



PATHWAY FOR ADMISSION

University Academic Preparation and Retention at a
Community College (ONCAT Project 2016-36)

Abstract

The pathway allows successful students who would otherwise not be admissible to university, to be eligible to enter a Bachelor's degree with advanced standing. The pathway is intended to be delivered during the summer before University starts but after their high school grades are known. The courses will concentrate on academic success, communication, and math skills necessary to be successful in 1st year University. The program also offers the option to transfer instead to the college and enter a General Arts and Science certificate program.

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1.0 Introduction

Some university applicants are not admissible to undergraduate study because of what the university deems a lack of preparation, largely evaluated on high school grade point average. If admitted, the students would be at risk of not achieving success due to a lack of preparedness for university-level academics. Currently, these students are refused admission, and must either upgrade academically, or look for options with less competitive admissions requirements. The University of Ontario Institute of Technology (UOIT) and Durham College (DC) have collaborated to develop an alternative pathway from students who are otherwise not admissible to the university. The pathway allows successful students to be eligible to earn university transfer credits concurrently with a pre-university program that will prepare them for admission to undergraduate study and academic success. The pathway specifically addresses life skills related to academic success and communication to improve the students' preparedness for university level study in the fall without losing valuable time upgrading in high school.

The program includes four core courses at the university level. The core courses are: Academic success, a double weight fundamentals of communications course, and a math fundamentals course. In the academic success course, the students concentrate on improving their life skills with particular focus on time management, study skills, responsibility and financial management. The double communication course is essentially 1 course on individual communication and 1 course on group communication. The courses cover fundamental literacy, verbal and written communication and comprehension but also focusses on communicating with authority and self-advocacy. The math fundamentals course is expected to ensure numeracy skills are present for day-to-day success.

2.0 Research and Program Development Team

Glenn Harvel, B.Eng. PhD, P. Eng.

Glenn is a Professor and Associate Dean in the Faculty of Energy Systems and Nuclear Science at the University of Ontario Institute of Technology. Dr. Harvel has research interest in Diagnostic Techniques, Energy Systems and Nuclear Design. He has been working with various thermalhydraulic and electrohydrodynamic engineering methodologies to improve energy systems and nuclear reactor design. Dr. Harvel has also developed learning modules for nuclear engineering at the undergraduate level, and nuclear design at the graduate level.

Jennifer Percival, BMath, PhD

Jennifer is an Associate Professor and Associate Dean of the Faculty of Business and IT at UOIT. Her research focuses on the strategic use of technology and the use of process modelling to support change management, innovation, and technology integration in services. She has also lead the development of projects for improved learning in the business and commerce fields as well as a previous ONCAT project on the evaluation of DC and UOIT pathways.

Joe Stokes, BA, MEd

Joe is the Associate Registrar, Enrolment Services at the University of Ontario Institute of Technology. He is the past chair of the Ontario University Council on Admissions (OUCA), Vice President of the Ontario Universities' Registrars Association and is Chair of the General Arts and Science Program Advisory Committee at Durham College. Joe has worked on multiple enrolment management projects relating to pathways programs in Ontario, including the Durham College and UOIT General Arts and

Science pathways project, and has previously coordinated pathways initiatives centrally for the university.

Alena Shah, BA, BEd, MEd

Alena is the Program Manager, Mentoring and Leadership in the Office of Student Life at UOIT. Over the past 5 years, Alena has worked on student development programming with a focus on student transition (i.e. first-year experience), specialized student populations (i.e. first generation, mature students) as well as assessment. Most recently in her role, she has worked on the Durham College and UOIT General Arts and Science pathways project. In addition, Alena has several years of combined teaching experience at the elementary, secondary and post-secondary level.

Jeff Zakoor, BSc, MBA

Jeff Zakoor is a professor and program director in the School of Interdisciplinary Studies at Durham College. Jeff also teaches in the School of Business, IT and Management at Durham College. Jeff has worked on many pathways initiatives at Durham College, and has assisted with the Province wide General Arts and Science (GAS) transfer project. Jeff has worked with UOIT to create further pathways options from GAS to degree completion and most recently has worked on the Durham College and UOIT General Arts and Science pathways project

3.0 Program Framework

The framework for the program was developed around the success of the post 1st year retention program with Durham College (DC) known as the GAS-S: General Arts and Science Student Success. The success of GAS-S led to the development of a concept for delivery in the summer immediately before entering University. The learning outcomes and individual course designs were revisited to check for content and feasibility of delivery. The program was laid out for a pilot delivery with the intent of preserving the pathway to the college as well as to the original university program.

3.1 Program Concept

METHODOLOGY

The initial approach to designing the Pre-University pathway was to consider the student needs during the time after high school and before they enter post-secondary. In this case, the student may be deficient in certain areas, both academic and non-academic, but since there is no experience in the university environment to judge where those deficiencies lie, it is difficult to pinpoint which areas need support. The only metric usable at this point is the grade point average from high school and the grades in specific courses. Past studies regarding retention at UOIT have shown that there is a weak correlation between the high school GPA and success.

A review of the pilot remedial program, GAS-S, has shown that those students needing support were deficient in the areas of academic success, and communication skills. For a significant portion of the students, math skills were also observed to be deficient. Another finding of the GAS-S pilot is the importance of increasing the student self-efficacy as the key motivating factor for continued success.

Elements of the GAS-S retention program formed the basis of the Pre-University program, in particular, the following courses from the GAS-S program were selected as the elements of the Pre-University Program Concept for further development:

UOIT Admissions Pathway with Transfer Credit

- Academic Success
- Fundamentals of Personal Communication
- Fundamentals of Intrapersonal Communication
- Math

As part of the program concept, it was important to consider if the courses could be awarded as credit at either UOIT or DC. In the case of UOIT, the initial pilot was intended for 1st year business students. Hence, a transfer credit for the communications courses is considered as part of the program concept.

With respect to DC, all four courses are adapted from the GAS-S program. The Program Concept was to minimize changes such that four college course credits could be transferred to the students. Students that continue at UOIT could take an additional two courses at DC along with their UOIT program courses and obtain a General Arts and Science Certificate. Those students that transfer to DC, could complete the certificate thereby taking an additional 8 courses or transfer into other college programs.

Development of a pre-university diagnostic tool could provide additional metrics, but delivery of those tools in a timely manner would be difficult to allow for the summer program to target the students' academic weaknesses. It was decided that such diagnostic tools are better embedded into the summer program to assist in the development of student success initiatives that could be implemented during their academic study. Such diagnostic tools would include numeracy level testing and self-efficacy testing, amongst others.

A methodology was developed to review a 14 week delivery of a standard course in a 7 week timeframe. This activity was required as the full summer is not available for most pre-university students. The following steps guide the process of optimizing the design of the course learning outcomes:

- Step 1: Review learning outcomes against Pre-University expectations/needs
- Step 2: Reviewing the number of hours in the course against the learning outcomes and required hours for completion
- Step 3: Rate priority of learning outcomes with respect to a 7 week delivery model
- Step 4: Proposed learning outcomes sent to instructors for review
- Step 5: Incorporate learning outcomes based upon Durham College instructor feedback

Note that additional activities would be required in terms of optimizing course delivery once the course design is completed. This would include consideration of use of on-line and self-study components to optimize instructor face to face time.

3.2 Learning Outcomes and Course Design

The Pre-University summer program was created by conducting a curriculum redesign of the GAS-S remedial program at Durham College. The program was compressed to allow for a shortened delivery timeframe (July and August) so that students who were finishing high school, but were otherwise inadmissible to university, could complete the program before the fall.

The courses were designed to be cohort based and students who completed the program would be granted admission to either the UOIT Bachelor of Commerce or Bachelor of Arts degree program with one transfer credit. The students would be placed in a cohort learning community that could continue when

they joined the Bachelor of Commerce or Bachelor of Arts degree program. This additional support structure was integrated to improve motivation and potential academic success of the students.

Each course was assessed separate for both learning outcomes and course design.

Fundamentals of Academic Success (SUCC 3700)

This course concentrates on those matters that help students succeed in life. The course includes time management and study skills so that the student can be more effective in balancing school, work, social and other activities. The course will also discuss financial planning and budgeting to help students ensure they do not run out of funds.

The learning outcomes for this course needed refocusing; there were too many outcomes that could not be taught effectively in a short time frame. Some of the originally proposed elements were not thoroughly covered in the first phase of the GAS-S project. These included:

- Understanding the importance of maintaining a positive life/work balance
- Expressing their needs with professionalism and confidence to their peers and figures of authority.
- Creating a financial plan for during and post-academic studies.

As such, the main proposed change was to reshuffle the learning outcomes to focus more on beginning their academic career and to coordinate the learning outcomes such that they matched the delivery of similar topics in the communication courses. Outcomes such as conflict resolution could be dealt with in the communication courses, while outcomes such as effective study skills, stress management, and self-advocacy could be part of the focus.

Table 1 shows the assessment of learning outcomes for the Academic Success course from a Pre-University perspective. The order of delivery was changed for some learning outcomes to be more timely with the delivery. For example, Learning Outcome 4 to develop a study plan was moved from early in the course to just before completion since the student would then have the most knowledge regarding expectations of a 1st year at the University. In the GAS-S version, earlier was better because the student had already experienced two terms of University. In the GAS-S program there was opportunity for the learning outcome to be revisited at the end to strengthen the learning experience while in the Pre-University delivery, such an opportunity was not available.

Table 1: Learning Outcome Assessment for Academic Success

Academic Success LO (GAS-S)	Academic Success LO (Pre-U)
LO1: The student demonstrates the roles and responsibilities of being an engaged learner. LO2: Students will appraise their past post-secondary academic experiences (both positive and negative) and articulate current skills/strengths they possess that will assist in problem solving future challenges. LO3: The student understands the importance of maintaining a positive life/work balance LO4: The student can produce a plan to manage work, study, and life for a 1-term period.	Week 1 LO1: The student demonstrates the roles and responsibilities of being an engaged learner. LO2: Students will appraise their past <i>secondary</i> academic experiences (both positive and negative) and articulate current skills/strengths they possess that will assist in problem solving future challenges. Week 2 LO5: Students will distinguish appropriate learning strategies and study methods that

<p>LO5: Students will distinguish appropriate learning strategies and study methods that will assist in preparing them for exams relevant to their program of study.</p> <p>LO6: Students will apply various notetaking techniques in order to have relevant, concise notes for their courses.</p> <p>LO7: Students identify different skills, strategies and supports (including on-campus resources) which will help them cope/deal with different stressors.</p> <p>LO8: The student can identify a set of skills, strategies, and techniques for addressing conflict.</p> <p>LO9: The student can recognize different types of conflict and when they occur</p> <p>LO10: The student expresses their needs with professionalism and confidence to their peers and figures of authority.</p> <p>LO11: The student demonstrates budgeting skills by identifying needs, estimating expected costs and revenues, and prioritizing opportunities.</p> <p>LO12: The student creates a financial plan for during and post academic studies, including the identification of sources of financial support.</p> <p>LO13: The student can interpret the academic integrity policies of the institution and can illustrate appropriate methods for ensuring he/she complies when completing course related work.</p> <p><i>*one learning outcome addressed per week, with the exception of LO8 and LO9 which were combined into one week due to theme of the unit.</i></p> <p><i>*One week was left open for review (week 14)</i></p>	<p>will assist in preparing them for exams relevant to their program of study.</p> <p>Week 3</p> <p>LO6: Students will apply various notetaking techniques in order to have relevant, concise notes for their courses.</p> <p>Week 4</p> <p>LO3: The student understands the importance of maintaining a positive life/work balance</p> <p>LO7: Students identify different skills, strategies and supports (including on-campus resources) which will help them cope/deal with different stressors.</p> <p>Week 5</p> <p>LO11: The student demonstrates budgeting skills by identifying needs, estimating expected costs and revenues, and prioritizing opportunities.</p> <p>LO12: The student creates a financial plan for during and post academic studies, including the identification of sources of financial support.</p> <p>Week 6</p> <p>LO4: The student can produce a plan to manage work, study, and life for a 1-term period.</p> <p>Week 7</p> <p>Review</p> <p>*removed outcomes: LO8, LO9, LO10, LO13</p> <p>*LO1 modified to have learners reflect on their past secondary school experiences as they have not yet attended post-secondary.</p>
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The following learning outcomes were removed from the Pre-university course as follows:

LO8: This learning outcome is partially covered by the communications course

LO9: This learning outcome is partially covered by the communications course

LO10: The students do not get sufficient experience interacting with authority figures at the University for this learning outcome to be effectively learned

LO13: While this learning outcome is important, it has a lower priority than the other learning outcomes for pre-university students. There are other opportunities such as Ibegin (A University welcome program held in the summer for 1st year students) and orientation where this learning outcome can be addressed. Thus it was more important to concentrate on other learning outcomes.

Fundamentals of Personal Communications (COMM 3711)

This course is about one on one communication. It includes both oral and written communication and is design to help the student understand what others are telling them and to be more effective in getting their message out to the person they are communicating with. This course will include communicating with their professors to ensure they are getting the right support and also communicating with other groups such as the registrar’s office, their landlord, OSAP, etc. so that the student is better able to understand their rights and responsibilities.

The learning outcomes were considered appropriate and should not be changed. The course design needs to be modified to reflect the shorter time available. There is no longer sufficient time to consider doing this course first then following it with Fundamentals of Interpersonal Communication. Hence, the course can now overlap with COMM 3712 and use the co-delivery to enhance the student experience.

Table 2 shows the assessment of learning outcomes for the personal communication course from a Pre-University perspective.

Table 2: Learning Outcomes Assessment for Personal Communication

Personal Communication LO (GAS-S)	Personal Communication LO (Pre-U)
<p>LO1: The student recognizes different forms of communication (reading/writing/listening/speaking) and identifies the appropriate context for using each form.</p> <p>LO1.1: The student will identify their communication style.</p> <p>LO2: The student demonstrates effective reading techniques including the summarization of content for quality note taking.</p> <p>LO3: The student demonstrates effective listening techniques in the classroom and in social group environments.</p> <p>LO4: The student illustrates proper grammar and presentation of concepts through written communication boards, blogs, and journals. This includes understanding the difference in the tone and presentation of materials for synchronous and asynchronous communications.</p> <p>LO5: The student is able to compare and contrast various resources in terms of potential bias and credibility.</p> <p>LO5.1: The student understands how to find appropriate resources for report writing and can cite them properly in a presentation or document.</p> <p>LO6: The student can document support for their views when asked including when and how to integrate external sources and facts</p>	<p>Week 1</p> <p>LO1: The student recognizes different forms of communication (reading/writing/listening/speaking) and identifies the appropriate context for using each form.</p> <p>LO1.1: The student will identify their communication style.</p> <p>Week 2</p> <p>LO2: The student demonstrates effective reading techniques including the summarization of content for quality note taking.</p> <p>Week 3</p> <p>LO3: The student demonstrates effective listening techniques in the classroom and in social group environments.</p> <p>Week 4</p> <p>LO5: The student is able to compare and contrast various resources in terms of potential bias and credibility.</p> <p>LO5.1: The student understands how to find appropriate resources for report writing and can cite them properly in a presentation or document.</p> <p>Week 5</p> <p>LO6: The student can document support for their views when asked including</p>

<p>LO7: The student develops a structured outline of a report and can explain the importance of the outline in the writing process. LO8: Students will write complete grammatically correct sentences that communicate their meaning clearly and effectively, using varying sentence type, structure, and length to suit different purposes and make smooth, logical transitions between ideas. LO9: Students will read an academic article and summarize the article’s main message(s)/arguments in a written paper. LO10: Students will differentiate between academic keywords (such as ‘identify’, ‘compare & contrast’, etc.) and identify what is required to answer/respond effectively when such words are used. LO11: Students will demonstrate different methods for generating ideas. LO12: The student will prepare a journal describing their contributions to work. LO13: Students will be able to edit and improve an existing document.</p> <p><i>*One week was left open for review (week 14) *one learning outcome addressed per week, with the exception of: LO1, LO1.1 LO5, 5.1 Each set was combined into one week due to theme of the unit (same as the Pre-U breakdown)</i></p>	<p>when and how to integrate external sources and facts LO7: The student develops a structured outline of a report and can explain the importance of the outline in the writing process. LO8: Students will write complete grammatically correct sentences that communicate their meaning clearly and effectively, using varying sentence type, structure, and length to suit different purposes and make smooth, logical transitions between ideas.</p> <p>Week 6 LO9: Students will read an academic article and summarize the article’s main message(s)/arguments in a written paper. LO10: Students will differentiate between academic keywords (such as ‘identify’, ‘compare & contrast’, etc.) and identify what is required to answer/respond effectively when such words are used.</p> <p>Week 7 LO12: The student will prepare a journal describing their contributions to work.</p> <p>*removed LO4, LO11, LO13</p>
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The following learning outcomes were removed from the Pre-university courses (rationale provided for each):

LO4: This outcome was considered not a focus for Pre-U students as many have not yet participated in a university-level online class.

LO11: Students have not yet had the opportunity to learn about, or participate in, various methods for generation ideas (e.g. Delphi method) at the university level so this outcome was deemed not timely.

LO13: This outcome was deemed low priority as students would not have a pre-existing piece of writing from a university course for them to edit.

Fundamentals of Interpersonal Communications (COMM 3712)

This course is about communication in groups and working effectively as a team. Much of the course work in University will include team reports for labs or team presentations and this course will help the student be more effective in working with others.

The learning outcomes were considered appropriate and should not be changed. The course design needs to be modified to reflect the shorter time available. There is no longer sufficient time to consider doing this course after completion of Fundamentals of Personal Communication. Hence the course can now overlap with COMM 3711 and use the co-delivery to enhance the student experience.

Table 3 shows the assessment of learning outcomes for the Academic Success course from a Pre-University perspective.

Table 3: Learning Outcome Assessment for Interpersonal Communication

Interpersonal Communication (GAS-S)	Interpersonal Communication (Pre-U)
<p>LO1: Student will respectfully participate in conversation and can identify appropriate techniques for engaging others.</p> <p>LO2: Student will identify the context and nature of their audience and can adapt their communication style appropriately</p> <p>LO3: Students will identify various presentation styles and methods that will assist them when presenting a variety of topics to different audiences.</p> <p>LO4: Students will demonstrate various presentation styles and methods that are effective in relaying the message to the audience.</p> <p>LO5: Students will differentiate between various forms of written communication (i.e. email, text message, etc.) and use the appropriate style, tone and approach for each form</p> <p>LO6: Students will recognize diverse, cultural cues (verbal and non-verbal) that may impact the way one communicates.</p> <p>LO7: Students will distinguish varying communication styles and approaches that are used to be successfully heard in a group/technical meeting.</p> <p>LO8: Students will identify conflict resolution strategies that will allow them to successfully communicate with ‘difficult’ individuals.</p> <p>LO9: Students will be able to respond to challenge and justify the basis for their position.</p> <p>LO10: Students will be able to describe constructive feedback and provide it orally and in writing.</p> <p>LO11: Students will prepare a creative poster/presentation materials.</p> <p>LO12: Students will recognize different contextual cues (verbal and non-verbal) that may</p>	<p>Week 1</p> <p>LO1: Student will respectfully participate in conversation and can identify appropriate techniques for engaging others.</p> <p>Week 2</p> <p>LO3: Students will identify various presentation styles and methods that will assist them when presenting a variety of topics to different audiences.</p> <p>LO4: Students will demonstrate various presentation styles and methods that are effective in relaying the message to the audience.</p> <p>Week 3</p> <p>LO6: Students will recognize diverse, cultural cues (verbal and non-verbal) that may impact the way one communicates.</p> <p>Week 4</p> <p>LO7: Students will distinguish varying communication styles and approaches that are used to be successfully heard in a group/technical meeting.</p> <p>Week 5</p> <p>LO8: Students will identify conflict resolution strategies that will allow them to successfully communicate with ‘difficult’ individuals.</p> <p>LO9: Students will be able to respond to challenge and justify the basis for their position.</p> <p>Week 6</p> <p>LO11: Students will prepare a creative poster/presentation materials.</p> <p>LO13: The students shall demonstrate an ability to present in a group.</p> <p>Week 7</p>

<p>impact the way one communicates.(e.g. the effect of body language, audience, dress code and context on the delivery of a message) LO13: The students shall demonstrate an ability to present in a group. <i>*One week was left open for group presentations (week 14)</i></p>	<p>Continuation of presentations (week 6) *removed: LO2, LO5, LO10, LO12</p>
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The following learning outcomes were removed from the Pre-university courses (rationale provided for each):

LO2: This outcome was deemed lower priority as students for the limited time given and the perceived needs of pre-university students.

LO5: This outcome was prioritized lower than the other learning outcomes and removed as students get exposure to this outcome when they begin their transition

LO10: This outcome was removed, as students have not yet had the opportunity to learn and practice 'constructive feedback' in academia.

LO12: For the purpose of this condensed program, it was assessed that this outcome was lower priority in regards to the others.

Pre-University Math Course

The GAS-S program consisted of two options for the required math course. The Pre-University program was to have only one course. Both math courses were reviewed. Math 1310 (Applied Mathematics), concentrates on foundations of math with attention to geometry, financial math, probability, fractions, etc. Math 1316 (Advanced Mathematics) covers fractions, equations, Cartesian graphing, algebraic factoring, trigonometry, etc. While Math 1316 would be considered more useful for many technical programs, the primary purpose of the Pre-University pathway is not to develop math skills. There is insufficient time in the 7 week period available to properly improve their skills. It was decided that Math 1310, with the addition of appropriate diagnostic tools would be more appropriate. In this approach, the program would be able to identify those weaknesses in math such that other programs after University start could target those specific deficiencies.

Table 4 shows the assessment of learning outcomes for the Math course from a Pre-University perspective. The learning outcomes are kept very similar to the applied math course in the GAS-S program as that produced a key set of fundamental outcomes.

Table 4: Learning Outcome Assessment for Math

Math Courses LO (GAS-S)	Math Course LO (Pre-U)
<p>LO1: Perform arithmetic operations for numeracy and conversion of units. LO2: Perform arithmetic operations and solve application problems using whole numbers, integers, fractions, and decimals. LO3: Perform arithmetical operations and solve application problems using basic algebra.</p>	<p>Week 1 LO1: Perform arithmetic operations for numeracy and conversion of units. LO2: Perform arithmetic operations and solve application problems using whole numbers, integers, fractions, and decimals. Week 2</p>

<p>LO4: Perform arithmetical operations using ratios, proportions, and percentages LO5: Solve financial problems involving percentages and simple and compound interest. LO6: Solve problems involving length, perimeter, circumference, area, volume, weight, and temperature using both metric and imperial units of measurement. LO7: Solve problems involving probability, descriptive statistics, and graphing including Mean, Mode, Median, standard deviation, relative frequency and weighted average. LO8: Perform arithmetic operations for solving equations, intersection of lines, solving inequalities and using order of operations.</p> <p>Additional LOs for Advanced Math:</p> <p>LO9: Perform arithmetic operations using set theory, fractions, algebra and factoring. L10: Solve problems involving analytic geometry. LO11: solve problems involving trigonometry.</p> <p><i>*One week was left open for review (week 14)</i></p>	<p>LO3: Perform arithmetical operations and solve application problems using basic algebra. LO4: Perform arithmetical operations using ratios, proportions, and percentages.</p> <p>Week 3 LO5: Solve financial problems involving percentages and simple and compound interest.</p> <p>Week 4 LO6: Solve problems involving length, perimeter, circumference, area, volume, weight, and temperature using both metric and imperial units of measurement.</p> <p>Week 5 LO6: Solve problems involving length, perimeter, circumference, area, volume, weight, and temperature using both metric and imperial units of measurement.</p> <p>Week 6 LO7: Solve problems involving probability, descriptive statistics, and graphing including Mean, Mode, Median, standard deviation, relative frequency and weighted average.</p> <p>Week 7 LO8: Perform arithmetic operations for solving equations, intersection of lines, solving inequalities and using order of operations.</p> <p>*removed outcomes: LO9, LO10, LO11</p>
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The following learning outcomes were removed from the Pre-university courses as follows:

- LO9: This learning outcome is removed as there is insufficient time to properly cover this material.
- L10: This learning outcome is removed as there is insufficient time to properly cover this material.
- L11: This learning outcome is removed as there is insufficient time to properly cover this material.

The removal of the advance math components does not significantly affect the student performance as it is more important that the math fundamentals are covered well.

Other Course Changes

In all four courses, due to the tighter timeframe for course delivery, it was decided that the course design needed to include many self-run modules and diagnostic tools to assist the student in promoting self-learning. This also served to support increased flexibility for both faculty and students during the summer months.

3.3 Program Layout and Pathways

One of the first challenges in laying out the program was to determine the appropriate workload for the students. There is a challenge here between ensuring sufficient content for success and avoiding premature burnout of the student. In comparison to the GAS-S summer program, the Pre-University program only has an effective 7 weeks available or half the time. The GAS-S program delivered 6 courses in 14 weeks. The challenge here was to delivery 4 courses in 7 weeks. Significant debate was associated with reducing 4 courses to 3 courses while retaining the learning outcomes of the 4 courses. For the first phase of program development, the program remained with 4 courses with the understanding that scope may need to be reduced.

The first decision was to remove all elective options as they would only add extra workload to the students. The second option was to not offer the math course and to concentrate only on Academic success and communication. While possible, a minimum math course is required due to the evidence that weaknesses in math skills are limiting most students in the first term of their University experience. It was deemed important to assess their math skills so that programs could adjust to them. The third option was to merge the two communication courses into one larger course covering both aspects. At the present time, it was decided to move ahead with the four courses. The intent is to revisit workload once the first pilot has been delivered.

Reviewing the learning outcomes and discussing the courses with the DC course designers identified that many of the courses already had several on-line elements. As an example, a version of the Fundamentals of Academic Success could have been delivered fully on-line. This information led to the consideration of face-to-face, blended (hybrid) or on-line delivery options. A solely on-line delivery method was ruled out as observational data is required in this program to help identify student weaknesses, especially if there is an intent to direct the student towards a focused learning community. As well, there is insufficient evidence to support that high school students are prepared to start university in a fully on-line environment. Courses in the Bachelor of Arts and Bachelor of Commerce programs are also run face-to-face or in a hybrid delivery mode and consistency in modeling the expected behaviours of class attendance and participation was important.

The recommended solution for the Pre-University program is a blended format based upon a flexible schedule. There are several advantages in that this migrates from a high school delivery model that students understand and ends with a university delivery model that the students need to experience prior to attending. It also adjusts the student's time on campus to reduce their living and commuting costs as well as returning them a part of their summer. Essentially, the model would start mostly face to face with about 20% on-line content. As each week passes, the students are assigned more self-study module work as well as on-line modules. By the end of the summer, the students will have experienced an environment where most of the learning is taking place outside of the classroom where lectures and guided tutorials remain a small portion of the experience.

Below are two examples of blended delivery models that could potentially work for the Pre-University program:

A typical course is 3hrs/week for 12 weeks for a total of 36 hours in the University environment.

For students graduating from high school, they are aware of their marks by June 30th at the earliest. Therefore the earliest offer of a Pre-University program to those in need is July 4th. Given 1 week for

turn around, this leads to July 12th as earliest start. This gives a maximum of 36 days assuming that we do not go with a fixed schedule. This is equivalent to 7 weeks.

If we assume 2 days per week, that would give 14 days to work with. Assume 6 hours equivalent per day, this results in 84 hours. Or two courses as practical. Hence, to deliver 4 courses, we would need to consume 4 days per week of the summer which would be excessive to some students and stressful to some others.

Model 1: The delivery is broken down into 4 sets as follows:

- 1st set: 75% face to face; 25% self-learning
- 2nd set: 60% face to face; 40% self-learning
- 3rd set: 40% face to face; 60% self-learning
- 4th set: 25% face to face; 75% self-learning

The length of each set could vary, but assume # of weeks as 2:2:2:1. The resulting percentage in class would appear as follows:

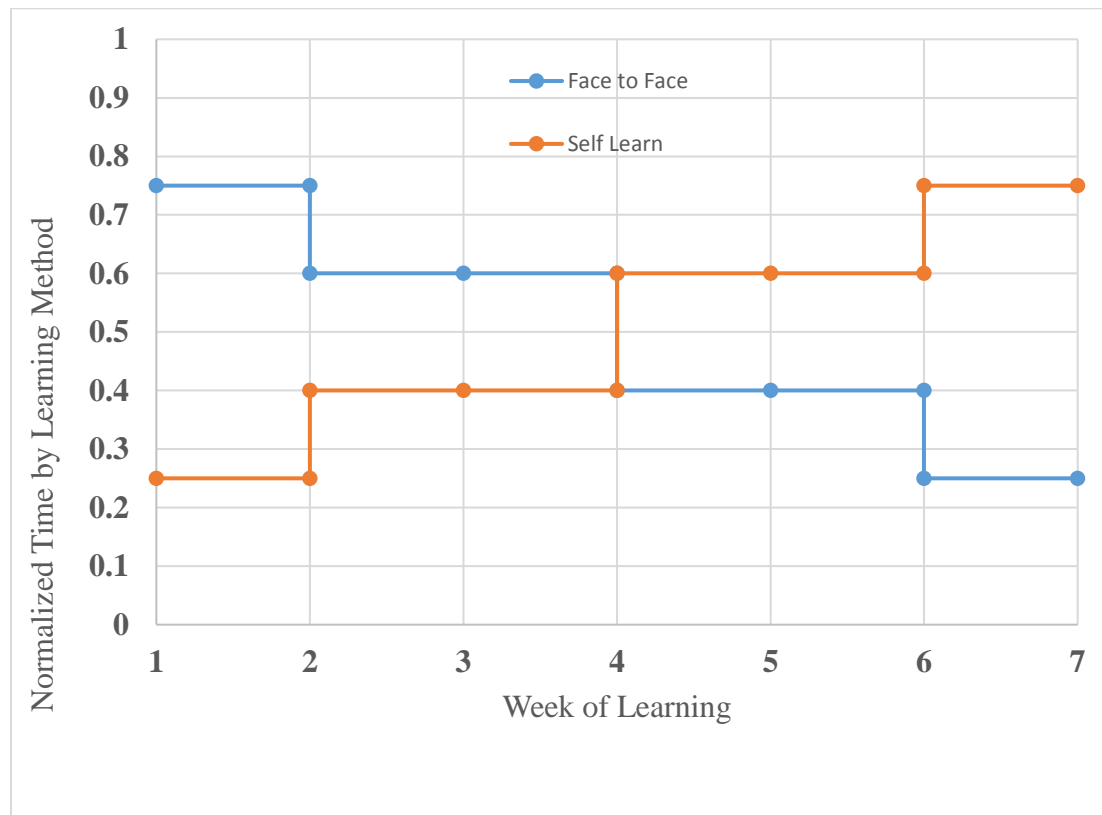


Figure 1: Delivery scheme for Model 1

Model 2: The delivery is continuous but fluid between the models as follows:

- Week 1: 100% face to face. Covers how it works and explains how to do self-learning
- Week 2 through 4: steady increase in self learning activities could with experiential learning exercises such as ibegin
- Week 5: peak self-learning time. Minimal lecture

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- Week 6 and 7: Lecture is constant and low. More face-to-face time occurs but as tutorials and experiential learning exercises. So self-learning remains dominant but led towards the structure expected in University.

Such a model would follow the trend as follows:

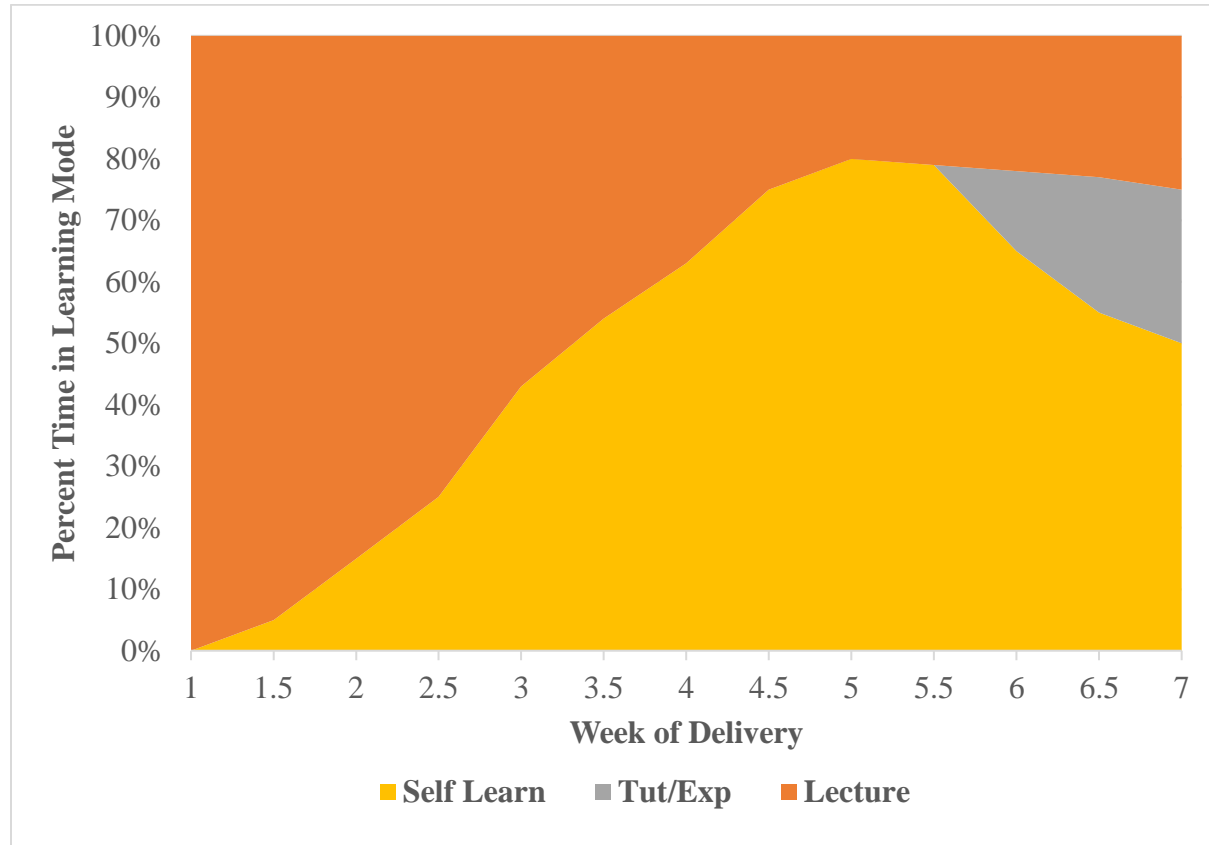


Figure 2: Delivery Scheme for Model 2

Another issue to address was the affordability of the program and stress. Students entering this program in the initial concept would have written their high school exams, entered this program, completed it, and then entered University with essentially no time off to enjoy their life. Such an approach does not promote a life/work balance. The initial concept was based upon the need to squeeze 4 courses into a compact schedule so that the credit level was high enough to justify full time status with hopes that it could be used for funding models. The assessment determined that the 7 week program would not be eligible for OSAP so this requirement does not exist for the Pre-University program and a lower workload is possible from that perspective. This concept also meant that the students were on campus for 5 days of the week incurring additional educational costs for minimal transfer credit. Hence, changes to the program delivery that could reduce the educational costs should be considered.

The blended approach could resolve many of these issues. While the student may start by being on-campus for 3-4 days, by August the student time on campus would be down to 1-2 days per week. In turn, living costs could be significantly reduced. As well, the flexibility in learning would reduce the stress level on the students and reduce the potential for mental health issues to affect the learning process. The only

remaining challenge was to ensure that the amount of time available completing the registration process and enrolment process could be done before the end of August.

Additionally, it was found that we could take advantage of other University programs, such as ibegin, which are designed for all students. The ibegin program is intended to introduce all University students to University life and expectations. By integrating those programs directly into the Pre-University pathway (as aspects of both the Academic Success and Communication courses), the students in this program would be integrated with their peers before the fall term starts. The first year experience currently offers the following:

First Year 101

- Introduction to UOIT Culture and Community
- Information about available Services and Supports
- Time Management
- First-year expectations
- Sample Lecture

Essentially the areas of UOIT culture, community, services, etc. can be directly used to support the Pre-University program and create a sense of a learning community by identifying peers.

4.0 Program Implementation

This Pre-University program was brought to the normal academic governance channels, and it was decided that because the pathway was admission based, that the university would test the program on a pilot basis. The university's current transfer credit framework allowed for the evaluation of credit transfer for BUSI 1020U Business Communications, based on the two college communication courses, so that upon completion of the program, students would enter the university with a 3 credit hour elective course already completed.

The original plan for the pilot was delivery in summer of 2017 for a cohort of 1st year business students. Such students would represent those that expressed interest in the UOIT business programs but had sufficiently low high school GPA that they would not normally be accepted. An alternative to entering this pilot was to send such students directly to DC with the intent that after two years of college, they would pathway back to UOIT through existing embedded bridge pathways between DC and UOIT. Both programs could not be piloted in the same year. As such, UOIT decided to proceed with directing the students to DC with the hope of using the existing college to university pathways for the students to return to the University. Hence, the implementation for this program, although fully developed, is on hold. The pilot for this program is anticipated to be conducted in the 2018-19 academic year.

It should be noted that in a recent survey of students currently enrolled in the summer GAS-S program many responded stating that they wished they had been given the opportunity to participate in a pre-university version of the program before starting at UOIT. This insight from students provides some anecdotal evidence that the designed program could be valuable to some students as a pro-active measure even if they do meet the minimum university standards.

5.0 Lessons Learned

The effort to produce a Pre-University program identified the following lessons learned:

- Student needs vary widely entering university and a Pre-University program will not be able to cover all of those requirements.
- A Pre-University program can be used as a controlled diagnostic tool to identify student needs and establish appropriate learning communities. Note further development regarding the tools and learning communities is required.
- A program for credit is feasible but is constrained by the time available. A standard lecture approach is not recommended for a Pre-University program.
- A blended model that evolves the student towards increased self-learning towards the University structure is recommended.
- Self-efficacy remains a key part of student success and needs to be included in a Pre-University program.
- Support from University and College administration for a full summer Pre-University program is not as strong as it is for a retention program partly due to the quality of incoming students and partly due to the very tight turnaround time for processing the students.