when creating a syllabus for their f2f course. The template is both U of M ROASS compliant and follows [Quality Matters©]() standards. Some faculties have their own syllabus template for academic staff to use; just be sure that all the required information outlined in ROASS is included in the syllabus you distribute to students.

If you are using iClicker within your course, it is recommended that you include a statement about iClicker in the Course Technology section of your syllabus. [Statement examples]() have been developed by The Centre for inclusion in your course syllabus.

As shown in the syllabus template example, it is recommended that the information in a syllabus is chunked into small pieces or sections. For example, there should be sections about the course details and assignment descriptions. By chunking information into small pieces, it makes reading and understanding faster and easier. In UM Learn, a syllabus can be created using the content tool. After setting up a module with the Content tool, chunk the information by creating topics for each main section of the syllabus.

Exemplars of f2f ROASS compliant syllabi can be found on The Centre website:
https://centre.cc.umanitoba.ca/development/roass/

U of M Recommended Online and Blended Course Syllabus Template

A template has been created to provide a structure that can be used by academic staff when creating a syllabus for their online or blended course. The template is both U of M ROASS compliant and follows Quality Matters© standards.

If you are using iClicker within your course, it is recommended that you include a statement about iClicker in your syllabus. Statement examples have been developed by The Centre for inclusion in your course syllabus.

Creating a Welcoming Syllabus

In addition to communicating required course information, the syllabus also gives students insight into the instructor's approach to the course material, the instructor's teaching philosophy, and sets the tone for the course.

The syllabus is often the first communication between instructors and students and is an opportunity to convey a warm, welcoming learning environment. The article, Creating the Foundation for a Warm Classroom Climate by the Association for Psychological Science suggests six strategies for creating an effective, welcoming syllabus and includes examples that you may find helpful when developing your syllabi.

Referring to the Syllabus throughout the Term

Your syllabus should be a living document that is referred to not only on the first day of class, but frequently throughout the term. Getting students to read the syllabus can be challenging and reading it to them on the first day of class is not ideal.

A reliable way to ensure that the syllabus is mentioned in class often is to leave a few minutes at the end of each class to visually display the syllabus on a projection screen and address what is coming up for the next class. You could discuss assigned readings, and how they will relate to upcoming classes, or mention homework or other assignments and ask if there are any questions about it. In an online or blended course, you could include mention of the syllabus within your modules and in a synchronous course, you could refer to it during your class meeting, creating an opportunity to discuss content and respond to questions.

Here are some other ideas for getting students to read the syllabus that you may find helpful:

- Faculty Focus© provides a creative way to get students to familiarize themselves with the syllabus in the first week of class, and a method for embedding syllabus content throughout a course: https://www.facultyfocus.com/articles/effective-teaching-strategies/dont-waste-the-first-day-of-class/

- Faculty Focus© also outlines three methods for using your syllabus as a learning resource: https://www.facultyfocus.com/articles/teaching-and-learning/using-syllabus-learning-resource/

- PedagogyUnbound© proposes an alternate way of reviewing your syllabus with students on the first day by turning key syllabus points into a game: http://www.pedagogyunbound.com/tips-index/2013/12/5/get-students-to-read-the-syllabus-with-jeopardy

- Tufts University's Center for the Enhancement of Learning and Teaching suggests a number of techniques for writing an engaging syllabus: https://provost.tufts.edu/celt/news/2017/03/20/how-to-get-students-to-read-your-syllabus/

Additional support with syllabus writing is available through The Centre and can be arranged by emailing TheCentre@umanitoba.ca

You have already developed some of the required syllabus content in your Course Design Framework worksheet; the next step is to transfer that information to your course syllabus.

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Chapter 6: Lesson Planning

As you have been completing your Course Design Framework worksheet you have progressively been narrowing your focus from the broad course goals down to specific learning objectives. Now, you will narrow your focus even further by creating a plan for each lesson you will teach.

A lesson plan details what content you will cover, how you will cover it, learning activities that involve students, and a means for determining if students are meeting the targeted learning objectives. In a f2f course, the lesson plan is outlined on a document. In an online or blended course, your lesson plan is reflected in the order of your learning modules in UM Learn.

There are several benefits to developing lesson plans, including:

- Your teaching has a clear purpose as a lesson plan helps to keep connected to the course goals and learning objectives.

- Events in your lesson can be sequenced in a logical way to support learning.

- A plan helps you to focus on essential content to avoid repetition.

- Helps you to organize your time and keeps you on track.

- Provides you with opportunities to select effective teaching strategies (more than just providing a straight lecture).

- Past and future classes can be intentionally linked, as well as opportunity to explicitly link your content to practice or real-world events (these details may be difficult to remember without a plan).

- A plan provides opportunities to reflect on and inform future teaching practices.

- Finally, you may include a lesson plan in a teaching dossier to demonstrate your teaching skills.

Keep in mind that a lesson plan is merely a plan, and flexibility is a virtue when teaching. Lesson planning is an iterative process and content, strategies, activities, and assessment methods may need revisions before, during and after the lesson.

BOPPPS Lesson Plan Framework

The Instructional Skills Workshop© (ISW) International Advisory Committee has developed a useful lesson-planning framework, referred to as BOPPPS, an acronym for the various components of an active learning lesson plan. Following the BOPPPS model reinforces alignment of learning objectives and class content, as the objective(s) relating to the lesson's content are clearly stated early in the lesson. The BOPPPS format works in any context and the same steps would be followed regardless of if you were planning f2f, online or blended lessons.

Lesson Phase	Lesson Element	Purpose	Suggested Strategies	Supporting Technology
Introduction	Bridge-In: 'hook'	• Gain attention • Establish relevance • Builds motivation	• Tell a story • Pose a provocative question • Offer a startling statement or unusual fact • Link to previous topic or to future learning	• UM Learn Discussion tool for posting article or video
	Objective (see Chapter 2 for developing learning objectives)	• Specifies what learner will be able to do by the end of the lesson	• Statement stated orally and displayed visually (on board, projected onto screen)	• UM Learn module content
	Pre-Assessment	• Establishes learners' existing knowledge of lesson topic • Helps instructor adjust lesson for depth and pace to suit learners • Reveals learners' interests in topic	• Open-ended questions • Brainstorming • Surveys • Thumbs up / down / sideways • Demonstrations	• iClicker to conduct survey or poll students • UM Learn Survey tool and Discussion tool for brainstorming prior to lesson
Body	Participatory Learning (also called Active Learning) (see Chapter 4 for active learning strategies)	• Involves learners actively in the learning process • Build depth of understanding toward meeting lesson objective • Balance between instructor-led time and student-centered time	• Small group discussion around a specific question or problem related to course material • Pauses in lecture for student reflection, or short application tasks such as solving a problem • Role plays, case studies, scenarios • Think-pair-share	• UM Learn Discussion tool for discussion or case study response, or post case study video in module, Groups tool could be used for small-group sharing
Conclusion	Post-Assessment (also called Formative Assessment) (see Chapter 3 for developing assessments)	• Demonstrates if learner has met the targeted objective	• Multiple choice questions on an in-class quiz • Short written responses (one-minute paper) • Performance or demonstration of a task • Problem-solving tasks	• UM Learn Quiz tool, assignment Dropbox to upload video of task • iClicker for short written response
	Summary	• Opportunity for learners to reflect and integrate the learning	• Lesson content review (ideally by students) • Identify application of concept in future lesson or real-world • Roundtable sharing of observations/closing thoughts • Questions to clarify	• UM Learn Discussion tool to review content and post questions • WebEx for synchronous roundtable sharing

BOPPPS Lesson Plan Templates

Lesson Plan Template A from Gibbs, G. (1988) Learning by doing: a guide to teaching and learning methods. Oxford: Further Education Unit.

Lesson Plan Template B from ISW International Advisory Council

Lesson Plan Template C [pdf] from University of Waterloo

Lesson Plan Template D [pdf] (page 15) from Carleton University

Lesson Plan Template E [pdf] from Georgian College

Additional BOPPPS Resources

A good visual reference page for the BOPPPS model was created by the Gwenna Moss Centre for Teaching and Learning, University of Saskatchewan, and can be found here.

For more on the BOPPPS model see the BOPPPS Model for Planning Lessons wiki page (University of British Columbia).

Other Lesson Plan Frameworks

There are numerous models to use to plan your lessons. There is no one right model to use when creating lesson plans. Some instructors may find one particular model that works for them. Some may take bits and pieces from different models to come up with one of their own. It is best to try a few different formats to figure out what works for you.

Madeline Hunter's Model for Direct Instruction

Robert Gagne's Nine Events of Instruction

5E Instructional Model

Lesson Plans and Reflective Practice

Creating and using a lesson plan is an essential part of being an effective educator. As mentioned earlier, it is important to keep in mind that a lesson plan is not static; it should be somewhat fluid as you will revisit and revise it often.

Effective teaching includes reflective practice outside of the class: considering what did or did not go as planned, the effectiveness of your teaching strategies, and the learning that took place. The next chapter will further explore the importance of reflection in teaching and provide you with strategies to support the ongoing development of your teaching practice.

Lesson Plan Template A

Date/Class Number: Click or tap here to enter text.

Topic: Click or tap here to enter text.

Lesson Length: Click or tap here to enter text.

Resources/Materials to Bring: Click or tap here to enter text.

Lesson Component	Description	Time Allotted
Bridge-In		
Objective(s)		
Pre-Assessment		
Participatory Learning		
Post-Assessment		
Summary		

Lesson Reflection Questions:
- What worked well? What did not work well?
- What are potential reasons why those items worked well (did not work well)?
- What did you learn from teaching the lesson plan?
- If you teach the lesson again, what will you keep the same? Change?

Lesson Plan Template B

Course: Lesson Title:	Date:	Time:

Bridge-in: Time:	

Learning Objective: Time:	Domain of Learning:

Pre-Assessment: Time:	Materials:

Participatory Learning:

Time	Learner Activities	Instructor Activities	Lesson Aid

Post-Assessment: Time:

Summary/Conclusion: Time:

Chapter 7: Evaluating and Reflecting

Whether you are new to teaching or a seasoned teacher, new developments within your discipline and new research and theory about learning and teaching will continually happen. New technology and strategies for teaching will also emerge, so it is important to evaluate the effectiveness of your teaching and to reflect on what you are doing in the classroom in order to improve student learning.

Reflective practice is the process of 'learning through and from experience towards gaining new insights of self and practice' (Finlay, 2008) Reflection is a methodical review process for educators that increases your awareness of your own professional knowledge and practice: considering what you are doing and how you could make it better. Examine your practice and consider how it aligns with research and education theories, and be aware of assumptions that may be influencing your teaching.

As you gain classroom experience and deepen your professional learning, you will likely make changes to your course design, revising your planned teaching and learning activities and updating course assessments.

Enhancing your professional learning can happen in a variety of ways, such as: taking workshops offered at The Centre, finding a mentor in your department to work with, or actively gathering feedback about your teaching. This chapter will discuss a variety of ways to collect feedback about your teaching.

> A list of workshops currently available can be found on The Centre website: https://centre.cc.umanitoba.ca/development/workshops/#teaching

Evaluating Teaching: Collecting Data

As with any process, evaluating your teaching practices in a holistic way relies on reviewing appropriate and varied sources of data. Various sources of data will provide input about different aspects of your teaching and the learning happening within your classroom.

The Students' Evaluation of Educational Quality (SEEQ) is the University of Manitoba's Senate approved teaching evaluation tool. The SEEQ asks students to evaluate instructors on nine teaching dimensions (learning, enthusiasm, organization, group interaction, individual rapport, breadth, examinations, assignments, and assessments) and their overall impression of the instructor

One of the disadvantages of the SEEQ is the timeliness with which the instructor receives the data; reading comments after a course has ended does not provide you with an opportunity to make adjustments during a course. In an effort to inform your teaching in a more timely way, create opportunities for students to provide feedback throughout the course. Suggested strategies for gathering student feedback are outlined in the following section.

Ongoing Student Feedback

Exit Slips

At the end of class, write a question or pose a problem related to the learning activities or content from the lesson. Before students leave class, they leave you a slip of paper containing their anonymous response to a question.

A few questions you may consider using: "What did you think was accomplished by the small group activity we did today?", "Read this problem, and tell me what your first step would be in solving it.", "We did a concept map activity [or other relevant activity] in class today. Was this a useful learning activity for you? Why or why not?"

Exit slips help you assess the impact of the teaching and learning strategies you are using, and provides feedback about student comprehension, informing your plan for the next lesson or unit of instruction.

One-minute Paper

At the end of class, students close their books and summarize the lesson content they found most important or most useful. Because one-minute papers are not graded, they are usually anonymous. This strategy provides students with an opportunity to absorb and digest new material and identify what they may not yet understand, which is what you need to know before moving on to the next topic.

Some questions you might ask, "What was the most important concept of this class?" or "Summarize the main point of today's lecture in one sentence." You may also want to ask them "What questions remained unanswered?"

The student summaries will tell you how well the students grasped the new material. If their summaries do not reflect the main ideas of your lesson, this feedback will guide the content requiring review and clarification in the next class. Addressing student responses at the start of the following class is a good way to engage students in the task at hand prior to starting the lesson.

> A sample of a 1-minute paper from Tufts University can be found here:
> http://provost.tufts.edu/celt/files/MinutePaper.pdf

Muddiest Point

Near the end of class, ask your students to write down what they perceived as the muddiest or unclear point of the lecture, an assigned reading, or class activity. Reserve some time at the end of class to ask and answer questions, then collect the student responses. You can clarify the muddiest point(s) during the next class. You may also want to consider revising your lesson to reduce confusion. Struggling students who are not comfortable asking questions in front of their classmates will appreciate this approach.

The Survey Tool in UM Learn can be used to collect student feedback using each of these ongoing feedback methods. If you would like assistance setting up the Survey Tool, you can book a one-on-one appointment with a UM Learn Expert at: https://umlearntrainer.youcanbook.me

Mid-Point of Course Student Feedback

Surveys

While a survey can be used at any point during your course, it is an ideal method to use around mid-term, when students are familiar with the course content, your teaching methods and your expectations of students. Students can anonymously complete the survey and you can review the data you collected in class, addressing any concerns that may be identified.

You can utilize the survey feature in UM Learn to ask a combination of qualitative and quantitative questions to elicit specific feedback from your students. The Survey tool offers a variety of question types including: Likert, multiple choice, ordering, and open-ended short answer. A benefit to using UM Learn for your surveys is that the system will collate the data for you. Of course, conducting a mid-term survey using a traditional paper-and-pen method is also a valid means of gathering feedback.

Support for creating surveys can be found in UM Learn under UM Learn Support Documentation → Assessments: https://universityofmanitoba.desire2learn.com/d2l/le/content/6606/Home

End of Course Student Feedback

SEEQ

One form of feedback that is available to you after a course is complete is the SEEQ. The SEEQ form includes core items, a section to obtain demographic information on student and course characteristics, a section for the addition of supplemental questions and room for open-ended comments. If something is overwhelmingly communicated in the data collected by the SEEQ, it may warrant reflection.

If you are interested in tailoring the SEEQ questions to your course, you can add supplemental questions to the SEEQ administered to students. Please contact The Centre if you would like to customize your SEEQ by emailing: TheCentre@umanitoba.ca

Interviews

Interviews typically use a focus-group approach, and can be conducted by you (if trust has been established between you and the students) or an outside person (if you are seeking greater objectivity). Logistically, interviews can only be conducted with a small number of students, so select a sampling of students from your class and ask them questions that you have set in advance. Interviewing students can result in unexpected commentary on parts of your teaching that can be helpful in improving your practice.

There are some potential shortcomings to interviews. If you are conducting the interviews with your students, keep in mind that they may be reluctant to share their opinions out of fear that their feedback may have a negative impact on their success within the course. For this reason, it is recommended that interviews only occur at the end of a course, once students have received their grades. Another limitation of interviews is that since they are only done with a small portion of a class, the information gathered may not reflect the bigger picture.

Interviews can be more time consuming than other feedback methods, but are advantageous as they provide information that is more detailed and they present an opportunity to seek clarification from students.

Incorporating Student Feedback

Using any method to collect student feedback during your course will help to identify concepts that are particularly challenging to students and require further learning support, or highlight teaching methods that would benefit from further refinement. Creating a situation where you can address issues with teaching and learning as the course progresses will enrich your teaching experience.

Regardless of the method(s) you use to collect student feedback throughout the term, it is important that you tell students that you acknowledge their opinions and are willing to make some adjustments based on the data you have gathered.

Colleagues

Your peers can be another source of feedback: you may wish to ask a colleague to observe your class and provide you with comments regarding your teaching practices. You may also consider asking a colleague to review your course syllabus to check for things such as: clarity of content, completeness based on ROASS requirements, and course alignment among goals, learning objectives, assessments, and teaching strategies.

Guidelines about how to structure a peer review of teaching can be found on Cornell University's Center for Teaching Innovation website: https://teaching.cornell.edu/teaching-resources/assessment-evaluation/peer-review-teaching

The Centre also offers a Self-Evaluation of Teaching Practice workshop at multiple times throughout the year. For more details about the workshop, or to register, go to the Teaching Workshop page at: https://centre.cc.umanitoba.ca/development/

The Centre

The Development and Consultation team at The Centre supports instructional staff in the development of their teaching practice and are available for classroom observations.

If you would like to arrange a classroom observation, email your request to The Centre at: TheCentre@umanitoba.ca

Learning Analytics in UM Learn

UM Learn offers a wealth of data about learners and courses. Information about student activity can provide insights relating to course engagement. For example, the User Progress tool can identify the number and frequency of course content views by a student, or the number of discussion posts created.

Information about specific assessments can provide data that is useful in shaping lesson content and evaluating assessments. For example, quiz responses from the entire class can be aggregated and the successful response rate of individual questions can be examined. This data may highlight concepts that students are struggling with or questions within the assessment that may need to be revised due to problematic wording.

Analytics are easily accessed within UM Learn and are an additional source of feedback to include in your reflective practice.

- Learn more about the user progress tool and quiz statistics in the support documentation available in UM Learn: https://universityofmanitoba.desire2learn.com/d2l/le/content/6606/Home

- If you would like assistance setting up learning analytics for your course in UM Learn, you can book a one-on-one appointment with a UM Learn Expert at: https://umlearntrainer.youcanbook.me

Reflective Teaching

> ❝ "We do not learn from experience…we learn from reflecting on experience." ❞
>
> John Dewey

Engaging in reflective practice in education is encouraged, as it may also lead to:

- Gaining new perspectives and understandings

- Clarifying your assumptions and beliefs

- Developing a clear rationale for teaching actions and approaches

- Promoting a positive sense of self-awareness and self-confidence

- Taking informed action

- Focusing on a philosophy of continuous growth and improvement

Reflective practice can take many forms: it may be a social endeavour, where you engage in critical dialogue about teaching and learning with others, or it can be a solitary, introspective act. An exercise that can include both formal structured exercises and informal self-evaluations, reflection does not inherently require substantial blocks of your time in order to be beneficial.

While there are different models of reflective practice, at the heart of them all is the aim to get the best results from the learning for both the teacher and students. One model that can facilitate your reflective practice is Gibbs' cycle.

Gibbs' Model

Gibbs' reflective cycle includes six stages of reflection, which facilitate an in-depth examination of a particular class, learning activity, or assessment. The cycle is a useful guide for reflective writing in your teaching journal or as a dossier item to demonstrate reflective practice. Reflective practice is a catalyst to the formation of your professional identity, a characteristic that should be evident in the classroom and represented throughout your professional dossier.

As an educator, it is often easy to recognize the things that do not go well. However, it is important to note that the evaluation phase prompts you to identify what went well, as well as areas for improvement.

Gibbs Reflective Cycle

- An example of the Gibbs model used in reflective writing about education is available from the University of Cumbria and can be found here: https://my.cumbria.ac.uk/media/MyCumbria/Documents/ReflectiveCycleGibbs.pdf

- Further information about Reflective Practice, including alternative models for reflection, are available on the Cambridge International Education Teaching and Learning Team website: https://www.cambridge-community.org.uk/professional-development/gswrp/index.html

The Centre also offers a Reflective Practice workshop at multiple times throughout the year. For more details about the workshop, or to register, go to the Teaching Workshop page at: https://centre.cc.umanitoba.ca/development/

Strategies for Reflection

Teaching Journal

A teaching journal is a collection of notes, observations, thoughts, and other relevant materials accumulated over time. Ideally, you record your thoughts and feelings after each lesson and note any adjustments to make prior to the next class or course offering. The more specific your notes are the more useful they will be when you revisit them, so try examining a specific learning activity or assessment: what was problematic? What changes could be made to prevent reoccurrence?

If students did not understand a point or concept you introduced, spend some time thinking about what you did and why it was unclear. If a lesson went particularly well, describe it and take the time to think deeply about why it was successful. Using Gibbs' model will help focus your journal.

Recording your Teaching

Recording yourself teach is an effective way to capture your teaching from the students' perspective. Modern technology has made recording yourself teaching easy and saved videos require little space. Over time, they become artefacts of your teaching practice, and should illustrate how your teaching abilities have evolved with experience.

Audio recordings can be useful for considering aspects of teacher talk, such as: How much do you talk? What about? Are instructions and explanation clear? How much time do you allocate to student talk? How do you respond to student talk?

Video recordings can be useful in showing aspects of your own behaviour, such as: Where do you stand? Who do you speak to? Are you easily heard? How do you come across to the students? A video can also show things that you may not have otherwise noticed such as how legible your notes on the board are from the back of the classroom. Viewing your recording provides an opportunity of seeing yourself from the perspective of your students.

Tips for watching a video include:

- Consider your body language: watch the video once without sound, noticing gestures and other body language. Observe the students and how they respond to your movements.

- Consider your tone of voice: listen to your video once without watching the screen. Focus on your tone – did you sound encouraging? Challenging? Enthusiastic? Was your tone varied, to help keep student interest? Did you use pauses?

Developing Your Teaching Dossier

A dossier of your teaching is often required when being considered for promotion or seeking new employment. Creating items to include in your dossier that represent your professional identity will require you to reflect and speak to your teaching practice and demonstrate how it aligns with research and theories in education.

Exploring the literature may inspire you become involved and make your own contributions to the Scholarship of Teaching and Learning. Further information about the Scholarship of Teaching and Learning (SoTL) can be found on the Society for Teaching and Learning in Higher Education website: https://www.stlhe.ca/sotl/

The Centre also offers a Teaching Dossier workshop at multiple times throughout the year. For more details about the workshop, or to register, go to the Teaching Workshop page at: https://centre.cc.umanitoba.ca/development/

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Appendix A:
Institutional Support for Course Development

There are a number of on-campus supports for faculty developing f2f, online, and blended courses.

UM Learn, Webex, and iClicker Support

Service Desk	204-474-8600	ServiceDesk@umanitoba.ca
Toll-Free	1-844-616-1756	
Copyright Office	204-474-7526	Copyright office website: http://umanitoba.ca/copyright

Libraries

Fort Garry Campus	204-474-9881	https://libguides.lib.umanitoba.ca/facultyhelp
Bannatyne Campus	204-789-3342	http://libguides.lib.umanitoba.ca/njmhsl

Off-Campus Library Service

Off-Campus Library Liaison	204-293-6256	disted@umanitoba.ca
(toll-free in Manitoba)	1-800-432-1960 ext. 9183	
(toll-free in Canada)	1-888-216-7011 ext. 9183	
Mobile (text preferred)	204-293-6256	

Off-Campus Exam Coordinators

	204-474-8372 or	ExamsOffCampus@umanitoba.ca
	204-474-9172	

Textbook Coordinator / Ordering

Contact your Academic Department – Textbook Coordinator, or the Book Store buyer website (http://umanitoba.ca/campus/bookstore/textbooks/buyers.html)

Centre for the Advancement of Teaching and Learning (The Centre)

The Centre is a faculty development unit that works in collaboration with faculty and graduate students to provide leadership, expertise, and support in fulfilling the teaching and learning mission of the University of Manitoba. It offers a variety of workshops, teaching sessions, conferences, mentor programs, and other professional development opportunities to optimize the learning and teaching experiences of students and faculty.

(204) 474-8708   TheCentre@umanitoba.ca

Audiovisual and Multi-media Services

The unit provides maintenance support and repair to the University of Manitoba's audio visual inventory. Provides purchase consultation for the acquisition of new audio visual technology and repair consultation for department owned audio visual equipment. The technical maintenance staff test and evaluate new equipment for its effectiveness in education, particularly as it pertains to upgrading teaching facilities, as well as for durability and ease of use.

Audiovisual and Multi-media Services also provide computer and technology assistance in classrooms and theatres.

http://umanitoba.ca/computing/ist/teaching/avservices.html

Appendix B: UM Learn Tools to Support Teaching and Learning

UM Learn Tool	Summary
Announcements	The Announcements tool allows instructors to create updates and news items to share with students and other users through the home page.
Assignments	The Assignments Tool can be used to create folders for students to submit assessments such as written assignments, take-home exams, journal entries, etc. It can also be linked to the gradebook for easy transfer of marks. It can also be set up with groups so students can submit an assignment as a group.
Awards	The Awards tool can be used as another way to motivate students and recognize student achievements. You can create and issue badges, certificates and awards either manually or through release conditions. The Awards tool is separate from the gradebook and cannot be linked, as it is meant to provide a fun and different method of motivation, similar to the concept of gamification.
Calendar	The Calendar tool lets you create reminders/events for specific course activities.
Chat	The Chat tool allows for synchronous, text-based communication between learners. Unlike the discussion area, which allows for discussions between learners at different times, Chat encourages real-time conversation.
Checklists	Checklists allow you to highlight important or required course aspects in a list that users can complete by checking off.
Class Progress	The Class Progress tool can help instructors track students progress throughout the course, as well as allows students to track their own progress. There are nine different progress indicators to track: • Grades • Objectives • Content • Discussions • Assignment Submissions Folders

UM Learn Tool	Summary
	• Quizzes • Checklist • Surveys • Login History
Classlist & Email	The Classlist/Email tool allows instructors to view and manage student information and provides a way for instructors to easily communicate with students.
Competencies	Competencies are skills and knowledge that are necessary to succeed in the course. The Competencies tool can create competency structures that help track information about what skills and knowledge learners have mastered on a more granular level that can be broken down item by item.
Content	The Content tool stores the majority of the course content and activities. Content can be organized and grouped together by different categories. Links, audio, video and web files can be displayed here.
Course Builder	The Course Builder tool allows an instructor to build their course from one place rather than in multiple places for different tools, such as assignments, discussions, quizzes, etc. It can also be used alongside the Instructional Design Wizard tool to help design and set up a course with best practices in mind.
Course Offering Information	The Course Offering Information tool is the place that stores the basic information on a course, including the name, course offering code, course image, homepage banner, course template name, department, term, start date and end date, etc.
Discussion	The Discussion tool provides a space for students to discuss course questions either summatively or formatively. Discussions can be class-wide or the groups tool can be used to create smaller discussion groups.

UM Learn Tool	Summary
Grades	Grades and comments on assignments and tests are available to students as they progress through the course. Graded assignments submitted through UM Learn can be automatically entered in Grades. The instructor assigns values to specific course activities and assessments.
Groups	The Groups tool allows instructors to divide students into small groups which serve as private workspaces where students can share files, have discussions, and work on assignments. Projects can be submitted as a group and the instructor can grade by groups.
Homepages	This tool allows instructors to customize the home page for a course, connecting learners to specific content or activities.
Import/Export/Copy	Components of courses can be copied and shared between UM Learn courses with this tool. It also enables components to be imported into UM Learn or exported for use outside of UM Learn.

Instructional Design Wizard	This tool guides course creators through a pedagogically sound course structure within UM Learn
Intelligent Agents	Automated messages can be created and sent to students using certain criteria, as determined by the instructor, to recognize achievement and warn or encourage students experiencing difficulties.
Links	Links to external sites or internal course activities, tools, or pages within UM Learn can be created to simplify navigation within the course. Including links improves the ability to track student use of resources.
Manage Dates	Instructors can add and edit availability dates and set due dates for content and activities within a course.
Manage Files	This tool provides a place for instructors to organize course material into folders, that is 'behind the scenes' and not visible to students.
Navigation & Themes	Links and aesthetics of the course can be customized to facilitate navigation between course components.
Quizzes	Formative and summative quizzes can be created for students to test their knowledge of course content. A variety of question types can be used, and many quizzes can be graded automatically.
Rubrics	The Rubrics tool can be used to create and store holistic or analytic rubrics. The rubrics can be attached to assignment folders or quizzes and commented on during grading.
Self-Assessment	Student self-assessment questions are developed as a way of providing feedback to students about their learning. These self-assessments can be used at the end of units, or before formative assessments such as a test or quiz.
Sharing Groups	Allows the instructor to create a collaborative space for groups where they can share information with each other and can share the group's content with the rest of the class.
Survey	Instructors are able to create surveys to gather and analyze opinions and statistics to assess aspects of a course.
Widgets	Widgets are small blocks of information that appear on the Home Page; they provide ready access to links or other important course information.

Appendix C: Course Design Framework

Course Title:

Course Level:

Program Goals / Accreditation Standards	Course Goals	Course Learning Objectives	Bloom's Taxonomy Domain and Level	Assessments		Teaching Strategies	Supporting Technology
				Summative	Formative		

THE Centre

FOR THE ADVANCEMENT OF
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