

Trent University

Course and Program

Learning Outcomes Resource



The Centre for Teaching and Learning (CTL) aims to provide tools and support for the Trent teaching community. This resource serves as a support to the development and refinement of learning outcomes.

1. Introduction

High quality programs and teaching in the University context are determined by a host of characteristics that enable student learning. One of these characteristics involves the articulation and assessment of learning outcomes for the students in our courses and programs. This is important for guiding students in terms of clarifying expectations and goals for students, and it has the potential to foster more effective student self-assessments: The student can ask - Have I met the outcomes for this course? This program? Articulating learning outcomes also supports instructors in describing how the course or program focuses on deep learning, is theoretically grounded, and places students at the centre of the learning process.

1.1 Learning outcomes identify *learning that matters*

Learning outcomes describe *learning that matters*; what students will understand and be able to do with that understanding.

Learning outcomes are usually formed as active statements that describe significant or essential learning that successful students will demonstrate by the end of a course or program.

Learning outcomes are not new. They are grounded in approaches such as experiential learning and go as far back as John Dewey's work in the early 1900's at the University of Chicago and Columbia University, and subsequently Tyler (1949). Nor are learning outcomes without controversy. Some find that mapping out learning outcomes is a tedious administrative exercise. Harden (2007) on the other hand, identified some particular advantages of including learning outcomes in a course syllabus or program. He notes that explicitly stating learning outcomes for a course:

- Promotes a learner-centred approach to curriculum planning;
- Encourages self-directed and autonomous approaches to learning, as students are better equipped to take responsibility for their studies by actively gauging their progress;
- Enhances thoughtful decision-making about curriculum, teaching strategies and learning environments;
- Supports instructor self-evaluation and reflection.

He also suggests benefits of program-level learning outcomes, such as:

- Promotes a collegial approach to curriculum planning, as faculty can then collaborate to identify gaps and redundancies in programs;
- Provides clarity, integration and alignment within and between sequences of courses;
- Helps to increase the overall quality of education programs.

Harden, R. (2007). Outcome-based education: the future is today. *Medical Teacher* 29 (7), 625-629.
doi:10.1080/01421590701729930

Tyler, R.W. (1949) Basic principles of curriculum and instruction. Chicago: The University of Chicago Press.

1.2 The Current Ontario Quality Assurance Framework

Recently, the Ontario Council of Academic Vice-Presidents' Quality Assurance Framework (2010) mandated the expectation that tertiary institutions implement an Institutional Quality Assurance Process (IQAP). The Quality Assurance Framework requires that each individual academic unit clearly articulate learning outcomes that are appropriate to the discipline and are consistent with the institution's mission, degree level expectations and academic plans.

Learning outcomes in this framework are aligned with Degree Level Expectations with the goal of developing curricula that are increasingly coherent, student-centred and evidence based. This framework now acts as a guideline for Ontario institutions, including Trent University, for articulating student achievement of learning outcomes, and for program approvals.

1.3 Overview of Requirements for Learning Outcomes

Each degree-granting program must articulate how the program of study addresses each of the degree level expectations.

The Undergraduate and Graduate Degree-level expectations specify six areas of ability required at the undergraduate and graduate levels. They are:

- 1. Depth and Breadth of Knowledge**
- 2. Knowledge of Methodologies**
- 3. Application of Knowledge**
- 4. Communication Skills**
- 5. Awareness of Limits of Knowledge**
- 6. Autonomy and Professional Capacity**

(For full UDLE and GLDE statements, see appendix)

1.4 Alignment benefits: linking degree-level expectations (UDLEs/GLDEs) with learning outcomes

Benefits for Students

- Outcomes-oriented language to facilitate understanding of degree, program, and course level expectations
- Experience of a more unified and coherent program

Main Benefit for Employers, Government, Accrediting Bodies

- Greater clarity of program goals and intended outcomes related to the degree level expectations for which the University is accountable during program reviews and development of new programs

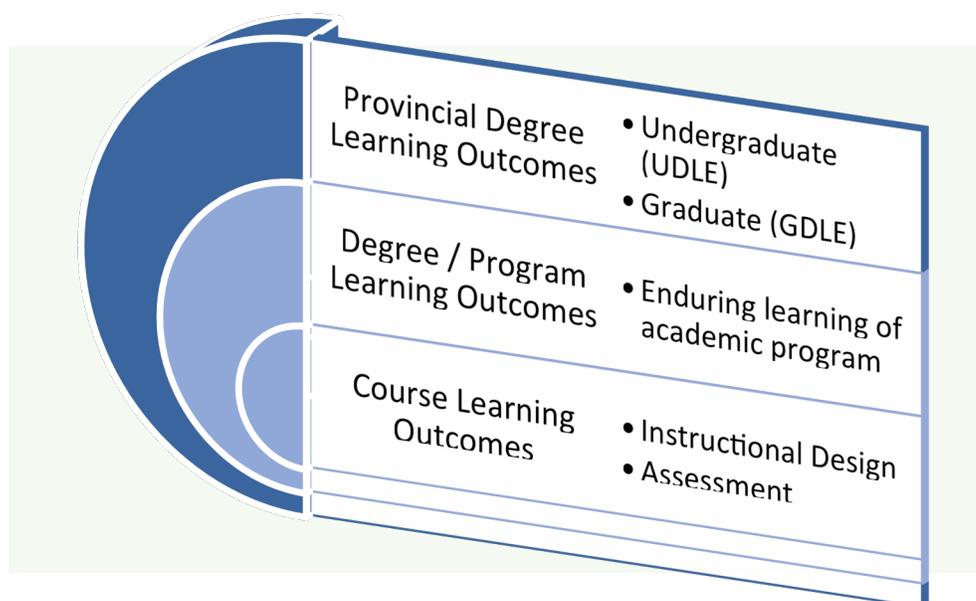


Figure 1. Learning outcomes-based curriculum alignment

2. Course Learning Outcomes

Course learning outcomes are usually formed as explicit and concise statements that describe the knowledge, understanding and skills sets a student will acquire and be able to demonstrate by the completion of a specific course. Well-developed learning outcomes often focus on how students apply and integrate their knowledge in context.

Examples of Learning Outcome Statements

- *Upon completing this assignment, students will be able to provide accurate diagrams of cells and be able to classify cells from microscopic images for xxx (application).*
- *By the end of this course, students will be able to identify and develop data collection and analysis strategies for planning and conducting a grounded theory study.*
- *By the end of this workshop, participants will be able to identify and classify their spending habits and prepare a personal budget.*

2.2 Course-level Learning Outcomes Examples

Problem Analysis and Design

Outcomes that describe the student's ability to appropriate knowledge and skills, and to identify, formulate, analyse and solve problems

- Formulate scientific questions about the motion of visible celestial objects orally and in writing
- Evaluate the validity of arguments in order to accept or challenge the findings of others in weekly journal assignments
- Plan ways to model and/or simulate an answer to the questions chosen in the situation analysis assignment
- Design, implement and reflect on the effects of a social experiment using one social media platform

Knowledge Integration

Outcomes that demonstrate the use of a range of ideas, concepts and theories individually and in concert ~ integrated knowledge

- Select and integrate information from various sources, including electronic and print sources, community resources and primary data, to answer two essay questions
- Demonstrate a conceptual understanding of the major paradigms, approaches and debates within human and physical geography in the form of a prepared and implemented class debate
- Demonstrate understanding of how anatomical structures interact in the human body in two class practicals

Investigation, Data Analysis and Interpretation

Outcomes related to research skills including primary and secondary data collection, analysis and interpretation

- Generate three succinct and purposeful research questions, after conducting a review and synthesis of five current articles in the area of interest
- Communicate scientific ideas, procedures, results, and conclusions using appropriate structures, language and content in lab reports
- Demonstrate the ability to complete a lab experiment in class, and follow up with a comprehensive report
- Synthesize, analyze, describe, evaluate, and communicate the impact of research and other accomplishments in space technology on our understanding of scientific theories and principles

Communication

Outcomes that describe the student's communication of their learning

- Develop a mastery of the course material such that you can communicate with your peers in a productive manner through the peer-coaching component of the coursework
- Prepare an artistic expression of your learnings from the course in a 20 minute performance or exhibit
- Be able to describe, the historical and philosophical foundations of the evolution of Geography as a discipline
- Collect, analyze, and organize relevant and necessary information from a variety of sources for concise monthly written assignments

Reflective practice, self assessment skills, self awareness and resourcefulness

Learning outcomes related to attitudes, motivation, commitment, and reflection

- Identify appropriate resources; take initiative; and manage a field project through to completion
- Demonstrate self-reflection and awareness of limits of knowledge through a narrative report
- Engage in self-assessments at the onset and conclusion of the course and reflect on shifts in thinking from pre to post in a written response
- Evaluate one's thinking and beliefs throughout the steps and processes used in problem solving and decision-making in the coursework
- Evaluate, assess, and understand personal feelings on issues, through journal entries and digital expressions

Example of tabular formatting of learning outcomes for a Nursing skills course

Condition	Observable Behavior	Standard
1. Given a list of drugs	the student will be able to classify each item as amphetamine or barbiturate	with at least 70% accuracy.
2. Immediately following a fifteen-minute discussion on a topic	the student will be able to summarize in writing the major issues being discussed	mentioning at least three of the five major topics.
3. Given an algebraic equation with one unknown	the student will be able to correctly solve a simple linear equation	within a period of five minutes.

2.3 Enduring Understandings

Another strategy for developing learning outcomes is to explore the enduring understandings the students are striving for in the course and work backward from this point to mapping out the course.

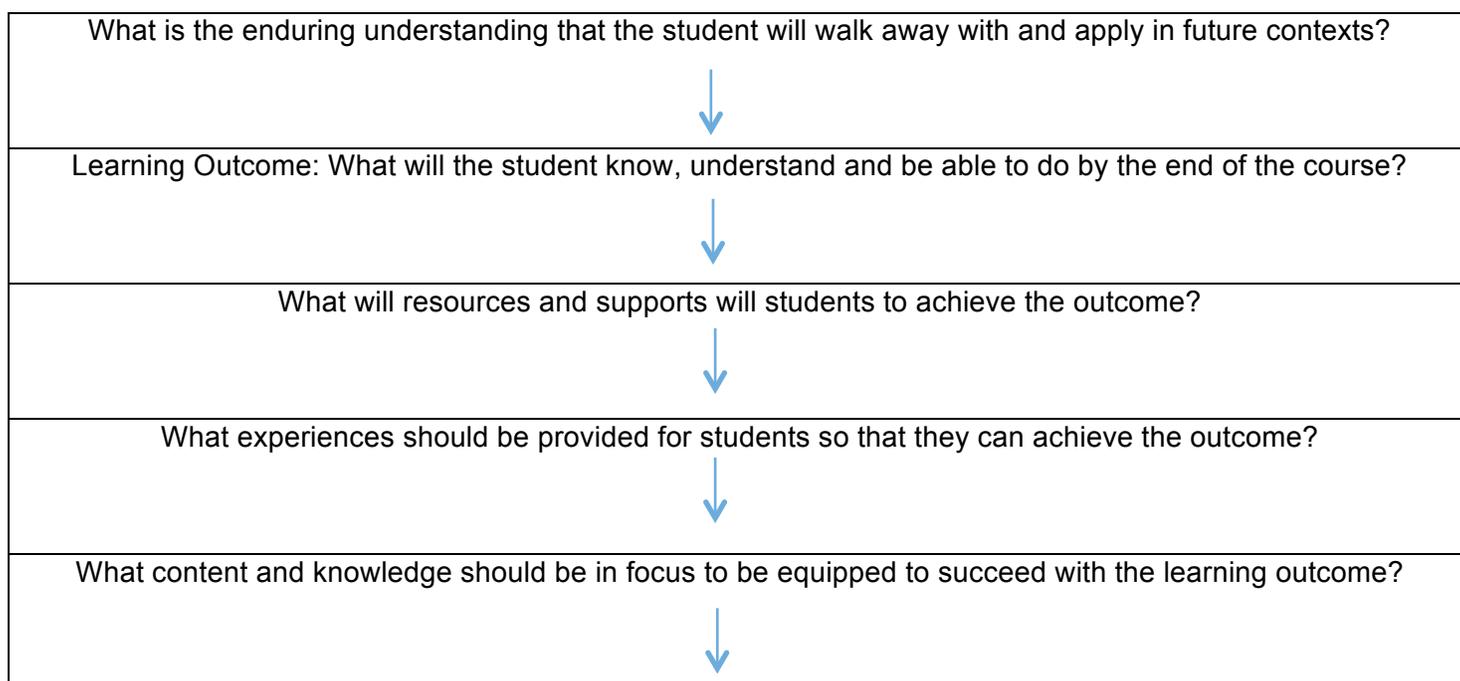
Keeping the distant goal in mind:

“Think first about what is essential that students know or be able to do after the course or program – what students need to know and could make powerful use of to enhance their lives and more effectively contribute to society. We believe that such reflection will lead instructors to focus on a broad synthesis of abilities that combine knowledge, skills and values into a whole that reflects how people use knowledge.”

Mark Battersby

Back-Mapping from Enduring Understandings

Backward design, or backward mapping involves mapping out an assignment beginning with a description of the enduring understanding the student should walk away with and what the student will know and be able to do. Then linking this outcome to how the instructor will structure the course or learning experiences in order for students to get to that outcome. It typically has four or five stages.



Grant Wiggins & Jay McTighe, **Backwards Design** (initially developed in 1998)

3. Program Learning Outcomes

Program learning outcomes are broadly defined statements that capture the scope of generalized skills sets and understandings that a student will acquire and be able to demonstrate by the completion of an entire program of study. At the program level, courses should be organized to form an integrated curriculum based on the range of intended course learning outcomes. Program learning outcomes then link to institutional goals and degree level expectations.

Program learning outcomes are central to the University's contract with students because they specify expectations about what students will know, understand and be able to do upon successful completion of a program.

3.1 Example of Program Learning Outcomes with Undergraduate Degree Level Expectations

BSW Trent University's Undergraduate Degree Level Expectations

Depth and Breadth of Knowledge – Students enrolled in the BSW program will be required to take a variety of courses from several disciplines (it is a CASWE requirement that 40% of the BSW program be comprised of courses outside of social work). In addition, the theory-based 'clusters' in first and second year provide students with breadth (see section 4 for curriculum description). Upper year courses in social work and the field placements provide the students with a depth of knowledge of social work.

Knowledge of Methodologies – First, the program acknowledges that there are various methods of knowing. Bachelor of Social Work students will be exposed to critical theory as well as social sciences research methodology courses. In third year, BSW students will also take a course on emancipatory research and/or program evaluation. The knowledge gained in these courses will be applied in the field placements (see below).

Application of Knowledge – The proposed BSW is inherently an applied professional program. Students will take courses specifically designed to support the application of theory in practice. Perhaps the strongest element of the curriculum, as it relates to the application of knowledge are the two field placements in community agencies (a total of at least 700 hours). In these placements, students will demonstrate the knowledge gained through their course work and life experiences, and will engage in reflective practice.

Communication Skills – In the consultation phase, community agencies strongly voiced their opinion that BSW students needed to be strong communicators. This skillset is necessary for social advocacy and practice. Within the second, third and fourth year courses, both written and oral communication will

be stressed and assessed. These communication skills will be further developed and demonstrated in the field placements.

Awareness of Limits of Knowledge – A central premise of social work is one of advocacy and social justice. In order to be an effective advocate for social change, students will have to have a grasp of the policy and history of social work in a Canadian (and global) context. This historical and social background will inform the students as they take their professional years courses (e.g., the various 3rd year Social Work Practice courses). It is important that students understand the limits of their professional knowledge, and know when to refer a case when it is beyond their personal or organizational scope of practice.

Autonomy and Professional Capacity – The BSW is inherently a professional applied program, where students not only gain theoretical knowledge, but must also implement that knowledge in field placements. Students will learn about the ethics of professional practice in the academic portion of their program and will put this learning to practice in their clinical placements. In these placements, students will be supervised, trained and evaluated by professionals in the field of Social Work.

3.2 Example of Program Learning Outcomes with Graduate Degree Level Expectations

Masters in Educational Studies

1. Depth and Breadth of Knowledge	<p>Trent GDLE Master’s Degree Expectations</p> <p>The degree is awarded to students who have demonstrated a systematic understanding of knowledge including, where appropriate, relevant knowledge outside the field and/or discipline, and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of the academic discipline, field of study or area of professional practice.</p>	<p>Related School of Education M.Ed. Expectations</p> <p>Students in the Trent Masters in Educational Studies program will be educators from a range of disciplines who will apply their experiences in the field to new theoretical frameworks, pedagogies and constructs related to educational theories and practices presented in coursework. Faculty will draw on their active research programs to ensure relevant and current understandings in the broad field of education.</p>
	<p>Outcomes:</p> <ul style="list-style-type: none"> • <i>Graduate students in the Trent Masters in Educational Studies program will be able to synthesize and critically analyse knowledge generated both from current research and field experiences in education contexts such as conducting literature reviews in areas of study and reflective papers</i> • <i>Depth of knowledge will be demonstrated by graduate students in this program through class discussions, written research papers, web-based knowledge mobilization strategies, and cross-course brown-bag lunch presentations and discussions</i> • <i>Graduates will demonstrate breadth of knowledge in the form of successful completion of a range of courses in this interdisciplinary program</i> 	

2. Research and Scholarship	<p>Trent GDLE Master’s Degree Expectations</p> <p>The degree is awarded to students who have demonstrated a conceptual understanding and methodological competence that:</p> <ol style="list-style-type: none"> a. enables a working comprehension of how established techniques of research and inquiry are used to create and interpret knowledge in the discipline b. enables a critical evaluation of current research and scholarship in the discipline or area of professional competence c. enables a treatment of complex issues and judgements based on established principles and techniques <p>On the basis of that competence, has shown at least one of the following:</p> <ol style="list-style-type: none"> a. the development and support of a sustained argument in written form b. Originality in the application of knowledge 	<p>Related School of Education M.Ed. Expectations</p> <p>Masters in Educational Studies students will engage in reading, analysing and applying research methods specific to educational research and related fields. This will occur through coursework, in class discussions and related applications in the field. Students will be equipped with theoretical frames for engaging in critical analysis of current research, such as, Creswell’s definitions and examples of triangulation applied to educational contexts, and a critique of the “5 traditions of qualitative research”, etc.</p>
	<p>Outcomes:</p> <p>Coursework challenges and practice opportunities will culminate in the ability to complete the following:</p> <ul style="list-style-type: none"> • <i>Students will develop a thesis statement and sustained argumentation in a capping course (course only)</i> • <i>Students will develop a thesis statement, sustained argumentation and implement a related research project (project)</i> • <i>Students will develop a thesis statement, sustained argumentation and implement a full research study with emphasis on a comprehensive literature review, methodology and methods, data collection and analysis, findings and conclusions (thesis)</i> 	

3. Level of Application of Knowledge	<p>Trent GLDE Masters Degree Expectations</p> <p>Competence in the research process by applying an existing body of knowledge in the critical analysis of a new question or of a specific problem or issue in a new setting.</p>	<p>Related School of Education M.Ed. Expectations</p> <p>Each student in the M.Ed. in Educational Studies program will bring unique experiences and knowledge to bear on their educational experience at Trent. Courses will support students in moving from these prior experiences to greater understanding of emerging issues in educational research, methodologies and related methods (e.g., current issues: technology infused education; critical theory building; influences of social media in educational settings; issues of gender, sexual orientation, and social justice; education for sustainability, ecological and justice education perspectives; Indigenous perspectives, critical literacies, etc.) (e.g., methodologies: Collaborative Action Research, Collaborative Inquiry, Phenomenology, Narrative Inquiry, Mixed methods paradigm, etc.). Where appropriate course instructors will bring immediate and current issues in education to each course for analysis.</p>
	<p>Outcomes:</p> <ul style="list-style-type: none"> • <i>Students will be able to describe and apply appropriate research methodologies and methods in their research project work/theses, in presentations (e.g., brown bag lunch presentations), and in course assignments (e.g., video analysis of student learning)</i> • <i>Students will demonstrate an ability to critically analyse their own practice in reflective assignments through coursework</i> 	

4. Professional Capacity / Autonomy	<p>Trent GLDE Masters Degree Expectations</p> <p>a. The qualities and transferable skills necessary for employment requiring (i) the exercise of initiative and of personal responsibility and accountability; and (ii) decision-making in complex situations</p> <p>b. The intellectual independence required for continuing professional development</p> <p>c. The ethical behaviour consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research</p> <p>d. The ability to appreciate the broader implications of applying knowledge to particular contexts</p>	<p>Related School of Education M.Ed. Expectations</p> <p>It is recognized that the majority of students in the program will already have a professional background/orientation and the M.Ed. in Educational Studies program will capitalize on this student asset, to further develop professional initiative, responsibility and accountability with a view to enhancing decision-making capacity and career options. This includes deep knowledge of research ethics guidelines and procedures for conducting research.</p>
	<p>Outcomes:</p> <ul style="list-style-type: none"> • <i>Students will gain an enhanced awareness of professional behaviours and employ these in ethics proposals, conduct of research, interactions with faculty and with colleagues at Trent</i> • <i>In the long-term, evidence of professional comportment and the pursuit of additional professional learning will continue upon graduation through tracking mechanisms</i> 	
5. Level of Communication Skills	<p>Trent GLDE Masters Degree Expectations</p> <p>The ability to communicate ideas, issues and conclusions clearly.</p>	<p>Related School of Education M.Ed. Expectations</p> <p>M.Ed. in Educational Studies students will enter the program with substantial communication skills in place due to prior experiences in educational settings. This program will further these skills, including complex and delicate situations such as communicating with parents of students, communicating illness issues and health diagnoses to patients, opening dialogue for transgendered youth, etc.</p>
	<p>Outcomes:</p> <ul style="list-style-type: none"> • <i>Students will demonstrate clear, precise and nuanced communication through coursework, presentations and research reports/papers</i> 	

6. Awareness of Limits of Knowledge	Trent GLDE Masters Degree Expectations	Related School of Education M.Ed Expectations
	Cognizance of the complexity of knowledge and of the potential contributions of other interpretations, methods and disciplines.	M.Ed. in Educational Studies students will identify and acknowledge the limits of their research activity and findings, and seek alternate interpretations of findings to expand their awareness of the limits and potential contributions of new knowledge in relation to previous related research.
	Outcomes: <ul style="list-style-type: none"> • <i>Students will present findings with explicit descriptions of alternate interpretations and limits of studies they are conducting as part of cap courses, research projects and theses</i> • <i>Students will critique research including identifying sources of error, omission and validity concerns, as well as suggest improvements for methods and knowledge building in classes and assignments</i> 	

3.3 Tips for Mapping Program Learning Outcomes

- Familiarize yourself with UDLEs and / or GLDEs documents
- Consider using existing statements summarizing the program's **rationale and goals** as the basis for the curriculum mapping process
- Articulate and connect the program expectations to the broader degree level expectations (sometimes tabular formats help with directly linking these as per the example in 3.2), then state the learning outcomes for the program to describe what the graduate will know, understand and be able to do by the end of the program
- Once this map is developed, create an **assessment plan** to measure the achievement of the stated outcomes that includes **curriculum mapping** as well as other **direct and indirect assessment tools** (Handbook II in this series will focus on assessing outcomes)

APPENDICES

Appendix A

Curriculum Mapping Questionnaire (Thompson Rivers University, 2013)

Instructional & Assessment Methods

- What instructional/assessment strategies are we most/least using?
- Are the instructional and assessment methods used in the courses congruent with the discipline and our program's/Faculty's/Institution's mission/vision?
- Are the instructional and assessment methods used in the courses congruent with the discipline's signature pedagogies?
- In terms of supporting student learning, how well are the instructional and assessment methods that we use actually working?

Learning Outcomes

- What learning outcomes are we most/least emphasizing?
- Where are the strengths and gaps in the teaching and assessment of these learning outcomes?
- Do the instructional and assessment methods that we are using best align with the intended learning outcomes?
- Are these learning outcomes appropriate? Are there any omissions? Is clarification warranted?

Workload and Progression

- How is student workload distributed across the semester?
- Have students/faculty expressed concern over workload at particular times of the semester? Is there opportunity to more evenly distribute the workload?
- How is student learning progressing for each of the learning outcomes?
- Are students provided adequately with an opportunity to progress towards their achievement of each learning outcome?

General

- What data presented most surprised you? Why?
- Where are our strengths? What are we doing well?
- Do these results align or conflict with any other curriculum assessment results or past program reviews (e.g. student/faculty/employee feedback)? Why? How so? Where are there areas of congruency or divergence?
- What are the next steps we can take improve, align, and integrate our curriculum?

Appendix B

Institutional Vision and Commitment to Learners

Trent programs should align with the academic vision and mission of the university, including a strong commitment to students and student learning.

Vision for Trent University

We create vibrant, engaged and sustainable communities of learning, teaching and research committed to free enquiry and expression.

We encourage the dynamic interplay of research, teaching and learning, which enhance and energize each other in the classroom and beyond.

We strive to make valued and socially responsible contributions to our local communities, to Canada, and to the world.

We support a diversity of faculty, staff and students who share a commitment to the learning experience and are responsive to its challenges.

We foster an environment where Indigenous knowledges are respected and recognized as a valid means by which to understand the world.

We offer an enriched learning environment that encourages a passion for all knowledge, the exploration of the creative links between fields of study and a critical engagement with the world.

We create opportunities for students, staff and faculty to flourish and develop as individuals and as global citizens.

We affirm our commitment to excellence, to innovation and to leadership in research, academic programmes and community partnerships.

We commit to building an inclusive intellectual and social community that values the collaboration of all of its individual members.

Mission Statement

Over the next five years, Trent University's mission is to:

Prepare students to make significant contributions to an increasingly complex world by providing them with a distinctive liberal arts, science or professionally focused education, which is enhanced by global perspectives, experiential learning and interdisciplinary approaches to personal and professional development;

Encourage and celebrate excellence and innovation in teaching, learning, research and student development;

Remain at the forefront of Indigenous education and scholarship;

Develop strong partnerships and collaborations with external communities, professions, and other institutions, as well as within our Colleges, departments, and programs;

Foster sustainability, in its environmental, social and economic dimensions, on our campuses and in all aspects of our work;

Promote a culture which engages all members of the Trent community, favours dialogue and collegiality, and nurtures a sense of belonging.

Appendix C

BACCALAUREATE/BACHELOR'S DEGREE: GENERAL (UDLES)

EXPECTATIONS	<i>The following degree level expectations adopted from OCAV's Guidelines define a threshold framework for the expression of the intellectual and creative development of students. Under these Guidelines all undergraduate degree programs will be expected to demonstrate that at the completion of the program students would have acquired the following set of skills.</i>
1. Depth and Breadth of Knowledge	<p>a. a developed knowledge and critical understanding of the key concepts, methodologies, current advances, theoretical approaches and assumptions in a discipline overall, as well as in a specialized area of a discipline</p> <p>b. a developed understanding of many of the major fields in a discipline, including, where appropriate, from an interdisciplinary perspective, and how the fields may intersect with fields in related disciplines</p> <p>c. a developed ability to:</p> <ol style="list-style-type: none"> i. gather, review, evaluate and interpret information; and ii. compare the merits of alternate hypotheses or creative options, relevant to one or more of the major fields in a discipline <p>d. a developed, detailed knowledge of and experience in research in an area of the discipline</p> <p>e. developed critical thinking and analytical skills inside and outside the discipline</p> <p>f. the ability to apply learning from one or more areas outside the discipline</p>
2. Knowledge of Methodologies	<p>... an understanding of methods of enquiry or creative activity, or both, in their primary area of study that enables the student to:</p> <ul style="list-style-type: none"> • evaluate the appropriateness of different approaches to solving problems using well established ideas and techniques; • devise and sustain arguments or solve problems using these methods; and describe and comment upon particular aspects of current research or equivalent advanced scholarship.
3. Application of Knowledge	<p>a. the ability to review, present and critically evaluate qualitative and quantitative information to:</p> <ol style="list-style-type: none"> i. develop lines of argument; ii. make sound judgments in accordance with the major theories, concepts and methods of the subject(s) of study; iii. apply underlying concepts, principles, and techniques of analysis, both within and outside the discipline; iv. where appropriate use this knowledge in the creative process; and <p>b. the ability to use a range of established techniques to:</p> <ol style="list-style-type: none"> i. initiate and undertake critical evaluation of arguments, assumptions, abstract concepts and information; ii. propose solutions; iii. frame appropriate questions for the purpose of solving a problem; iv. solve a problem or create a new work; and <p>c. the ability to make critical use of scholarly reviews and primary sources.</p>
4. Communication Skills	<p>...the ability to communicate information, arguments, and analyses accurately and reliably, orally and in writing to a range of audiences.</p>
5. Awareness of Limits of Knowledge	<p>...an understanding of the limits to their own knowledge and ability, and an appreciation of the uncertainty, ambiguity and limits to knowledge and how this might influence analyses and interpretations.</p>
6. Autonomy and Professional Capacity	<p>a. qualities and transferable skills necessary for further study, employment, community involvement and other activities requiring:</p> <ul style="list-style-type: none"> • the exercise of initiative, personal responsibility and accountability in both personal and group contexts; • working effectively with others; • decision-making in complex contexts; <p>b. the ability to manage their own learning in changing circumstances, both within and outside the discipline and to select an appropriate program of further study; and c. behaviour consistent with academic integrity and social responsibility.</p>

Appendix D

BACCALAUREATE/BACHELOR'S DEGREE: HONOURS (UDLES)

Expectation	<i>This degree is awarded to students who have demonstrated:</i>
1. Depth and Breadth of Knowledge	<p>a) a developed knowledge and critical understanding of the key concepts, methodologies, current advances, theoretical approaches and assumptions in a discipline overall, as well as in a specialized area of a discipline</p> <p>b) a developed understanding of many of the major fields in a discipline, including, where appropriate, from an interdisciplinary perspective, and how the fields may intersect with fields in related disciplines</p> <p>c) a developed ability to: i) gather, review, evaluate and interpret information; and ii) compare the merits of alternate hypotheses or creative options, relevant to one or more of the major fields in a discipline</p> <p>d) a developed, detailed knowledge of and experience in research in an area of the discipline</p> <p>e) developed critical thinking and analytical skills inside and outside the discipline</p> <p>f) the ability to apply learning from one or more areas outside the discipline</p>
2. Knowledge of Methodologies	<p>... an understanding of methods of enquiry or creative activity, or both, in their primary area of study that enables the student to:</p> <ul style="list-style-type: none"> • evaluate the appropriateness of different approaches to solving problems using well established ideas and techniques; • devise and sustain arguments or solve problems using these methods; and • describe and comment upon particular aspects of current research or equivalent advanced scholarship.
3. Application of Knowledge	<p>a) the ability to review, present and critically evaluate qualitative and quantitative information to:</p> <p>i) develop lines of argument;</p> <p>ii) make sound judgments in accordance with the major theories, concepts and methods of the subject(s) of study;</p> <p>iii) apply underlying concepts, principles, and techniques of analysis, both within and outside the discipline;</p> <p>iv) where appropriate use this knowledge in the creative process; and</p> <p>b) the ability to use a range of established techniques to:</p> <p>i) initiate and undertake critical evaluation of arguments, assumptions, abstract concepts and information;</p> <p>ii) propose solutions;</p> <p>iii) frame appropriate questions for the purpose of solving a problem;</p> <p>iv) solve a problem or create a new work; and</p> <p>c) ability to make critical use of scholarly reviews and primary sources.</p>
4. Communication Skills	<p>The ability to communicate information, arguments, and analyses accurately and reliably, orally and in writing to a range of audiences.</p>
5. Awareness of Limits of Knowledge	<p>An understanding of the limits to their own knowledge and ability, and an appreciation of the uncertainty, ambiguity and limits to knowledge and how this might influence analyses and interpretations.</p>
6. Autonomy and Professional Capacity	<p>a) qualities and transferable skills necessary for further study, employment, community involvement and other activities requiring: the exercise of initiative, personal responsibility and accountability in both personal and group contexts; working effectively with others; decision-making in complex contexts;</p> <p>b) the ability to manage their own learning in changing circumstances, both within and outside the discipline and to select an appropriate program of further study; and</p> <p>c) behaviour consistent with academic integrity and social responsibility.</p>

APPENDIX E

GRADUATE DEGREE-LEVEL EXPECTATIONS (GDLES) MASTER'S

MASTER'S DEGREE EXPECTATIONS	<i>This degree is awarded to students who have demonstrated:</i>
1. Depth and Breadth of Knowledge	A systematic understanding of knowledge, and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of their academic discipline, field of study, or area of professional practice.
2. Research and Scholarship	A conceptual understanding and methodological competence that: a. Enables a working comprehension of how established techniques of research and inquiry are used to create and interpret knowledge in the discipline; b. Enables a critical evaluation of current research and advanced research and scholarship in the discipline or area of professional competence; and c. Enables a treatment of complex issues and judgments based on established principles and techniques; and, On the basis of that competence, has shown at least one of the following: a. The development and support of a sustained argument in written form; or b. Originality in the application of knowledge.
3. Level of Application of Knowledge	Competence in the research process by applying an existing body of knowledge in the critical analysis of a new question or of a specific problem or issue in a new setting.
4. Professional Capacity/Autonomy	a. The qualities and transferable skills necessary for employment requiring: i. The exercise of initiative and of personal responsibility and accountability; and ii. Decision-making in complex situations; and b. The intellectual independence required for continuing professional development; c. The ethical behaviour consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research; and d. The ability to appreciate the broader implications of applying knowledge to particular contexts.
5. Level of Communication Skills	The ability to communicate ideas, issues and conclusions clearly.
6. Awareness of Limits of Knowledge	Cognizance of the complexity of knowledge and of the potential contributions of other interpretations, methods, and disciplines.

Appendix F

GRADUATE DEGREE-LEVEL EXPECTATIONS (GDLES) DOCTERATE

DOCTORAL DEGREE EXPECTATIONS	<i>This degree extends the skills associated with the Master's degree and is awarded to students who have demonstrated:</i>
1. Depth and Breadth of Knowledge	A thorough understanding of a substantial body of knowledge that is at the forefront of their academic discipline or area of professional practice.
2. Research and Scholarship	<ul style="list-style-type: none"> a. The ability to conceptualize, design, and implement research for the generation of new knowledge, applications, or understanding at the forefront of the discipline, and to adjust the research design or methodology in the light of unforeseen problems; b. The ability to make informed judgments on complex issues in specialist fields, sometimes requiring new methods; and c. The ability to produce original research, or other advanced scholarship, of a quality to satisfy peer review, and to merit publication.
3. Level of Application of Knowledge	<ul style="list-style-type: none"> a. The capacity to undertake pure and/or applied research at an advanced level; and b. Contribute to the development of academic or professional skills, techniques, tools, practices, ideas, theories, approaches, and/or materials.
4. Professional Capacity/Autonomy	<ul style="list-style-type: none"> a. The qualities and transferable skills necessary for employment requiring the exercise of personal responsibility and largely autonomous initiative in complex situations; b. The intellectual independence to be academically and professionally engaged and current; c. The ethical behaviour consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research; and d. The ability to evaluate the broader implications of applying knowledge to particular contexts.
5. Level of Communication Skills	The ability to communicate complex and/or ambiguous ideas, issues and conclusions clearly and effectively.
6. Awareness of Limits of Knowledge	An appreciation of the limitations of one's own work and discipline, of the complexity of knowledge, and of the potential contributions of other interpretations, methods, and disciplines.