

DEVELOPING LEARNING OUTCOMES

A Guide for the University of the Fraser Valley



UNIVERSITY
OF THE FRASER VALLEY

TEACHING & LEARNING

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1. Introduction

This workbook is intended for instructors and curriculum designers at any level of experience. Whether you are new to the process, you want to renew your courses, or you would simply like to try something new and connect with learners in a different way, following the steps in this booklet will help guide your work in a systematic and evidence-based manner.

Use this workbook if you are:

- ✓ Starting a new course from scratch
- ✓ Ready to change your course
- ✓ Preparing for a program review
- ✓ Revising your program outcomes
- ✓ Taking a course through its regular review and revision process.

Following the systematic process outlined here will save you time, ensure your course is aligned with program and institutional learning outcomes, and help you explain your curriculum decisions.

The booklet is designed so you can read it from start to finish or skip around between sections. If you are engaged in program review or an extensive curriculum overhaul, it would be best to work through the entire booklet from start to finish. If, however, you are simply redesigning a course and are very familiar with outcomes at UFV, you could begin with “Designing Your Course.”

Background: Curriculum Quality at UFV

In 2016, UFV’s Senate approved the Guiding Principles for Curriculum Quality. The six guiding principles are intended to provide a common direction for UFV’s curriculum designers and approval bodies. They are as follows.

Quality curriculum is:

1. Outcome-driven, aligned, and intentionally designed to achieve its purpose.
2. Rigorous, meeting credential-level standards recognized by the Ministry, by professions, industry, and by academic communities, and striving for excellence.
3. Current, relevant, and forward-looking.
4. Connected to civic and personal obligations as central to learning.
5. Flexible – It provides varied modes of delivery, recognition of prior and alternate learning experiences, and multiple program pathways.
6. Inclusive – It respects and honours people’s differing backgrounds, cultures, experiences and identities as a foundation and support for each student’s success. It is in compliance with the BC Human Rights Code, and reflects UFV’s commitment to internationalization, Indigenization, and access. To this end, Universal Design for Learning principles offer a

framework to think about inclusivity in course design. For more information, please see <http://www.cast.org/our-work/about-udl.html#.WJtqGVUrKos>

Following these principles will ensure your course or program moves more easily through UFV's approval and quality control processes, and will also ensure your curriculum is well designed and has the impact you desire. This booklet will help you incorporate these principles into your thinking and outputs as you work through your program and course design.

2. Defining Learning Outcomes

A learning outcome is a statement explaining what the learners will be able to do, know, or value by the end of a program or course. The first principle of UFV's Curriculum Quality Guidelines states that all curriculum should be "Outcome-driven, aligned, and intentionally designed to achieve its purpose." Learning outcomes are the commonly accepted measure of student achievement at the post-secondary level in North America.

Institutional Learning Outcomes (ILOs) at UFV

In 2012, UFV approved its Institutional Learning Outcomes. We have undertaken to ensure our programs support graduates in meeting these nine outcomes. The ILOs communicate our vision for education to our university and to the public, provide a guide for new programs and for program review, and emphasize our commitment to accountability and quality assurance.

The ILO statement begins with a preamble acknowledging our commitment to Indigenization: "The University of the Fraser Valley (UFV), located on traditional Stó:lō territory, recognizes and respects Indigenous ways of knowing. UFV is committed to providing our communities with a variety of high quality, student-centered programs that honour diversity and foster a passion for learning."

Each UFV graduate possesses the following abilities and, therefore, can demonstrate the following interconnected institutional learning outcomes:

1. Demonstrate information competency
2. Analyze critically and imaginatively
3. Use knowledge and skills proficiently
4. Initiate inquiries and develop solutions to problems
5. Communicate effectively
6. Pursue self-motivated and self-reflective learning
7. Engage in collaborative leadership
8. Engage in respectful and professional practices
9. Contribute regionally and globally

Your program learning outcomes should be aligned with the ILOs to ensure your program's curriculum meets our goals and supports UFV's strategic and education plans. For a more detailed explanation and graphic presentation of the ILOs, click here: [Institutional Learning Outcomes \(ILOs\)](#).

Continue to Section 3 for information on how to develop program outcomes and map them to ILOs.

A UFV Definition of Outcomes

Since the definition of learning outcomes is often broad, it makes sense to have a common UFV definition of *outcome*. UFV's curriculum committees understand a learning outcome to be a **statement of the desired student learning by the end of a course or program**. "Good learning outcomes emphasize the application and integration of knowledge. Instead of focusing on coverage of material, learning outcomes articulate how students will be able to employ the material, both in the context of the class and more broadly." (Greenleaf, 2008).

An outcome should consist of three basic parts (see Figure 1).

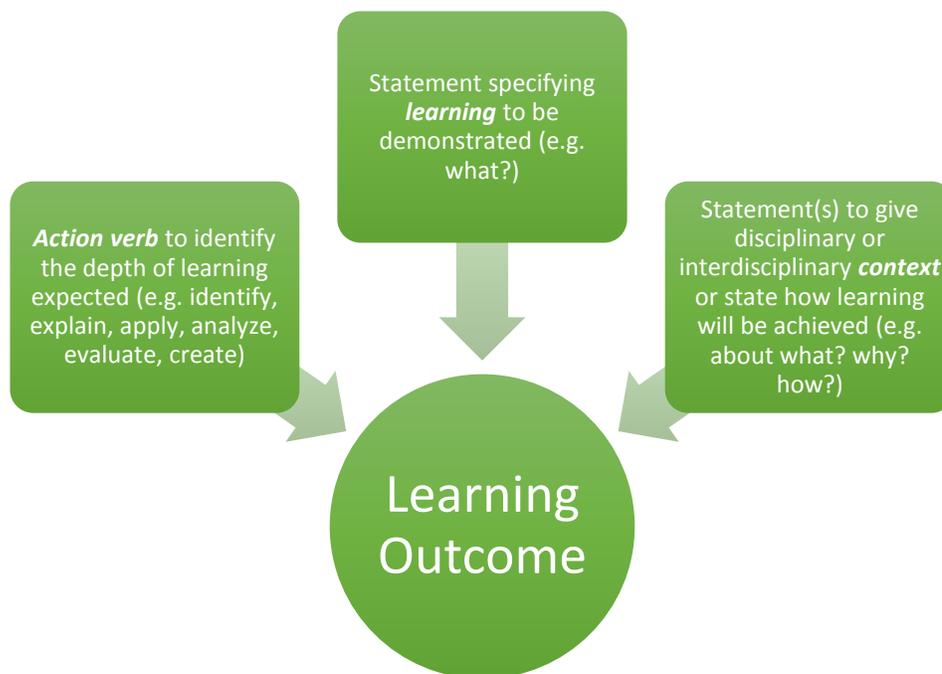


Figure 1. Parts of a learning outcome.

Note: Adapted from *Writing Course Learning Outcomes* by Kenny, N. Retrieved from <https://www.uwo.ca/tsc/resources/pdf/Writing%20Course%20Learning%20Outcomes,%20January%202015.pdf> Copyright 2013 by University of Guelph: Open Learning and Educational Support.

Here are a few examples of well-worded course outcomes from different disciplines. Note the use of action verbs followed by the specific learning and the context.

Students will be able to ...

- ✓ describe the political, religious, economic, and social uses of art in Italy during the Renaissance
- ✓ develop data collection instruments and measures for planning and conducting sociological research
- ✓ formulate scientific questions about the motion of visible celestial objects
- ✓ categorize macroeconomic policies according to the economic theories from which they emerge

- ✓ describe the characteristics of the three main types of geologic faults (dip-slip, transform, and oblique) and explain the different types of motion associated with each
- ✓ identify their own position on the political spectrum (Greenleaf, 2008)

Outcomes can describe all levels of learning, from the basic introduction of a skill or topic to mastery. They are often associated with one of the three learning domains: cognitive, psychomotor, and affective. Bloom's Taxonomy, first developed in 1956 and revised in 2001 by Lorin Anderson and David Krathwohl, associates verbs with different domains and levels of learning. When you are designing a program or course, it is important to consider the level of the outcomes. Some advocate focusing on the higher levels of the taxonomy at the university level: analyze, evaluate, and create.

Table 1. Useful Verbs to Describe Levels of Learning in the Cognitive Domain

	Useful Verbs
1. Remembering: <i>recall</i> of information – often associated with memory skills	define, identify, list, name, recall, repeat, state
2. Understanding: <i>demonstration</i> of comprehension -- often associated with an ability to express a concept with descriptors and details that demonstrate awareness	classify, describe, locate, report, restate, summarize
3. Applying: <i>applying</i> knowledge in a new context – often associated with transfer of learning	employ, illustrate, solve, use
4. Analyzing: <i>supporting</i> assertions through the use of evidence and arguments; often associated with identifying causes and patterns	compare, contrast, criticize, distinguish, examine, question, test
5. Evaluating: coming to a <i>judgment</i> on the value of information or the validity of arguments; often associated with critical thinking	appraise, argue, assess, defend, predict, select, support, deconstruct
6. Creating: <i>combining</i> or <i>grouping</i> knowledge to come to new conclusions; often associated with innovative thinking	design, assemble, collect, construct, formulate, organize, propose

Note: Adapted from *Developing learning outcomes: A guide for University of Toronto faculty* by Greenleaf, E. Retrieved from <http://teaching.utoronto.ca/wp-content/uploads/2015/08/Developing-Learning-Outcomes-Guide-Aug-2014.pdf> Copyright 2008 by University of Toronto: Centre for Teaching Support & Innovation.

Table 2. Useful Verbs to Describe Levels of Learning in the Affective Domain

	Useful Verbs
1. Receiving: a will or an <i>effort</i> to give attention to an event or an activity – often associated with awareness	listen to, aware of, perceive, sensitive to, alert to
2. Responding: a will to <i>react</i> to an event through some expression of participation -- often associated with a verbal or active response	reply, answer, approve, obey, find pleasure in

3. Valuing: a will to <i>accept or reject</i> an event – often associated with a positive or negative attitude based on personal values or beliefs	accept, attain, support, participate, grow in, be devoted to
4. Organizing: a will to <i>organize</i> the values and beliefs to <i>determine relationships and order</i> – often associated with a recognition as to importance of values and beliefs that are personally held. <i>supporting</i> assertions through the use of evidence and arguments	organize, select, decide, identify with, develop a plan for, weigh alternatives
5. Characterizing by a value complex: recognition of consistency in action by virtue of one’s accepted values – often associated with incorporating a value behaviour into ones personality or a change in a value behaviour as part of one’s personality	believe, practice carry out, become part of one’s code of behaviour

Note: Adapted from Morrison, Ross, Kalman, & Kemp, *Designing Effective Instruction* (7th ed.). Copyright 2013 by Wiley Publishers

Table 3. Useful Verbs to Describe Levels of Learning in the Psychomotor Domain

	Useful Verbs
1. Imitating: <i>demonstrating</i> an observed action – often associated with observed replication	copy, follow, repeat
2. Executing: <i>performing or reproducing</i> an activity from instruction or memory – often associated with applied memory	build, perform, implement, execute
3. Adapting: <i>adapting and integrating</i> expertise to satisfy a new objective – often associated with adapting skills based on need or circumstances	construct, solve, combine, coordinate, integrate, adapt, develop, formulate, modify
4. Naturalizing/Coaching: <i>creating</i> new action to fit a particular situation or specific problem – often associated with creative problem solving	design, specify, manage, invent, convert, create

Note: Adapted from Morrison, Ross, Kalman, & Kemp, *Designing Effective Instruction* (7th ed.). Copyright 2013 by Wiley Publishers and from Saudelli, M.G. *Pathways to Aligned Course Design*, Copyright 2014 University of Calgary in Qatar

3. Developing Program Outcomes

This section of the workbook begins by introducing the concept of backwards design and explaining its role in curriculum development. The section also covers how to develop program outcomes, how to check them against UFV’s Guidelines for Curriculum Quality, and how to map them to the ILOs and course outcomes.

Backwards Design

The concept of backwards design supports the idea that we begin our curriculum work by looking at the outcomes we require of our students. By looking at the desired result first, we can work backwards to determine appropriate program and course outcomes, lesson objectives, activities, and assessments.

When describing their Understanding by Design framework, Grant Wiggins and Jay McTighe (2011) discuss the importance of backwards design. “The most successful teaching begins ... with clarity about desired learning outcomes and about the evidence that will show that learning has occurred. Understanding by Design supports this view through a three-stage ‘backward-design’ process used to plan curriculum units” (p. 7).

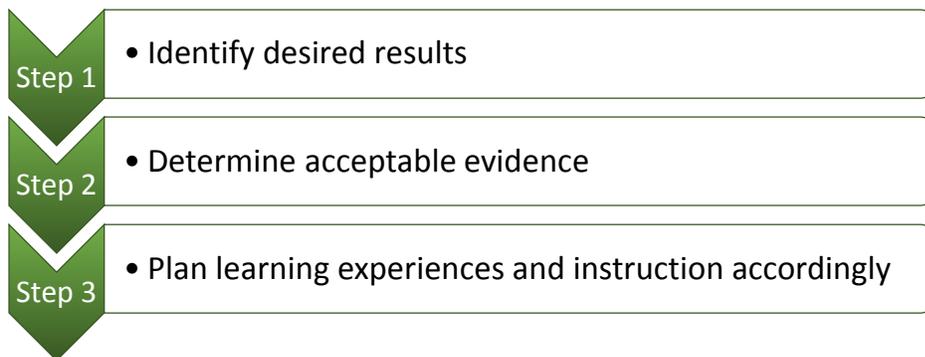


Figure 2. Three-Step Process in Backwards Design

The concept of backwards design is not a new idea. In fact, discussion of this concept began as early as 1924 with Franklin Bobbitt and later in (1948) with Ralph Tyler’s discussion of using a backwards design approach to focus instruction (Wiggins & McTighe, 2011), and various theorists have continued to advocate for it since then (Bloom, 1956; Gagne, 1977; Mager, 1988, Spady, 1994; Anderson & Krathwohl, 2001; Biggs, 2003). Backwards design supports UFV’s first curriculum quality principle, which states that curriculum should be outcome-driven and aligned.

This graphic demonstrates how backwards design applies to curriculum development at UFV (see Figure 3):

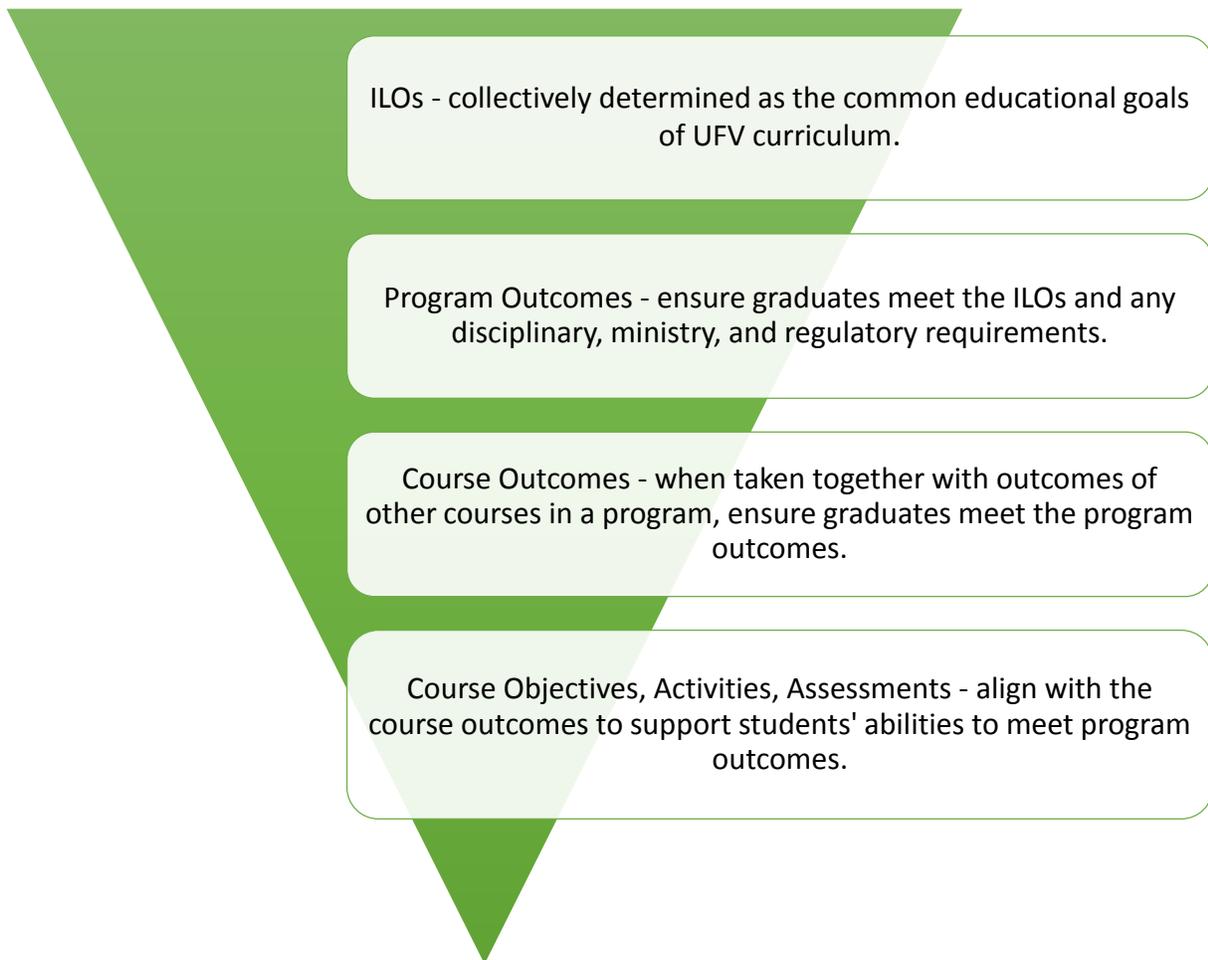


Figure 3. Backwards Design Applied to Curriculum Development at UFV

The work of creating the institutional-level outcomes has been done by and for us, so we can now focus on working down from the ILOs to create program outcomes. After the program outcomes are in place, they will inform the creation of course outcomes, which in turn determine the development of a course's objectives, activities, and assessments. Working in this "backwards" fashion will mean your program and courses are aligned and outcome-driven, leading to a better learning experience for your students and stronger curriculum overall.

UFV engages in a regular cycle of curriculum review and renewal. Each course we offer is reviewed at least every six years, and program reviews occur on a regular cycle. As curriculum goes through the renewal process, you will be asked questions about how your course and/or program meets UFV's Guiding Principles for Curriculum Quality.

Guidelines for Effective Program Outcomes

A discussion of curriculum design for a program should begin with critical thought about the goals and intentions. Here at UFV, these goals should be connected to the institution's mission and mandate.

Once the goals are established, the next step is to determine program learning outcomes. The first principle of writing program outcomes is that they **must support UFV's Strategic Directions, Institutional Learning Outcomes, Education Plan, and Strategic Enrolment Management Plan.**

Writing or revising program learning outcomes will generally require a small committee rather than one person working alone. The best practice is to consult with advisory groups and ministry guidelines first, and then draft program outcomes for review and discussion by the department or program area. You should also get feedback from UFV's Program Development Office and the Teaching and Learning Centre.

Other general guidelines for writing program outcomes include the following:

1. A program outcome must be **directly related to the academic discipline** of the program.

Focus on program outcomes that reflect the specific knowledge and skills you expect students to acquire as part of their educational experience in the program. Avoid program outcomes that are more related to the general education component of an education. Writing and critical thinking, for example, are important educational outcomes, but it is unlikely that your program can demonstrate that your graduates acquired their writing or critical thinking skills through their coursework in the program. You may, however, incorporate writing and critical thinking into program outcomes directly linked to the academic discipline of the program.

Consider these examples:

 *General* – Graduates of the Criminal Justice program will be critical thinkers.

 *Program-specific* – Graduates of the Criminal Justice program will analyze a current issue in criminal justice, evaluate evidence, and construct an argument.

2. A program outcome must be **observable and measurable**.

Write outcomes that are focused on demonstrable behaviours rather than what students *know, think, understand, appreciate, etc.* What someone knows, thinks, understands, or appreciates is not easily observable without substantive observable criteria. Thus, usage of these terms are arguable within the field of curriculum theory. For the purposes of outcomes at UFV, as it is possible to measure how well a student solves a problem, presents an argument, or gives a dance performance.

 *Not easily observable* – Graduates of the BA program will think critically.

 *Observable* – Graduates of the BA program will interpret, analyze, evaluate and construct arguments.

3. A program outcome must be **focused on learning outcomes** rather than curricular inputs.

Be sure to focus on the knowledge and skills that program graduates should possess. Resist the temptation to write outcomes about curricular inputs, department resources, faculty characteristics, or instructional methods. Program outcomes are related to demonstrated behaviours of the students who graduate — not characteristics of the program or its faculty.

- ✗ *Input focused* – All department labs will be equipped with state-of-the-art instruments.
- ✗ *Input focused* – Program faculty will improve their content knowledge through participation in professional development activities.
- ✓ *Outcome focused* – Graduates of the Art History program will analyze the religious and political influences on 18th century European artists.

4. A program outcome must **communicate a single outcome** rather than combine multiple outcomes into a single statement.

- ✗ *Multiple outcomes* – Graduates of the psychology program will be lifelong learners who understand the concepts of psychology and can apply those concepts to the design and application of real research problems.
- ✓ *Single outcome* – Graduates of the psychology program will be able to design a research study.

(Georgia Tech Office of Assessment, 2016)

The Ministry of Advanced Education's standard for *Professional Capacity / Autonomy* is described as "Qualities and transferable skills necessary for further study, employment, community involvement and other activities requiring: 1) the exercise of initiative, personal responsibility and accountability; 2) working effectively with others; and, 3) behaviour consistent with academic integrity." Program outcomes should show how graduates of your program demonstrate that they have acquired these qualities and skills upon graduation (Guiding Principles for Curriculum Quality).

Writing Your Program Outcomes

Now that you are ready to write your program outcomes, follow this step-by-step guide adapted from *The Exchange's* "Tips for Writing or Revising Program Learning Outcomes."

1. Consider

- Published standards from any regulatory bodies responsible for licensing or educational oversight in the discipline
- The Degree Quality Assurance Board program requirements
- UFV's ILOs

Examining these first will give you some ideas about how to frame your outcomes.

2. Consult

- UFV's Program Development Coordinator
- Disciplinary program advisory groups
- Industry/disciplinary experts within and outside UFV

The goal is to determine in the broadest possible terms what a graduate from your program should be able to understand and do.

3. Draft and Revise

As you write out what you want all graduates to be able to do at the end of the program, ask yourself these questions to help refine your list:

- Is this important? Will it really matter in the long run?
- Would employers, other educators etc. agree?
- Is this a performance that learners can demonstrate?

OR If you are having trouble starting from the end, make a list of all the abilities that you think it is important for graduates of your program to learn—then group the ideas. Ask yourself:

- What items can be grouped together because they speak to the same performance? Some items may describe knowledge or skills that can be integrated into a single performance.
- What items are subsets of others?
- What items can be eliminated? Are all items important? Will they be important three years from now?
- Why do you want graduates to be able to do this? What do you want them to do with this knowledge or skill? (The Exchange, 2017).

Revise your outcomes to meet the general principles discussed above, keeping in mind the following:

- A program will typically have between six and ten outcomes
- Program outcomes are broader than course outcomes

4. Check

Use the next section, Checking Program Outcomes for Curriculum Quality, to check your program outcomes against the UFV Guidelines for Curriculum Quality. You should be able to use this worksheet as you bring your program through curriculum approval processes. Note that this checklist matches only your program *outcomes* against the principles, not the entire program.

Checking Program Outcomes for Curriculum Quality

Use the table below to articulate how your program outcomes reflect the quality of the curriculum, as defined by UFV's Curriculum Quality Principles. The guiding questions are meant to give you ideas and examples for each principle. You may choose to answer these questions specifically, or you may answer in other ways or respond to only some of the questions if they are more relevant to your program.

Table 4. Checking Program Outcomes with Curriculum Quality Principles

Principle Quality curriculum is...	Guiding Questions	Answers/Explanation of Program Quality
1. Outcome-driven, aligned, and intentionally designed to achieve its purpose	<ul style="list-style-type: none"> How do your program outcomes match with the ILOs? [fill in any answers here, and/or refer to the mapping exercise below] 	
2. Rigorous, meeting credential-level standards recognized by the Ministry, by professions, industry, and by academic communities, and striving for excellence.	<ul style="list-style-type: none"> What accreditation standards exist for your program? How is your program delivering or meeting the standards? 	
3. Current, relevant, and forward-looking.	<ul style="list-style-type: none"> How do program outcomes emphasize skill development, critical thinking, and higher order thinking (such as awareness of limits of knowledge) related to the discipline? Does the program area maintain connections with an industry/discipline-based program advisory group and consult with this group on curriculum? Is your program responding to recent developments in the field? 	
4. Connected to civic and personal obligations and growth as central to learning.	<ul style="list-style-type: none"> Are opportunities for practicum or internship placements possible and encouraged with these program outcomes? 	

<p>5. Flexible – it provides varied modes of delivery, recognition of prior and alternative learning experiences, and multiple program pathways.</p>	<ul style="list-style-type: none"> • Could a student meet some program outcomes through a study abroad experience or student-generated activities? • Do the program outcomes encourage self-reflection on student learning through a capstone or reflective course, assignment, or project? • Are opportunities for self-reflection built into the program through the outcomes in other ways? • Do the program outcomes explicitly address skill development? • Is collaboration encouraged in the program through the outcomes or the design? 	
<p>6. Inclusive – it respects and honours people’s differing backgrounds, cultures, experiences, and identities as a foundation and support for each student’s success. It is in compliance with the <i>BC Human Rights Code</i>, and reflects UFV’s commitment to internationalization, Indigenization, and access.</p>	<ul style="list-style-type: none"> • How have you considered the background of the program students in designing the program outcomes? • Have the social and emotional learning needs of the students been considered? 	

This fillable table is also available as a separate resource here:
<http://www.ufv.ca/media/assets/teaching--learning-centre/forms/Checking-Program-Outcomes-for-Curriculum-Quality.pdf>

Mapping Program Outcomes to ILOs

The next step in checking your program outcomes is to map them with the Institutional Learning Outcomes. The following grid will allow you to show how your program outcomes meet the ILOs. Fill in your program outcomes in the left column and show which ILOs each outcome supports by filling in a brief bullet-form explanation in the corresponding box.

Table 5. Program Outcomes Mapped to ILOs

Program Outcome	Demonstrate Information Competency	Analyze critically and imaginatively	Use knowledge and skills proficiently	Initiate inquiries and develop solutions to problems	Communicate effectively	Pursue self-motivated and self-reflective learning	Engage in collaborative leadership	Engage in respectful and professional practices	Contribute regionally and globally
1									
2									
3									
4									
5									
6									
7									

Maps of program learning outcomes to Institutional Learning Outcomes can take many forms, and you will find several different examples on the UFV website. The basic table above is a clear, comprehensive, and effective visual representation that takes the best features of these examples.

To map your program outcomes to the course outcomes of its required courses, see the section below, [Mapping Course Outcomes to Program Outcomes](#).

4. Developing Course Outcomes

The building block for quality curriculum is the learning outcome. Your course learning outcomes provide students with the road map for the course, but they should also provide you with the foundation for your readings and activities, lessons, assignments, and assessments. In designing a new course or redesigning an existing one, it therefore makes the most sense to begin with the learning outcomes.

Backwards Design

Developing course outcomes is another step in the backwards curriculum design process (see Section 3 for more detail), as is shown in Figure 3 above. After program outcomes have been created, course outcomes can be developed and mapped to those program outcomes to ensure clear alignment of the curriculum from the course level all the way up to the ILOs.

Figure 4 below shows a curriculum map that emphasizes the relationship between external frameworks, program outcomes, and course-level outcomes and activities.

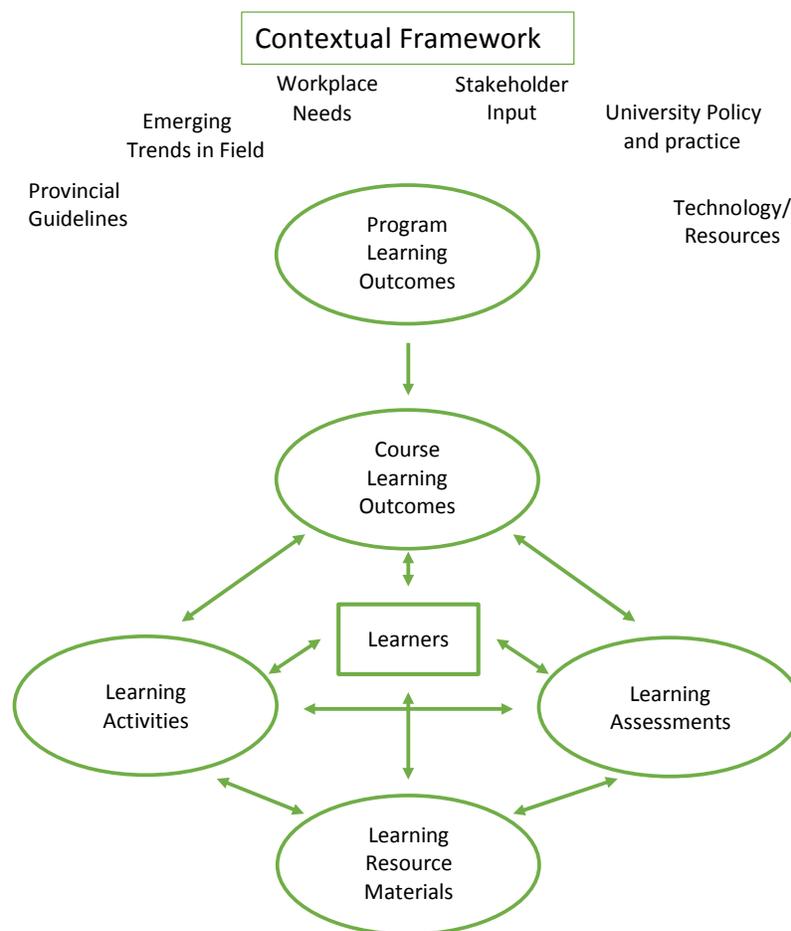


Figure 4. Curriculum Map Note: Adapted from *The curriculum road map explained*, by The Exchange, retrieved from <http://gototheexchange.ca/index.php/abc-curriculum-resources>. Copyright 2017.

As shown in this map, course outcomes are determined after the contextual framework has been considered and program outcomes have been developed. Good course outcomes will support the program learning outcomes so that by working through all of the courses in a program, learners will have met all of the program outcomes. Course outcomes will consider the learners' needs and will inform the development of learning activities, assessments, and resource materials for a course.

Developing Effective Course Outcomes

Course outcomes are structured in the same way as program outcomes or institutional learning outcomes (See Section 2: Defining Learning Outcomes). Each outcome should consist of three basic parts: an action verb, the specific learning, and the context.

Action Verbs

Here at UFV, we use Bloom's taxonomy of learning outcomes (revised 2001) as a guide for choosing the most appropriate verb to reflect the desired outcome of a course. In Bloom's taxonomy, learning is classified into one of three domains: cognitive, affective, or psychomotor. Below are descriptions and verb lists for each domain.

The cognitive domain focuses on critical thinking (see Table 6).

The second learning domain proposed by Bloom is the affective domain, which is used to focus on attitudes, values, or beliefs (see Table 7).

The third and final domain you may want to consider in choosing an appropriate verb is the psychomotor domain, which emphasizes physical activity and demonstration (see Table 8).

Table 6. Cognitive Domain Categories and Verbs.

Cognitive Domain					Creating
<p>Remembering</p> <p>Recalling or recognizing information.</p> <p>Examples and activities: Multiple-choice test, recount facts or statistics, recall a process, rules, definitions; quote law or procedure.</p> <p>Key words/verbs: Arrange, define, describe, label, list, memorize, recognize, relate, reproduce, select, state.</p>	<p>Understanding</p> <p>Comprehending meaning, re-state data in one's own words, interpret, extrapolate, translate.</p> <p>Examples and activities: Explain or interpret meaning from a given scenario or statement, suggest treatment, reaction or solution to given problem, create examples or metaphors.</p> <p>Key words/verbs: Explain, reiterate, reword, critique, classify, summarize, illustrate, translate, review, discuss, estimate, interpret, theorize, paraphrase, reference, example.</p>	<p>Applying</p> <p>Using or applying knowledge, put theory into practice, use knowledge in response to real circumstances.</p> <p>Examples and activities: Put a theory into practical effect, demonstrate, solve a problem, manage an activity.</p> <p>Key words/verbs: Use, apply, discover, manage, execute, solve, produce, implement, construct, change, prepare, conduct, perform, react, respond, role-play.</p>	<p>Analyzing</p> <p>Interpreting elements, organizational principles, structure, construction, internal relationships; quality, reliability of individual components.</p> <p>Examples and activities: Identify constituent parts and functions of a process or concept, or de-construct a methodology or process, making qualitative assessment of elements, relationships, values and effects; measure requirements or needs.</p> <p>Key words/verbs: Analyze, break down, catalogue, compare, quantify, measure, test, examine, experiment, relate, graph, diagram, plot, extrapolate, value, divide.</p>	<p>Evaluating</p> <p>Assess effectiveness of whole concepts, in relation to values, outputs, efficacy, viability; critical thinking, strategic comparison and review; judgement relating to external criteria.</p> <p>Examples and activities: Review strategic options or plans in terms of efficacy, return on investment or cost-effectiveness, assess sustainability; perform a SWOT analysis; produce a financial justification for a proposition or venture, calculate the effects of a plan or strategy; perform a detailed and costed risk analysis with recommendations.</p> <p>Key words/verbs: Review, justify, assess, present a case for, defend, report on, investigate, direct, appraise, argue, project-manage.</p>	<p>Develop new unique structures, systems, models, approaches, ideas; creative thinking, operations.</p> <p>Examples and activities: Develop plans or procedures, creative problem solving, design solutions, integrate methods, resources, ideas, parts; create teams or new approaches, design policy, write protocols or contingencies.</p> <p>Key words/verbs: Design, plan, build, create, innovate, formulate, propose, establish, assemble, integrate, re-arrange, modify.</p>

Note: Adapted from *The cognitive domain: Get them thinking*, by Humber College Centre for Teaching and Learning, retrieved from [http://www.humber.ca/centreforteachingandlearning/assets/files/Teaching%20Methods/cognitive%20domainwith%20activities\(1\).pdf](http://www.humber.ca/centreforteachingandlearning/assets/files/Teaching%20Methods/cognitive%20domainwith%20activities(1).pdf) Copyright 2016.

Table 7. Affective Domain Categories and Verbs.

Affective Domain				Characterizing by a Value Construct
<p>Receiving Phenomena</p> <p>Awareness, willingness to hear, selected attention.</p> <p>Examples and activities: Listen to others with respect. Listen for and remember the name of newly introduced people.</p> <p>Key words: asks, chooses, describes, follows, gives, holds, identifies, locates, names, points to, selects, sits, erects, replies, uses.</p>	<p>Responding to Phenomena</p> <p>Active participation on the part of the learners. Attends and reacts to a particular phenomenon. Learning outcomes may emphasize compliance in responding, willingness to respond, or satisfaction in responding (motivation).</p> <p>Examples and activities: Participates in class discussions. Gives a presentation. Questions new ideals, concepts, models, etc. in order to fully understand them. Know the safety rules and practices them.</p> <p>Key words: answers, assists, aids, complies, conforms, discusses, greets, helps, labels, performs, practices, presents, reads, recites, reports, selects, tells, writes.</p>	<p>Valuing Phenomena</p> <p>The worth or value a person attaches to a particular object, phenomenon or behaviour. This ranges from simple acceptance to the more complex state of commitment. Valuing is based on the internalization of a set of specified values, while clues to these values are expressed in the learner is overt behaviour and are often identifiable.</p> <p>Examples and activities: Demonstrates belief in the democratic process. Is sensitive towards individual and cultural differences (value diversity). Shows the ability to solve problems. Proposes a plan to social improvement and follows through with commitment. Informs management on matters that one feels strongly about.</p>	<p>Organizes values into priorities by contrasting different values, resolving conflicts between them, and creating a unique value system. The emphasis is on comparing, relating, and synthesizing values.</p> <p>Examples and activities: Recognizes the need for balance between freedom and responsible behaviour. Accepts responsibility for one's behaviour. Explains the role of systematic planning in solving problems. Accepts professional ethical standards. Creates a life plan in harmony with abilities, interests, and beliefs. Prioritizes time effectively to meet the needs of the organization, family, and self.</p> <p>Key words: adheres, alters, arranges, combines, compares, completes, defends, explains, formulates, generalizes, identifies, integrates, modifies, orders, organizes, prepares,</p>	

Note: Adapted from *The affective domain: Get them caring about learning*, by Humber College Centre for Teaching and Learning, retrieved from <http://www.humber.ca/centreforteachingandlearning/assets/files/Teaching%20Methods/Bloom%20Affective%20domain.pdf> Copyright 2016.

Table 8. Psychomotor Domain Categories and Verbs.

Psychomotor Domain	
<p>Imitating</p> <p>Copy actions of another, observe and replicate.</p> <p>Examples and activities: Watch teacher or trainer and repeat action, process or activity.</p> <p>Key words/verbs: Copy, follow, replicate, repeat, adhere.</p>	<p>Executing</p> <p>Reproduce activity from instruction or memory.</p> <p>Examples and activities: Carry out a task from written or verbal instruction.</p> <p>Key words/verbs: Re-create, build, perform, execute, implement.</p>
<p>Applying</p> <p>Execute skill reliably, independent of help.</p> <p>Examples and activities: Perform a task or activity with expertise and to high quality without assistance or instruction; able to demonstrate an activity to other learners.</p> <p>Key words/verbs: Demonstrate, complete, show, perfect, calibrate, control.</p>	<p>Adapting- Articulating</p> <p>Adapt and integrate expertise to satisfy a non- standard objective.</p> <p>Examples and activities: Relate and combine associated activities to develop methods to meet varying, novel requirements.</p> <p>Key words/verbs: Construct, solve, combine, coordinate, integrate, adapt, develop, formulate, modify, master.</p>
<p>Naturalizing- Coaching</p> <p>Automated, unconscious mastery of activity and related skills at strategic level.</p> <p>Examples and activities: Define aim, approach and strategy for use of activities to meet strategic need.</p> <p>Key words/verbs: Design, specify, manage, invent, project-manage.</p>	

Note: Adapted from *The psychomotor domain: Get them doing*, by Humber College Centre for Teaching and Learning, retrieved from <http://www.humber.ca/centreforteachingandlearning/assets/files/Teaching%20Methods/psychomotor%20domainwith%20activities.pdf> Copyright 2016.

UFV discourages the use of the following verbs:



- Understand
- Know
- Comprehend
- Appreciate
- Be familiar with
- Study
- Be aware
- Become acquainted with
- Gain knowledge of
- Cover
- Learn
- Realize (Mohawk College Centre for Teaching and Learning, 2016)

Specific Learning

Once you have decided on the appropriate verb for the outcome, the next piece of the outcome is the specific learning to be accomplished. This portion of the outcome should clearly identify the learning to be accomplished. It provides the “what” to match up with the outcome verb.

Here is an example:

Learners will be able to:

<u>formulate</u>	<u>scientific questions.</u>
(verb)	(specific learning)

Context

The final piece of a course learning outcome is the context, which provides the disciplinary information or states how the learning will be achieved. It answers questions such as “about what?”, “why?”, or “how?”.

Here is the same example from above including the context:

Learners will be able to:

<u>formulate</u>	<u>scientific questions</u>	<u>about the motion of visible celestial objects.</u>
(verb)	(specific learning)	(context)

Below is a list of outcomes from various UFV courses and disciplines to use as examples:

Table 9. Examples of Outcomes from UFV Courses

Discipline	Level	Outcome
ESL	Pre-university	Compose 10-12 sentence paragraphs in a variety of development styles including <u>argument/persuasive writing.</u>
Public Relations Certificate	CE	Demonstrate cultural responsiveness and adapt appropriately as an interviewer.
Computer Information Systems	100	Compare methods of cloud computing storage for personal use and for business use.
English	100	Articulate basic criteria that have been used to determine a work of literature’s place in the Western literary canon.
Plumbing	100	Calculate piping measurements including elevations and grades.
Punjabi	100	Perform basic communicative tasks within the context of school and everyday life.
Art History	200	Identify the historical circumstances - political, social, economic, and artistic - leading to the production of posters.
Child and Youth Care	200	Discuss appropriate actions based upon documented observations of behaviour within the context of child and youth care practice.
Practical Nursing	200	Discuss specific communication strategies and approaches relative to clients with mental illnesses.

Biology	300	Predict outcomes of crosses in horses using basic Mendelian genetics.
Communications	300	Develop persuasive public relations messages for target audiences.
Spanish	300	Identify essential characteristics of Hispanic traditions, art, and/or cultural expressions.
Business	400	Develop a media plan including a budget and implementation schedule.
Education	400	Analyze legislation and policies that may impact their provision of supportive teaching and learning practices in relation to diversity issues.
Graphic Design	400	Prepare creative briefs, strategies, and deliverables specific to a specialization (e.g. interactive design, dynamic media, or branding) to industry standards.

General Guidelines for Course Outcomes

Here are some additional guidelines to help you create outcomes for your course:

- In general, you should expect to need four to eight course outcomes for a typical three-credit undergraduate course.
- Performance expectations or minimum levels of achievement are usually considered in your assessment of the outcome and in course prerequisites, but not stated in the outcome itself.
- Most of the course outcomes for a university-level course should start with verbs from at least the third level of Bloom’s taxonomy, application.
- Consider how Indigenization will fit with your course outcomes – is there space for alternate assessment methods, for bringing in Indigenous examples, or for exploring alternate cultural viewpoints?

Using Outcomes in Course Design

Once you have determined your course outcomes and checked them against the general guidelines above, you can use the outcomes and the Guidelines for Curriculum Quality to develop your course syllabus. Keep in mind that the assessments, learning activities, and resources should all relate to the course outcomes.

Special Cases

For some types of courses, it can be difficult to determine appropriate outcomes because they are special or unique in some way.

Practicum Courses, Internships, Co-op

An experiential learning course such as a practicum, internship, or co-op placement will require outcomes that are broad enough to fit the experience of all the students who take the course in different environments and on different projects. However, the outcomes must also be specific enough to align with the program outcomes and provide a common experience for all students who take the course.

To write effective outcomes for these types of courses, focus on the overarching knowledge or skills the learners should gain from the experience and on any common assignments or projects, even though the specific content or location/context of the learning might differ.

Here are a few examples of such outcomes from UFV practicum and internship courses:

Table 10. Examples of Practicum and Internship Outcomes

Discipline	Course Number	Outcome – Learners will be able to...
Criminology	480	...critically assess how the overall goals of the [criminal justice] system are actualized through policies, procedures, and the deployment of resources
Social Work	330	...critically assess social work practice experiences through reflection, peer review, constructive feedback and consultation
Library and Information Technology	266	...demonstrate entry-level knowledge of, and the ability to successfully complete, the daily tasks, duties, and procedures required of Library Technicians in organizations such as libraries, information centres, records management departments, and archives
Theatre	199	...demonstrate competence in executing the tasks for a particular area of technical theatre production (i.e. set, prop, or costume construction; stage lighting; sound production; backstage crew; etc.)

Directed Studies

Directed studies courses are those in which the student develops an individual project (usually research-based) in consultation with the instructor. Though it might seem that each instance of the directed studies course will have different outcomes because the projects and content change every time, focus on the common elements of each directed study for the course outcomes (see Table 9 for examples).

Table 11. Examples of Directed Studies Outcomes

Discipline	Course Number	Outcome – Learners will be able to...
Peace and Conflict Studies	390	...Apply peacebuilding methodology to the analysis of specific real-life scenarios in the directed study
Nursing	490	...Apply evidence-based knowledge acquired through directed study to the nursing care of individuals, families, groups, and communities.
Visual Arts	421	...Develop and complete an individual painting project, including relevant conceptual support material and an artist's statement

Checking Course Outcomes for Curriculum Quality

Now that you have determined effective outcomes for your course, you can check them against UFV's Curriculum Quality Principles using the table below. Note that the guiding questions also ask about the possible assessments and activities tied to the outcomes, and remember that not every course must align with all of the principles. The guiding questions should not limit your response; if your course outcomes, assessments, and activities match with the curriculum quality principle in a way that is not covered in the guiding questions, feel free to explain without using the questions as prompts.

Table 12. Checking Course Outcomes with Curriculum Quality Principles

Principle Quality curriculum is...	Guiding Questions	Answers/Explanation of Course Outcome Match
1. Outcome-driven, aligned, and intentionally designed to achieve its purpose	<ul style="list-style-type: none"> Do your course outcomes support your program outcomes? Do your course assessments measure your course outcomes? Do the course activities prepare the students for the assessments? 	
2. Rigorous, meeting credential-level standards recognized by the Ministry, by professions, industry, and by academic communities, and striving for excellence.	<ul style="list-style-type: none"> Which course outcomes support which accreditation standards for the program? 	
3. Current, relevant, and forward-looking.	<ul style="list-style-type: none"> Does the course include discipline or industry-specific problems/scenarios as examples and assignment prompts? Are connections with employers made for project work? Are current examples and case studies used where possible? Are you highlighting for your students the employability skills that they develop through their course work? 	
4. Connected to civic and personal obligations and growth as central to learning.	<ul style="list-style-type: none"> Are students provided options to participate in research that leads to conferences or publication? Are students encouraged to attend events hosted by the Indigenous Student Centre? Do courses draw on examples and content from real workplaces or community organizations within the discipline? Are students given opportunities to network with industry connections, volunteer in the community, or engage in advocacy? 	

<p>5. Flexible – it provides varied modes of delivery, recognition of prior and alternative learning experiences, and multiple program pathways.</p>	<ul style="list-style-type: none"> • Are there options for different types of assignments to meet the same course learning outcomes (e.g., essay, poster, case study)? • Does the course offer flexible assignment deadline choices for students? • Is skill instruction embedded within the course content? • Are students encouraged to reflect on the nature of their learning, either through specific assignments or class discussions? • Are there opportunities for students to collaborate? • Do course outcomes and assignments encourage students to work independently of the instructor and use critical thinking and problem solving skills? 	
<p>6. Inclusive – it respects and honours people’s differing backgrounds, cultures, experiences, and identities as a foundation and support for each student’s success. It is in compliance with the <i>BC Human Rights Code</i>, and reflects UFV’s commitment to internationalization, Indigenization, and access.</p>	<ul style="list-style-type: none"> • Does the course consider the different levels of learning preparedness that are in the classroom? • Is there variety in instructional methods so that students have more than one opportunity to understand course material? • Are web-based course materials used when possible so that students can access resources for review and follow up class sessions? • Is there a range of assessment methods? • Are texts available in both print and digital format to ensure accessibility to the materials? • Is an open textbook an option to reduce costs for students? 	

Mapping Course Outcomes to Program Outcomes

As part of program and course design and review, course outcomes of all the courses in a program should be mapped to the overarching program outcomes. The table below will allow you to complete this mapping process.

There are several benefits to mapping course outcomes to program outcomes:

- Course instructors will be fully aware of other courses in which students achieve similar outcomes and can plan their syllabi to reinforce outcomes, build skill/knowledge development, and avoid overlap.
- Course prerequisites and program requirements can be more easily determined based on how the outcomes fit together.
- A program map makes explanations of curriculum changes more transparent for committees at all levels – department, faculty, university-wide.
- An outcome map is a useful tool in a program review to show the logic and overall design of a program and to capture the relevance of its courses.

Use this program map to show connections between a single course's outcomes and the program's outcomes. Remember that not every program outcome must be addressed in each course:

Table 13. Map of Course Outcomes to Program Outcomes. Adapted from *Assessment primer: Curriculum Mapping*. University of Connecticut. <http://assessment.uconn.edu/assessment-primer/assessment-primer-curriculum-mapping/>.

Course Outcomes	Program Outcome 1	Program Outcome 2	Program Outcome 3	Etc.
Course Outcome 1	B			
Course Outcome 2		B		
Course Outcome 3	I			
Course Outcome 4		I		
Etc.			A	

B = Basic, **I** = Intermediate, **A** = Advanced expectation for this outcome

A fillable version of the map of course outcomes to program outcomes can be found here: <http://www.ufv.ca/media/assets/teaching--learning-centre/forms/Mapping-Course-Outcomes-to-Program-Outcomes.pdf>

While Table 8 is specific to identifying how an individual course's outcomes connect with the program's outcomes, the next program outcome map (Table 9) can be used to show how *all* the program outcomes are covered in the various required courses:

Table 14. Map of Program Outcomes to Courses

Course	Program Outcome 1	Program Outcome 2	Program Outcome 3	Etc.
100	I			
101	I			
102		I		
200	R			
201		R	I	
300			R	
400	M	R	M	
Etc.				

I = Introduced, **R** = Reinforced, **M** = Mastered

The fillable version of this table is located here: <http://www.ufv.ca/media/assets/teaching--learning-centre/forms/Mapping-Course-Outcomes-to-Program-Outcomes.pdf>

5. FAQs

Q: What do I do with course content that doesn't fit an outcome?

A: You will need to decide if this content is essential to your course. If the answer is yes, you may need to re-think your course outcomes. Remember that course "content," activities, and assessments exist to guide students towards meeting the course outcomes, not the other way around.

Q: What if one program outcome is assessed in multiple courses?

A: It is common for a program outcome to be assessed in more than one course, but normally the assessment would measure different levels of competence/achievement. For example, a program outcome might be assessed for basic understanding in a first-year course, then assessed for ability to work with the concept in a more advanced manner in a third- or fourth-year course. If certain program outcomes are assessed at the same level frequently, you should reconsider how your courses ladder and/or the course outcomes within the program's required courses.

Q: What if a program outcome is not addressed in the program's courses' outcomes?

A: This is a more serious problem that needs to be addressed in your program's curriculum. If the program outcome is essential in that it meets the needs of stakeholders, accreditation bodies, or employers, you will need to develop a course that includes this outcome and/or consider how the outcome can be introduced and assessed in existing courses.

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