Sa160610-5.2.2 Appendices

Appendix A – Fact-Finding Protocols

Academic Unit Questions

a. How does your faculty manage the LO development process?
    a. What is the recommended process/workflow for learning outcome development?
    b. Who do you consult with and in what order?
    c. What resources are in common use
    d. Does this include alignment of assessment?
    e. Who in the faculty has responsibility for oversight?
    f. How often do programs re-evaluate their learning outcomes, and what triggers that?
b. What are the policy requirements related to LOs in the faculty (e.g. FAHSS syllabus regulations, Odette Assurance of Learning processes)?
c. What is your experience of the perceived value of learning outcomes in departments/the Faculty, and for what purposes are they used?
d. What examples of particularly effective practice can we identify (e.g. curriculum maps, syllabus templates)?
e. Existing strengths, areas for development, and bottlenecks?
f. What causes frustration/burn out? What has helped?
g. What suggestions do you have for improvements to the current process?
h. Document collection – policies, templates, sample syllabi, other resources?

Learning Outcomes Assessment

a. How are program learning outcomes being assessed?
b. What practices and processes are in place for systematically gathering programmatic learning outcome assessment information?
c. How are learning outcomes assessment data being used?

Is there anyone else in your department/the faculty that you suggest I speak to because of their involvement with learning outcomes processes in the unit?

Central Support Units

a. What is the unit's contribution/role in institutional requirements for learning outcome development (Quality Council/IQAP, MTCU, new programs, cyclical review)? Who comes to you, what do they bring you, what do you do for them, who do you report to, and who do you collaborate with?
b. What processes and resources (including number of people) are involved in meeting the unit's responsibilities for learning outcome development? How is support organized?
c. What policies or guidelines related to learning outcomes are managed through this unit?
d. What are the boundaries of what you are responsible for (for example, we support new program development, but not new course development)?
e. Existing strengths, areas for development, and bottlenecks
f. What causes frustration/burn out (for your unit or for those you support)? What has or would help?
g. What suggestions do you have for improvements to the current process?
h. Document collection – policies, templates, syllabi, other resources

Appendix B: Learning Outcomes: Brief History and International Context

Many of the essential ideas connected with learning-outcomes based approaches to education have been a significant part of curriculum development for over sixty years. Tyler (1949) proposed a model of curriculum design based on the establishment of curricular objectives expressed in terms of the kinds of behaviour the learner should develop, and the context in which that behaviour is intended to operate. An important premise of his work is its emphasis on learning rather than teaching: students' active behaviours as learners, not the teachers' activities are the core foci of curriculum design. Since the early 1980s, Biggs is often credited for clarifying the key ideas of outcome-based education, adding rigour to their logic, systematizing the approaches they imply, and connecting them with constructivist and phenomenological approaches to learning – at least in the context of higher education. In recent decades Biggs's notion of constructive alignment (1996, 1999) has provided a clear operational basis for refining and creating intended learning outcomes and working backwards from them to create a productive learning environment through teaching/learning activities that would engage students in activities clearly aligned with achieving intended outcomes, and assessment tasks that validly judge the degree to which students have achieved them. The implementation of this particular learning-outcomes-based approach, constructive alignment, can play an important role in systematically shifting pedagogical resources toward learning (Spronken-Smith et al., 2013). In literature on post-secondary teaching and learning, Barr and Tagg's now foundational manifesto on shifting from a teaching-centred to learning-centred paradigm echoes Biggs' principles (1995), while adding further considerations for post-secondary educators.

However, formal requirements for learning outcomes development in our current context are also related to other, more bureaucratic concerns and policy priorities in the post-secondary sector in Ontario. Among these other uses, Deller, Brumwell & MacFarlane (2015), for example, recommend using learning outcomes to assess whether or students are learning what institutions claim they are, whether institutions are identifying and implementing teaching practices that effectively develop student skills, and to facilitate creation of a "common language so that members of the PSE sector, the labour market and the public can discuss what is expected of postsecondary graduates" (p.2).

The development and assessment of programmatic learning outcomes as also been co-opted as an element of the growing emphasis on quality assessment, student mobility and credential harmonization globally (Altbach, Reisberg & Rumbley, 2009). The Bologna Process, originally ratified in 1999, has been a key driver in this trend. It initially sought to harmonize and clarify post-secondary credentials across EU countries - with goals including greater international mobility and enhanced global competitiveness in the post-secondary sector (Wihlborgh & Teelken, 2014) - and influenced the development of comparable efforts in the US and Latin America (Crosier & Parveva, 2013). It significantly expanded dialogue, awareness and activity related to the development of learning outcomes and other practices intended to improve the transparency and clarity of student achievement in different institutions and programs internationally. Similar efforts in other countries, such as the development of Learning and Teaching Academic Standards in 2010 in Australia, and the establishment of Subject Benchmark Statements by the UK Quality Assurance Agency, have focused on discipline-specific learning outcomes.

The Ontario context

Ontario universities operate under a quality assurance system that involves learning outcomes, degree-level expectations (DLEs) and a quality assurance framework. DLEs serve as Ontario universities' academic standards, and identify the knowledge and skill outcome competencies that reflect progressive levels of intellectual and creative development associated with various levels of degrees (Ontario Quality Assurance Framework (OQAF, 2010). DLEs function as a general framework outlining what students should know and be able to do after successful completion of a degree program of any level: in other words; they are intended to articulate how degree credentials compare to those in other jurisdictions, and to provide a basic framework for curriculum planning at universities (COU, 2011). Each university then creates a less general set of DLEs for their own institutional use, reflecting its own mission, ethos, values and culture – at the University of Windsor these are called "Graduate Attributes"

Each program at each institution is structured based on intended program-level learning outcomes that describe what a student graduating from a specific program should be able to do – the expected achievements of all successful graduates of that program. The set of program-level learning outcomes must map in some way to all of the University of Windsor graduate attributes, which in turn map on to the provincial degree-level expectations. Each course must include course-level learning outcomes that map on to a smaller set of the graduate attributes. Collectively successful achievement of all course and program-level learning outcomes within a program must enable students to acquire all of the UWindsor Graduate Attributes by the time they graduate. The focus of learning outcomes is on the learner, and the outcomes should form the basis of how students are assessed and evaluated.

This commitment was formalized through the 2010 establishment of the Ontario Council of Universities Quality Council (QC) Quality Assurance Framework. The expectation is that all programs and all courses within programs will contain intended learning outcomes. These form a component of quality assurance review through the QC, and program-level learning outcomes may also play a role in the evaluation of program distinctiveness and Strategic Mandate Agreement (SMA) alignment in new program evaluation by the Ministry of Training, Culture and Universities (MTCU). Through institutionally developed quality assurance protocols based on this framework, all Ontario universities submit program- and course-level learning outcomes as part of cyclical external review of existing program, and as new programs are developed. This process is overseen by the Ontario Universities Council on Quality Assurance.

In 2013, the MTCU published Ontario's Differentiation Policy Framework for Postsecondary Education, which identified differentiation as "a primary policy driver for the system", intended to build on and focus the well-established strengths of institutions and to help them to operate in a complementary fashion. Student learning outcomes are identified as a potential area for metrics identifying unique strengths. The Ministry's recent consultation report, Focus on Outcomes, Centre on Students: Perspectives on Evolving Ontario's University Funding Model (MTCU, 2015) emphasizes an increased emphasis on tying funding to evidence of learning quality, specifically identifying the assessment of learning outcomes as a key strategic direction for change to the university funding model in the province, noting:

Understanding what students know – and what they should know – as a result of their time at university is critical to addressing quality. Measuring and assessing undergraduate learning outcomes has the potential to add considerable value to the sector, enabling students to understand what they have learned, governments to understand what skills are being generated, and universities to drive

continuous improvement. It is for these reasons that previous recommendations to the Ontario government have identified such assessment as an important to determining the value added through education (p. 44).

Accordingly, the Funding Model document advocated for the acceleration of current sectoral work on learning outcomes, and for the prioritization of learning outcomes assessment as a condition of funding.

Learning outcomes are also viewed provincially as a key lever for improving student mobility and shared course and program development through credit transfer (Fallon, 2015), which requires mechanisms for accurate comparison of curriculum content at the course, year, and program levels. In 2011, the member-driven Ontario Council on Articulation and Transfer (ONCAT) was established, with a mission to enhance academic pathways and reduce barriers for students looking to transfer among colleges or universities. ONCAT has established a Learning Outcomes Steering Committee which has funded numerous learning-outcomes focused pathway projects, and sponsored learning-outcomes related colloquia. ONCAT sees its role as assisting in the exchange of information and communication in order to enhance mutual understanding of each other's students and programs:

Learning outcomes facilitate a clear comparison of credentials at the course, year, and program levels and, as such, can play a vital role in credit transfer, by both improving existing pathways to maximize student success and by increasing the overall number of transfer opportunities. When discipline experts from various institutions, sectors, and jurisdictions come together to discuss their subject area through a learning outcomes lens, they gain greater understanding of what is expected of students in each program. The clarity and trust that results from such work enables partners to more confidently build partnerships and pathways among programs and institutions, which ultimately expedites the often lengthy and complex articulation process (Fallon (2015, p. 2)

As in many jurisdictions, the development of learning outcomes is more advanced than the development of systematic and aligned assessment of learning outcomes. Although not prima facie valid or consistent with scholarly recommendations regarding assessment, through HEQCO, universities and colleges have been involved in a number of pilots of standardized tests intended to measure student achievement of graduate attributes such as writing skills and critical thinking, including the AHELO study described above, a pilot of the Collegiate Learning Assessment, and a current initiative involving the OECD PIACC Survey of Adult skills. A number of provincial projects are exploring the challenge of outcomes assessment at various more granular and multi-faceted levels. The use of e-portfolios, capstone courses and the Odette Assurance of Learning initiative are examples of other, more multi-faceted and integrated approaches.

In 2012, HEQCO established a six-institution consortium to explore the assessment of learning outcomes, which includes Durham, George Brown and Humber Colleges, and Queen's, the Universities of Toronto and Guelph. The institutions involved are each assessing different but somewhat overlapping skills sets, including communication, critical thinking, literacy, teamwork, problem solving, professional and ethical behaviour, lifelong learning, design, and investigation. Consortium members have developed and tested a variety of tools including e-portfolios, student self-assessment, rubrics, standardized measures and tests, web-applications for outcomes tracking, and learning analytics data. Related project descriptions can be found in Appendix C. Another major initiative saw the publication of Learning Outcomes Assessment: A Practitioner's Handbook (Goff et al., 2015), a collaboration involving

numerous universities and colleges, with significant University of Windsor leadership through the contributions of Michael K. Potter, Erika Kustra, and Jessica Raffoul.

Appendix C: Funded Learning Outcomes Initiatives in Ontario

Higher Education Quality Council of Ontario Learning Outcomes Consortium Initiatives

Learning Outcomes Assessment and Program Improvement at Queen's University
Principal Investigator(s): Queen's University (Lead Researcher(s): Jill Scott, Brian Frank and Natalie Simper)
This study will conduct a longitudinal assessment of general learning outcomes such as critical thinking, problem solving and communication. The research will use five instruments to measure specific aspects of the learning outcomes and cognitive skills. Qualitative and quantitative data analysis will be used to provide instructors with feedback on their students' demonstration of the learning outcomes. This study is part of HEQCO's Learning Outcomes Assessment Consortium composed of six postsecondary institutions in the province. Their goal is to pilot assessment tools and techniques that are scalable at the institutional level.
Value: $ 1,103,999.00

A Pilot Project for the Development of an Online Learning Outcome Assessment Strategy for the University of Guelph
Principal Investigator(s): University of Guelph (Lead Researcher(s): Serge Desmarais)
This project will develop an online learning outcomes capturing and assessment tool; pilot-test its suitability; and conduct an initial study using the tool to measure students' skill acquisition over time. The online assessment strategy will eventually be implemented across the entire institution and is expected to be part of the regular quality assurance process. This study is part of HEQCO's Learning Outcomes Assessment Consortium composed of six postsecondary institutions in the province. Their goal is to pilot assessment tools and techniques that are scalable at the institutional level.
Value: $ 1,550,800.00

Capacity to Measure Essential Employability Skills
Principal Investigator(s): George Brown College (Lead Researcher(s): Gary Kapelus)
This project develops, pilots and tests tools, learning activities and assessment strategies to measure student achievement of essential employability skills related to critical thinking and communication. The intent is to create a practical resource for the assessment of critical thinking and communication that can be applied in any curriculum across the college and, ultimately, any postsecondary setting. This study is part of HEQCO's Learning Outcomes Assessment Consortium composed of six postsecondary institutions in the province. Their goal is to pilot assessment tools and techniques that are scalable at the institutional level.
Value: $ 240,525.00

Develop Rubric to Assess Skills in a College-Wide Application
Principal Investigator(s): Humber College (Lead Researcher(s): Patricia Morgan)
This study seeks to develop and validate an easy-to-use scorecard to measure student outcomes in critical thinking and communication skills. The scorecard will be piloted in two programs (police foundations and business administration) before being implemented in all diploma and degree programs as a regular diagnostic tool to track students' progress term-over-term. This five-phase project involves an assessment of other rubrics and scorecards, the development of the assessment tool, an evaluation of the tool and a possible expansion of the scorecard in all of Humber's schools and programs. This study is part of HEQCO's Learning Outcomes Assessment Consortium composed of six postsecondary institutions in the province. Their goal is to pilot assessment tools and techniques that

are scalable at the institutional level.
Value: $ 293,906.00

Development of Analytic Rubrics for Learning Outcomes Assessment
Principal Investigator(s): University of Toronto (Lead Researcher(s): Susan McCahan)
This study seeks to develop a resource to assess student competencies in communication, teamwork, investigation, design and problem analysis. This resource will be designed in a way that will make it applicable in a wide range of courses and institutions. The assessment tool will be piloted in nine engineering programs and student focus groups will be conducted to assess whether the students understand the feedback provided by the rubrics in the way intended by the instructor. This study is part of HEQCO's Learning Outcomes Assessment Consortium composed of six postsecondary institutions in the province. Their goal is to pilot assessment tools and techniques that are scalable at the institutional level.
Value: $ 752,022.00

Durham College Student Success ePortfolio: Essential Employability Skills Project
Principal Investigator(s): Durham College (Lead Researcher(s): Jacqueline Towell and Chris Hinton)
This study explores student, industry and faculty experiences using a student success eportfolio. This research seeks to understand the extent to which the eportfolio is effective in assessing the development of the Ministry of Training, Colleges and Universities' Essential Employability Skills, a set of generic learning skills such as communication, critical thinking and teamwork. This three-phase project involves researching different eportfolio options, piloting an eportfolio platform and gaining faculty and student feedback through surveys and focus groups. This study is part of HEQCO's Learning Outcomes Assessment Consortium composed of six postsecondary institutions in the province. Their goal is to pilot assessment tools and techniques that are scalable at the institutional level.
Value: $ 101,100.00

Higher Education Quality Council of Ontario Publications related to Learning Outcomes
Available at: http://www.heqco.ca/en-ca/Research/ResPub/Pages/default.aspx#Default={%22k%22%3A%22%22%2C%22r%22%3A[{%22n%22%3A%22PublicationSubject%22%2C%22t%22%3A[%22\%22%C7%82%C7%824c6561726e696e67204f7574636f6d6573\%22%22]%2C%22o%22%3A%22and%22%2C%22k%22%3Afalse%2C%22m%22%3Anull}]}

The Language of Learning Outcomes: Definitions and Assessments
Sarah Brumwell, Fiona Deller and Alexandra MacFarlane, Higher Education Quality Council of Ontario

Outcomes Based Education Initiatives in Ontario Postsecondary Education Case Studies
Qin Liu, University of Toronto

Outcomes based funding: Current status, promising practices, and emerging trends
Mary Ziskin, University of Dayton, Don Hossler and Karyn Rabourn, Indiana University, Osman Cekic, Canakkale Onsekiz Mart University and Youngsik Hwang, Indiana University

Engaging Students to Think Critically in a Large History Class
Mairi Cowan, Tyler Evans-Tokaryk, Elaine Goettler, Jeffrey Graham, Christopher Landon, Simone Laughton, Sharon Marjadsingh, Caspian Sawczak and Alison Weir, University of Toronto Mississauga

@ Issue Paper No. 19 - Emphasizing Numeracy as an Essential Skill
Nicholas Dion, Higher Education Quality Council of Ontario
Evaluating Essential Skills for Ontario's Tradespeople (ESOT) Project
Bea Clark and Marti Jurmain, College Sector Committee for Adult Upgrading

Undergraduates Understanding of Skill based Learning Outcomes: Can e-portfolios Help?
Tanya S. Martini and Matt Clare, Brock University

Tuning: Identifying and Measuring Sector-Based Learning Outcomes in Postsecondary Education
Mary Catharine Lennon, Brian Frank, James Humphreys, Rhonda Lenton, Kirsten Madsen, Abdelwahab Omri and Roderick Turner

Productivity Implications of a Shift to Competency-Based Education: An environmental scan and review of the relevant literature
Brian Abner, Oksana Bartosh and Charles Ungerleider, Directions Evidence and Policy Research Group, LLP, with the assistance of Rob Tiffin

Evaluating Critical Thinking and Problem Solving in Large Classes: Model Eliciting Activities for Critical Thinking Development
James Kaupp, Brian Frank and Ann Chen, Queen's University

AHELO: The Ontario Experience
Mary Catharine Lennon and Linda Jonker, Higher Education Quality Council of Ontario (HEQCO)•

Piloting the CLA in Ontario
Mary Catharine Lennon, Higher Education Quality Council of Ontario (HEQCO)

Taking Learning Outcomes to the Gym: An Assignment-Based Approach to Developing and Assessing Learning Outcomes
Steve Joordens, Dwayne Pare and Lisa-Marie Collimore, Advanced Learning Technologies Lab, University of Toronto

Information Literacy Competency Standards for Students: A Measure of the Effectiveness of Information Literacy Initiatives in Higher Education
Amanda Duncan and Jennifer Varcoe from Georgian College

College-Level Literacy: An Inventory of Current Practices at Ontario's Colleges
Roger Fisher and Whitney Hoth, Fanshawe College

@ Issue Paper No 2-2 A Fine Balance
Mary Catharine Lennon

@ Issue Paper No 2-3 Signalling Abilities and Achievement
Mary Catharine Lennon

HEQCO has also taken an active role in the organization and development of both events and resources

intended to support those seeking to adopt outcomes-based approaches through. These have included a number of symposia as well as online and downloadable resources such as the following:

Measuring matters: Assessing learning outcomes in higher education Webinar series
http://www.heqco.ca/en-ca/OurPriorities/LearningOutcomes/Pages/Measuring-matters-Assessing-learning-outcomes-in-higher-education.aspx

L*earning Outcomes Assessment: A Practitioner's Handbook*
March 10, 2015
Lori Goff, Michael K. Potter, Eleanor Pierre, Thomas Carey, Amy Gullage, Erika Kustra, Rebecca Lee, Valerie Lopes, Leslie Marshall, Lynn Martin, Jessica Raffoul, Abeer Siddiqui, Greg Van Gastel

Ontario Council on Articulation and Transfer projects can be retrieved from:
http://www.oncat.ca/index_en.php?page=research

Appendix D: Practices, policies, and procedures in academic units

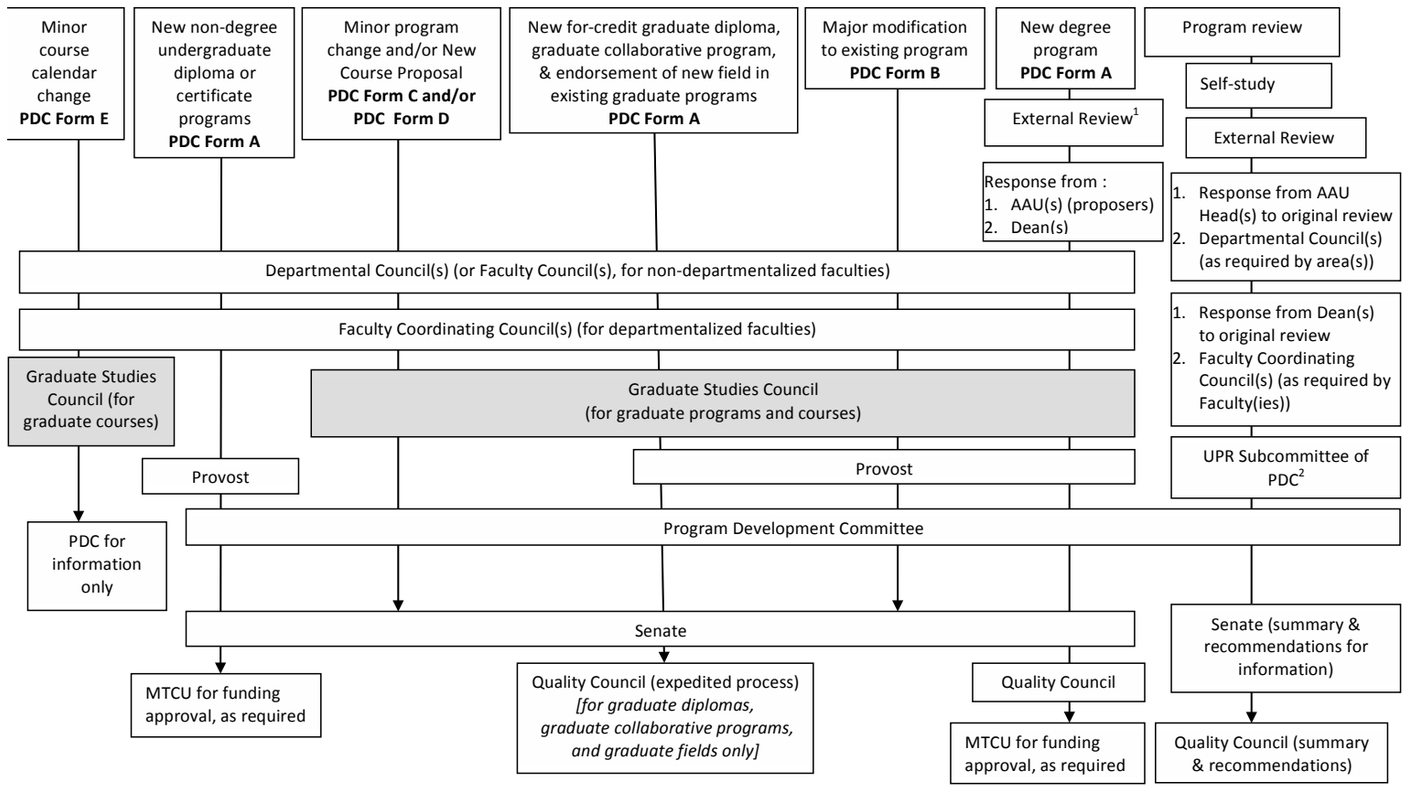
	Procedures	Supports & Resources	Policies & Documents	Assessment of LO's	Effective Practices Identified
EDUCATION	Associate Deans directly responsible for process For new courses and programs, LOs are developed by relevant faculty members / committees and reviewed by relevant Associate Dean, in preparation of the relevant PDC form. Once PDC form is complete, LOs are approved by the Faculty Council as part of normal process. For existing courses, LOs are developed by instructors responsible as part of the course syllabus design, and reviewed by the relevant Associate Dean.	For pre-service courses, learning outcomes are developed in alignment with the Ontario Curriculum guidelines	Developing revised syllabus template	Assessments are aligned to outcomes; this is a foundational principle of teaching and our students learn this as part of their own teaching practice Had an exit survey recently, Associate Deans gather and review all course outlines. SET scores and details provide some feedback	Common development of course syllabus template with alignment of LOs and assessment Knowledge of curriculum mapping - teach concept
ENGINEERING	Process supported by Faculty of Engineering Curriculum Committee and Undergraduate Programs Coordinator. The Canadian Engineering Accreditation Board (CEAB) requires that we track the achievement of 12 Graduate Attributes (GrAtts) necessary for students graduating from an accredited, 4-year, engineering program. It is suggested that the GrAtts be sub-divided into approximately three indicators each. Course-level learning outcomes are then mapped to the indicators. Undergraduate Programs Coordinator (UPC) has met with individual instructors to review the alignment of their course learning outcomes to the CEAB GrAtts and indicators. New LOs then submitted to regular Senate process	Common Syllabus template including LOs Adopted a common set of indicators which had been posted by the University of Toronto on the EGAD website, http://egad.engineering.queensu.ca/?page_id=1207. Have central space to store files electronically	A CEAB course information sheet is completed for each course to report the GrAtts and indicators for each course. They also indicate the percentage of time that is devoted to specific required areas. CEAB accreditation requires both input-based (i.e., NS, Math, etc.) and output-based (i.e., GrAtts) reporting. Every instructor is required to maintain a binder of information for each course that he/she teaches. This binder contains the course syllabus; lecture notes; samples of student work for all assignments, tests, quizzes, reports, projects; marking; and data for all course LOs.	Each program maps where the indicators (and associated GrAtts) are being assessed. Specific assessments are reported, along with the number of students who exceed expectations (EE), meet expectations (ME), and do not meet expectations (DNM). Most courses use percentage cut-offs for determining these levels. Curriculum maps identify where LOs are assessed Assessments of GrAtt indicators are collected using Excel spreadsheets. Histograms of the assessment results for each course are generated manually and distributed to the programs.	Every course uses a common syllabus template that includes a list of the course-level learning outcomes and how they relate to our CEAB GrAtts and indicators. The tracking of CEAB GrAtts and indicators is led by the Faculty of Engineering Curriculum Committee (FECC). This allows for the sharing of best practices amongst the programs and for consistent reporting throughout the Faculty. An Undergraduate Programs Coordinator provides support and is responsible for the process Generative Curriculum maps aids in identifying where attributes/outcomes are being assessed

	Procedures	Supports & Resources	Policies & Documents	Assessment of LO's	Effective Practices Identified
FAHSS	Process and person responsible vary by Department. A common process: Consult with colleagues, CTL, curriculum or undergraduate committee/graduate committee, and then review LO and approve at Faculty Council before regular process at PDC	Other courses as models, colleagues, CTL, Undergraduate/graduate committee, Departmental Council, FCC/Grad council	Course syllabi must align with program outcomes. Outcomes must be posted on the course syllabus. (Note: Most surveyed did not identify any policies or documents) Document containing LOs for 6 different programs	Generally, there is no specific ongoing assessment process in place besides the normal exams and assessments in the courses. This information is not aggregated or analyzed. Program-level learning outcomes are not assessed separately. Some programs use alumni surveys. Some programs have begun initial mapping.	The Faculty has adopted a course syllabus template that includes LOs Four departments indicated they developed curriculum maps which identify the various methods of assessment used across course offerings
HK	Department Head has responsibility for oversight For a new course, a faculty member would put the appropriate PDC form together complete with LOs. Once complete, it would to the Department Head for review, then CTL for review of the LOs, then PDC No systematic process for new programs	CTL personnel Previous examples of syllabi Some may also use materials from the department-specific LO workshop from a few years ago	No standard policies. Request that some standard items are included in every course syllabus (e.g., relevant Senate bylaws). Course syllabi for each term are collected centrally in Kinesiology and stored. This helps when students who graduate contact us to track down a syllabus from a course they took previously when applying to a new program.	Many instructors link LOs with assessments, but this is Not done systematically across all courses. Currently, program-level LOs are not really being assessed. However, this is in the plan moving forward.	Currently evaluating LOs and processes through a CLIF grant from the CTL, to assess all course syllabi from the last 5 years. One of the parts of the CLIF grant analysis is to look at compliance regarding the standard items. Once CLIF grant analysis is complete, HK plans to hold a workshop for everyone in Kinesiology to go over the results and provide a plan for advancing practices. The intent of the approach is not to develop a syllabus template, but rather to assess (in addition to LOs) several things related to the HK curriculum. For example, do we have gaps that need to be filled? What type of assessments are being used? Is there a progression in LOs as the students' progress from first to fourth year courses? The plan is to continue to look at mapping LOs throughout the programs and align LOs with assessments in all classes.

	Procedures	Supports & Resources	Policies & Documents	Assessment of LO's	Effective Practices Identified
LAW	Each five-year strategic plan begins with development of program-level learning outcomes. There is a learning outcomes subcommittee. i. Academic planning meeting (monthly meeting) ii. Faculty council (monthly meeting) iii. Forms go to PDC	CTL asked to review LOs early in the process	No policies identified.	No formal assessment gathering, but initial mapping of assessment methods has taken place.	Engaged as a Faculty retreats and in a review of existing syllabi to map the curriculum and to identify gaps and strengths. Also mapped assessment methods. Initiated by faculty members and facilitated by CTL member.
NURSING	Associate Dean has responsibility for oversight. LOs not required for each course, though there are year level outcomes for accreditation. Competencies are developed for clinical courses. Individual faculty develop LOs if desired, submit to Curriculum Committee.	The Ontario College of Nurses competencies for external professional accreditation Blooms Taxonomy to assist in conceptualizing learning outcomes at different levels.	Ontario Colleges of Nursing accreditation standards and the 120 competencies that graduating nurses need to meet. Standard syllabus used by the collaborative program with Lambton and St Clair, but this does not apply to Windsor-only courses that are not part of the program.	Not generally evaluated. In evaluation of clinical competencies, however, the competencies must be directly observed in a clinical setting, so there is some alignment, even if it is not explicitly recognized. NCLEX exam gives some indication of program-level outcomes, and they are able to get data back on how their students did on the exam so curricular adjustments could be made.	A large variety of assessment methods used, including methods authentic to the discipline (OSCI etc.) Started curriculum map process (though delayed for accreditation)

	Procedures	Supports & Resources	Policies & Documents	Assessment of LO's	Effective Practices Identified
SCIENCE	Program-level LOs tend to be developed by one or two individuals (Head, Undergraduate Chair, faculty member). Development of course-level LOs tends to be the responsibility of the individual(s) who teaches a particular course. The LOs are submitted for review to the undergraduate chair/ committee and CTL before approval through the Department Council, Science Program Development Committee (SPDC), Science Faculty Council, and then regular Senate channels	CTL and Science Program Development Committee (SPDC) in an advisory capacity for feedback	Discussing the development of a standard syllabus	Program-level learning outcomes are not presently being assessed. In many cases, they are in the process of being developed. It is expected that the focus will change to a more in-depth study of the learning outcomes in terms of how they are assessed once all programs have learning outcomes	The development of a curriculum map for each undergraduate program initiated 10 years ago - interest to continue developing this tool, incorporating LO information to clearly identify the fulfillment of all graduate attributes by the end of a program. Faculty-led retreats to determine LOs together.

Appendix E: University of Windsor Quality Assurance Flowchart



[1] includes opportunity for revisions and response to external review to be forwarded to Departmental Council
[2] the department submits biennial updates on progress on recommendations for UPR Subcommittee and PDC review
outcomes of the Quality Council reviews will be reported to Senate

Adapted *from the University of Ontario Institute of Technology Quality Assurance Handbook, 2010*