Niagara College Canada
APPLIED DREAMS.

CSC
COLLEGE SECTOR COMMITTEE FOR ADULT UPGRADING + ACE

Final Report
ONCAT Project 2017-30

Academic and Career Entrance (ACE) Reference Guide 2018

Funded by the Ontario Council for Articulation and Transfer (ONCAT)
The opinions, findings, and recommendations expressed are those of the authors and do not necessarily reflect the views of ONCAT.

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Overview of the Final Report

Because the Academic and Career Entrance (ACE) Reference Guide Project was not a traditional research project, some elements of the final report differ from those of a formal research project report.

The final report contains the following sections in the order they appear below:

- Overview of the Final Report
- Acknowledgements
- Executive Summary
- Promising Practices and Lessons Learned
- Tools and Resources
- The ACE Environmental Scan Report 2017
- The ACE Reference Guide 2018
- Appendices to the ACE Reference Guide

The research methodology for the environmental scan is included in the e-scan report. The project data set is considered to be the ACE Reference Guide itself.

A formal literature review was not conducted, though the review and use of historical and recent ACE program documentation informed both the environmental scan and the compilation of the ACE Reference Guide. The key documents are listed in the "Tools and Resources" section of this report and most are included as appendices in the ACE Reference Guide.

Acknowledgements

Niagara College and the provincial College Sector Committee for Adult Upgrading (CSC) extend thanks to the Ontario Council on Articulation and Transfer (ONCAT) for supporting this project to develop the Academic and Career Entrance (ACE) Reference Guide.

Achieving the objective of compiling the ACE Reference Guide involved feedback and input from all 24 public colleges. Many academic managers provided key information through the environmental scan questionnaire, email and telephone conversations, and/or at face-to-face meetings. Representatives from the Ministry of Advanced Education and Skills Development also provided insights, especially with respect to the ongoing Adult Education Review in Ontario.

In addition, thanks are extended to the four colleges (Algonquin, Boréal, Cambrian, and Canadore) who reviewed the ACE Reference Guide and provided helpful feedback related to content, clarity and format.

Executive Summary

The Academic and Career Entrance (ACE) Reference Guide project focused on producing a practical compilation of background information and documentation pertaining to the delivery of the ACE program, with a view to improving the awareness and understanding of the program and promoting mobility and seamless, inter-college transfer credit for ACE students across the college system. The target audience for the guide is academic managers, registrar and admissions personnel, and others who may have an interest in learning more about the history and the current delivery of the ACE program in the Ontario public college system.

The Academic and Career Entrance program is a grade 12 equivalent program for mature students delivered by all 24 public colleges in Ontario in both English and French, and online via the ACE Distance program. The ACE program enables adult students to complete academic upgrading courses through a flexible, goal-directed program, offered at almost 80 college sites across the province. ACE courses can be used to fulfill admission requirements for access to college postsecondary programs and for apprenticeship registration in Ontario. Although the current version of the ACE program was approved for delivery in 2004, its precursor (Basic Training for Skills Development Level 4) has been offered at all Ontario colleges since the creation of the "community college" system in the late 1960's.

To inform the development of the ACE Reference Guide, the project began by conducting an environmental scan to investigate a number of elements of ACE program delivery including ACE documentation currently on file at colleges, course codes in use at each college, the status of current delivery compared to the original (2004) approved curriculum, grading and transfer credit processes, and strengths and threats related to the ongoing viability of ACE program delivery. The ACE Environmental Scan report is included as an appendix in this final project report.

The information in the ACE Reference Guide is organized into a number of sections as follows:

- Introduction to the Academic and Career Entrance Program
- ACE Program Environmental Scan - Overview
- Background and History: BTSD to ACE
- ACE Program Development 2002-2004
- Funding for ACE Program Delivery
- ACE Curriculum and Course Outlines: Past, Present and Future
- ACE Certificate and Graduation Requirements
- ACE Course Codes and Titles
- ACE Program Delivery Models
- ACE Distance (online) Delivery
- Mastery Learning and Grading in ACE Courses
- ACE Transfer Credit across Colleges

Several appendices are also included in the guide related to both historical and current ACE program information.

Updating and re-issuing the Academic and Career Entrance program documentation to all colleges, in the form of the ACE Reference Guide, provides a consolidated resource to promote consistent, coordinated delivery and student mobility within and across colleges, ensuring that this important pathway into postsecondary for adult students is well-understood and consistently delivered.

Promising Practices and Lessons Learned

The ACE Reference Guide identifies some areas where "promising practices and lessons learned" could be implemented to promote the viability of ACE program delivery and support student mobility and transfer credit. Below are nine areas that expand on those mentioned in the ACE Reference Guide itself.

1. Liaise with CRALO to raise ACE awareness and promote ACE student mobility

It was the intention of this project to liaise with the provincial Committee of Registrars Admissions and Liaison Officers (CRALO) to update their members on the status of the ACE program, to address questions related to ACE delivery; and to identify issues around ACE transfer credit that may be affecting student mobility. The project plan had this liaising scheduled for early winter. Unfortunately, the college faculty job action made it difficult for relevant CRALO members to devote time to liaising with the project researcher. In the near future, it would be useful for the College Sector Committee for Adult Upgrading (CSC) to revisit this aspect of the project and approach CRALO to conduct discussions as outlined above while also making key CRALO members aware of the new ACE Reference Guide and the updated ACE Course Codes document.

2. Investigate curriculum update and re-approval process with MAESD

For a locally approved certificate such as that issued for ACE, each college would normally maintain its own curriculum, program requirements, and approval. Because ACE is a system-wide program built on provincial consistency of curriculum and graduation requirements across all 24 colleges, any program modifications need to be undertaken and submitted to the Colleges Unit at MAESD through a coordinated, system-wide proposal similar to that which was submitted for the original ACE program approval.

Renewing the awareness of the ACE program within the Colleges Unit has been one objective of the ACE Reference Guide project. The CSC will continue to liaise with the Colleges Unit and other MAESD personnel to provide updates on ACE programming and to discuss the process and documentation required to submit a program modification for the ACE program. The CSC needs to be aware of the required program modification process so that it can subsequently inform all colleges and engage in plans to move forward with collaboration on ACE program updates. Discussions with MAESD around funding options for ACE delivery is also key to the ongoing viability of the program.

3. Implement a Five-year curriculum renewal plan with all colleges

Once the ACE curriculum updates are completed as described in #2 above, a regular curriculum renewal plan should be implemented. The program quality review cycle for postsecondary college programs is conducted at five-year intervals, so it makes sense to implement a similar cycle for ACE program review. In addition, an annual check-with colleges may serve to identify emerging issues and areas where minimal updates to documents, for colleges and the Ministry, would help keep the program fresh and current.

4. Consider the feasibility of including U-level courses in the ACE program

The original intent of the ACE program was to provide grade 12 equivalent college destination ("C-level") courses which mature applicants could complete and use to fulfill admission requirements for college postsecondary programs and for apprenticeship registration. With the advent of degree programs in many colleges, a need has arisen for university destination ("U-level) upgrading courses to also be made available to mature applicants who do not have the admission requirements for degree programs. In an effort to retain

and support those degree program applicants, a small number of colleges have already developed U-level upgrading courses in-house, particularly in mathematics and communications (English). Some colleges deliver these through Part-time Studies on a fee-payer basis, and some offer one or more U-level courses using LBS funding as they do with the original (C-level) ACE courses.

It would be worth investigating the possibility of extending the offering of U-level courses to more colleges, ideally as part of an expanded ACE program. The CSC would be in a position to raise this with colleges to create an inventory noting which colleges are already offering U-level courses, and to determine the levels of interest and feasibility across the system.

5. Pursue funding options for ACE Program Delivery with MAESD

As outlined in the ACE Reference Guide, funding for ACE program delivery is now almost exclusively reliant on funding from the Literacy and Basic Skills (LBS) agreement within the Employment and Training Division of MAESD. This funding does allow colleges to provide tuition free seats to eligible ACE students, but there are challenges associated with the reliance on LBS funding as described in the ACE Reference Guide. The crossover between the program approval for ACE residing in the Colleges Unit within the Postsecondary Education Division, and the funding situated in the Employment and Training Division, considerably diminishes the profile of ACE within the college sector and with external stakeholders.

The CSC should continue to engage with MAESD to follow-up on the status of both funded and fee-paying streams in ACE. Since ACE remains the only program still approved within MAESD's tuition-short funding category (as per MAESD's *2017-18 Enrolment and Audit Procedures)*, it will be worthwhile to investigate this further with MASED in concert with the discussion regarding the process for ACE program updates to be submitted and approved.

6. Revisit ACE grading and transfer credit policies with all colleges

In recent years, the CSC has become aware that the original (2004) requirement of achieving 70% as a passing grade for ACE courses is no longer in place at some colleges. The ACE Environmental Scan and follow-up discussions with college managers during this project confirmed this finding. It is important for the CSC to now facilitate discussions and information sharing among colleges to revisit the ACE grading policy with a view to achieving consensus once again on what the passing standard should be for ACE courses.

Generally speaking, the reason cited by the colleges who have not retained the 70% passing grade for ACE courses is that their college requires the ACE program to use the same grading policy as the majority of non-accredited postsecondary programs, i.e. a 50% passing grade. It may be that colleges where this has occurred were not aware of the original 70% passing standard for ACE courses and/or the reasons behind it. It may also be difficult for those colleges to change the ACE grading policy if their college is firm on equating ACE with mainstream postsecondary program grading policies.

No matter what the reasoning for the current grading policy for ACE courses within a college, all colleges would benefit from revisiting ACE grading policies and collaboratively discussing the most appropriate way to proceed to ensure ACE program integrity and to promote the sound preparation of adult students preparing for postsecondary studies.

Similarly, colleges also need the opportunity to discuss the current state of student mobility in terms of students being able to complete ACE courses at one college and apply for postsecondary at another college.

The transferability of ACE courses for use as admission requirements is a key element of ACE programming and needs to be revisited to ensure that the practice is the same as the intent. Based on recent discussions among college ACE managers, it appears that at least one ACE course in particular has become problematic for students who are trying to use it to satisfy admission requirements at some colleges.

Colleges must be able to say with confidence that ACE courses are, indeed, transferable across colleges for use as admission requirements, both to ACE students themselves and to other adult education providers and community partners who refer students to the ACE program.

7. Encourage colleges to include ACE information under "Admission Requirements" and in "Decline Letters"

It would be helpful if more colleges made direct reference to the ACE courses that are acceptable equivalencies to the secondary school courses listed in their mandatory "Admission Requirements" for each program. Contact information for the Academic Upgrading/ACE program at the college could also be included so that prospective applicants can contact the AU/ACE program directly for information on ACE courses and eligibility. A small number of colleges do this already and have found it to be a good source of referrals to the ACE program and a helpful option for prospective mature students.

Some colleges also provide information about ACE programming to applicants who are declined admission to postsecondary programs because they are missing required courses and/or need to improve their grades to be more competitive in the admissions process. This information can be included in the "decline letter" that applicants receive. Because ACE is offered at all 24 colleges across at almost 80 sites, as well as online via ACE Distance, the information is applicable both to local applicants and those from other parts of the province.

8. Pursue employer recognition for the ACE Certificate

As mentioned in the ACE Reference Guide, employer recognition of the ACE credential is minimal across the province. Funding has never been available to undertake a coordinated, provincial marketing campaign to promote ACE to employers. On a local level colleges have liaised with employers, usually as a result of an ACE graduate applying for employment and presenting the employer with the ACE Certificate. It is rare for an employer not to accept ACE as a grade 12 equivalent for hiring purposes once they understand what it is and that it is accepted by all public colleges for postsecondary admission.

Wherever possible, colleges have asked employers to provide a letter confirming acceptance of the ACE Certificate. This documentation may or may not still be on file at individual colleges. It would be worthwhile for the CSC to lead a provincial outreach and marketing campaign to employers to introduce and/or revisit the use of the ACE Certificate as a grade 12 equivalence for hiring purposes. Colleges are very supportive of this idea and have been for many years. Project –based funding would have to be sought to carry out this type of awareness initiative with employers.

9. Support MAESD's Adult Education Review and Related Initiatives

In late 2017, MAESD's Highly Skilled Workforce division (HSWD) became the Workforce Policy and Innovation Division (WPID). One of its early mandates of the HSWD, and now of the WPID, is to lead a tri-ministry review of adult education in the province. The other ministries involved in the review include Citizenship and

Immigration, and Education. All three ministries (MAESD, MEDU, and MCI) have a long history of funding a variety adult education/upgrading programs that cater to many different needs of adult learners.

The ACE program is part of the WPID's adult education review. The CSC is pleased to be involved in ongoing consultations with the WPID, and these consultations are especially welcome because of the somewhat lower profile of the ACE program compared to other adult education programs across the three ministries.

In late 2017, MAESD released a discussion paper, *Strengthening Ontario's Adult Education System* and invited public consultation on the paper via the submission of written responses. The CSC collaborated with Colleges Ontario on a system wide response. Below is an excerpt from that response which points out the some of the ongoing challenges of ACE program sustainability.

> *"Colleges have developed [a] responsive and successful model despite AU/ACE programming being underfunded and poorly understood within the learning ministries. Within MAESD, for example, responsibility for upgrading lies across three separate divisions: the Colleges Unit within the Postsecondary Education Division approves the AU/ACE program; the Employment and Training Division provides funding in many cases through the LBS envelope; while the overall strategy for adult education lies within the Workforce Policy and Innovation Division. This separation between strategy, funding, and programming results in a disconnected system that is limiting colleges' ability to serve adult learners across the province."*

The CSC must continue to work on behalf of all 24 colleges to ensure that ACE programming is a viable contributor to the adult education landscape in Ontario with a mandate, curriculum, and program delivery model targeted to adult students who want to "prepare for college at college".

Tools and Resources

The provincial College Sector Committee for Adult Upgrading provided several of the resources that contributed to this project:

- Academic and Career Entrance Provincial Course Codes Document, 2017
- Academic and Career Entrance Course Outlines Compilation, 2004
- Apprenticeship Policy on Academic Requirements, MAESD, 2013
- Apprenticeship List of Acceptable Documentation, MAESD, 2013
- Enrolment and Audit Procedures, MAEAD, 2017-18
- Prepared for Success Report, 2016-17
- Prepared for Success Fact Sheet, 2017-17
- Program Outline, Basic Training for Skills Development (BTSD) Levels 1 to 4, 1980
- Program Modification Proposal, BTSD Level 4, 2003
- Program Approval Letter for Academic and Career Entrance, 2004

In addition, all 24 college Academic Upgrading/ACE managers provided support and insights that contributed to the development of the ACE Reference Guide, with 22 of 24 completing the environmental scan questionnaire.

ONCAT Project 2017-30

ACE Program Environmental Scan Report 2017
for the

Academic and Career Entrance (ACE) Reference Guide Project

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A) Background

The Academic and Career Entrance (ACE) program is a grade 12 equivalent program for adult learners, offered at all 24 public colleges in Ontario. It is available in both English and French. ACE Distance is the online version of the program, administered by the MAESD-funded "College Sector Committee for Adult Upgrading" (CSC). The CSC also provides support and coordination to colleges for the province-wide delivery of ACE.

The original, system-wide approval for the ACE program was issued in 2004 by the Colleges Unit of MAESD (then MTCU). Prior to 2004, ACE was known as "Basic Training for Skills Development Level 4" (BTSD 4). BTSD was one of the first approved programs when colleges opened their doors in 1967, and 50 years later ACE remains one of the only system-wide programs still being delivered across all colleges.

The main purposes of the 2004 updating and renaming of BTSD 4 to ACE included the following:

- updating the curriculum to ensure it was meeting the needs of adult students preparing for college postsecondary programs or apprenticeship;
- re-establishing grade 12 equivalency; and
- providing consistent program delivery across all colleges to promote ACE recognition and student mobility across colleges.

The 2004 ACE approval includes 10 courses:

- Communications
- Core Mathematics
- Business Mathematics
- Apprenticeship Mathematics
- Technical Mathematics
- Biology
- Chemistry
- Physics
- Self-Management/Self-Direction
- Computer Fundamentals

Graduation requirements include communications, one math course, and two electives from the approved ACE course list. The credential earned is a locally-approved certificate. In practice, 95% (or more) ACE students take only the course(s) required for admission to their chosen college postsecondary program. Few actually have a goal of achieving the overall ACE certificate. This individualized approach, i.e. students taking only the course(s) they need, is a cornerstone of ACE program delivery. However, it is worth noting that the full ACE Certificate is required for those wishing to register for an apprenticeship and for those pursuing direct employment.

It is also important to note that all 24 colleges use funding from MAESD's "Literacy and Basic Skills" (LBS) program to deliver ACE programming, which allows learners to participate at no cost. A small number of colleges also have a fee-payer option for ACE.

In recent years, the need to re-issue the original ACE documentation to colleges and to revisit province-wide policies and processes for ACE delivery has become apparent, based on both ongoing inquiries for ACE information submitted to the CSC by colleges, and also via issues and questions raised in discussions at provincial Academic Upgrading/ACE managers meetings. The development of the ACE Reference Guide, through this ONCAT-funded project, will provide colleges with up-to-date documentation and processes to promote consistent delivery of the ACE program as well as student mobility and transfer credit across colleges.

B) Proposed Inquiry

This environmental scan was conducted to identify current features of ACE program delivery and related issues and to inform the development of the provincial **ACE Reference Guide** for use by Ontario's public colleges. Data collected in this scan will also assist in refining the subsequent stages of this ONCAT-funded project in two important ways:

i. identifying further information that needs to be collected from colleges regarding their ACE program delivery; and
ii. addressing key issues that must be clarified with colleges to promote student mobility and transfer credit across all college ACE programs.

The scan was divided into five sections designed to determine the following at each college:

- Which of the approved ACE courses are currently being delivered?
- Does the ACE curriculum in use align with the original curriculum?
- How are ACE courses graded?
- Who is responsible for retaining ACE documentation?
- How are ACE students recognized upon completion?
- To what extent is the ACE program valued within the college?
- What are the key strengths and challenges with ACE program delivery?
- What kind of documentation is important to include in the ACE Reference Guide?

C) Research Tool

A questionnaire was developed by the lead researcher to collect ACE program data from each college. All college AU/ACE managers had previously been informed about the ACE Reference Guide project and the accompanying data collection that would be undertaken.

The questionnaire consisted of 23 questions divided into five sections:

- Instructions and Contact Information
- ACE Course Outlines
- ACE Outcomes and Grading
- ACE Documentation and Recognition
- ACE - Broader Issues and Strengths

The specific questions from sections 2, 3, 4, and 5 are listed below. Following every question, a space for "Comments" was also provided.

Part 1: ACE Course Outlines

1. There are **ten** approved courses in the ACE program, listed below. Please check the left-hand column to indicate those that you currently deliver at one or more of your LBS/AU sites.

	We deliver all ten courses listed below at one or more sites.
We deliver the following ACE courses (check all that apply):	
	ACE Communications
	ACE Computer Fundamentals
	ACE Self-Management/Self-Direction
	ACE Core Math
	ACE Business Math
	ACE Apprenticeship Math
	ACE Technical Math
	ACE Biology
	ACE Chemistry
	ACE Physics

2. For the ten approved ACE courses, which of the original (2003) ACE course outlines do you have on file?

	We have all ten original course outlines on file
	We have none of the original course outlines on file
We have the following original outlines on file (check all that apply)	
	ACE Communications
	ACE Computer Fundamentals
	ACE Self-Management/Self-Direction
	ACE Core Math
	ACE Business Math
	ACE Apprenticeship Math
	ACE Technical Math
	ACE Biology
	ACE Chemistry
	ACE Physics

3. Have you formatted some or all of your ACE course outlines into your college's standard course outline template?

All	Some	None	Unsure

Part 2: ACE Outcomes and Grading

4. In general, do you believe that the outcomes and content in your ACE courses closely match that of the original (2003) course outlines?

Yes	No	Unsure

5. Does your Academic Upgrading program offer one or more additional courses (outside of the ten approved ACE courses) that are also accepted for admission at your college? (Such courses may pre-date the ACE program approval but continue to provide good preparation for specific postsecondary program clusters.)

Yes	No	Unsure

6. Is the passing grade the same for all of your ACE courses?

Yes	No	Unsure

If yes, what is the passing grade? _____

7. If the passing grade is not the same for all of your ACE courses, please specify the passing grade for each course in the left-hand column below.

Passing grade (%)	Course
	ACE Communications
	ACE Computer Fundamentals
	ACE Self-Management/Self-Direction
	ACE Core Math
	ACE Business Math
	ACE Apprenticeship Math
	ACE Technology Math
	ACE Biology
	ACE Chemistry
	ACE Physics

8. When ACE was originally developed and approved (2003-04), there was agreement across the majority of colleges that the passing grade for ACE courses should be 70%. Do you agree or disagree that this is a good practice for our ACE course delivery across all colleges?

Strongly agree	Agree	Disagree	Strongly Disagree

What do you think is an appropriate passing grade for ACE courses? _____

Part 3: ACE Documentation and Recognition

9. Is your Registrar's Office aware of the ACE completion (graduation) requirements for achieving the overall ACE Certificate, i.e. completion of Communications, one math, and two additional ACE courses?

Yes	No	Unsure

10. Which area at your college is responsible for maintaining the ACE course outlines, curriculum, and completion requirements, i.e. the overall program documentation? Check all that apply.

	Registrar
	Dean/Director
	Associate Dean/Chair/Program Manager
	Academic Excellence (or similar)
	Other (please specify)

11. Do you have a copy of the most recent (2013) "Provincial ACE Course Codes" table? (This is a list of the course codes used for ACE courses at each colleges, designed to facilitate the transferability and acceptance of ACE courses across colleges. It is maintained by the CSC and will be updated as part of this project.)

Yes	No	Unsure

12. Does your Admissions Office have the ACE Course Codes table as well, for their use in assessing postsecondary applicants?

Yes	No	Unsure

13. What is your estimate of the average number of students (annually) at your college who complete and receive the overall ACE Certificate, i.e. complete four ACE courses including Communications, one math, and two additional ACE courses?

	Less than 5
	5 to 10
	11 to 20
	21 to 30
	31 to 40

	51 to 60
	61 to 70
	71 to 80
	81 to 90
	91 to 100

14. Using the number above, can you estimate this as a percentage of all ACE students at your college annually?

	Less than 5%
	6 to 10%
	11 to 20%
	21 to 30%
	31 to 40%

	51 to 60%
	61 to 70%
	71 to 80 %
	81 to 90%
	91 to 100%

15. Do your ACE graduates participate in the college's convocation ceremony?

Yes	No	Unsure

16. Other than convocation, do you hold an annual (or more frequent) recognition event for your ACE/AU students (who may or may not have completed the overall ACE Certificate)?

Yes	No	Unsure

17. To what extent do you agree with this statement: "The senior admin/executive team at my college values the ACE program both as a feeder into postsecondary and as an important service to the community?"

Strongly agree	Agree	Disagree	Strongly Disagree

Part 4: ACE - Broader Issues and Strengths

18. Does your college offer a fee-paying stream for the delivery of ACE courses (excluding those for WSIB, special projects/contracts with community partners, and ACE Distance)?

Yes	No	Unsure

19. At your college, do you feel that there is competition and/or overlap between ACE programming and "Pre" programs, e.g. Pre-Health, Pre-Technology, Pre-Media, etc.

Yes	No	Unsure

20. What do you believe is the biggest threat(s) to the ongoing delivery of ACE programming across our colleges?

21. What do you believe is the biggest "selling feature" or advantage(s) of the ACE program for our adult students?

22. Is there specific information/documentation that you would like to see included in the "ACE Reference Guide" that would promote the consistency of ACE program delivery and/or promote student access and mobility across colleges?

23. Do you have any final comments or suggestions for the CSC as we undertake the development of the "ACE Reference Guide"?

D) Methodology

At the CSC's provincial conference in early June 2017, college AU/ACE managers were informed of the **ONCAT - ACE Reference Guide** project. In mid-July 2017, the following email was sent by the CSC's lead researcher to all 24 AU/ACE managers, with the environmental scan questionnaire and initial project bulletin attached.

The CSC needs your feedback in the next few weeks regarding our project with ONCAT.

*At the CSC-AU Managers meeting at our June conference, we briefly discussed the CSC's ONCAT-funded project to develop an "**ACE Reference Guide**" for use by colleges. (Please see also the attached project bulletin.) As part of the project, I'm now conducting an environmental scan to identify some of the processes and documentation that currently exist within our ACE programs.*

*Because ACE is a system-wide program, delivered by all 24 colleges, it is imperative that the CSC collects accurate information **from all colleges** via the attached questionnaire.*

The results of the e-scan will help to inform the contents of the ACE Reference Guide. The e-scan is also a deliverable in our project contract with ONCAT. (Note that only aggregate data will be used in the project report; no individual college data will be included.) This is the second ACE-related project funded recently by ONCAT, which is a positive indication of ONCAT's ongoing interest in our ACE program delivery and the resulting access it provides to adult students seeking to enter postsecondary college programs.

To that end, please complete the attached questionnaire and return it to me by Monday, August 15, 2017.

If you would prefer to complete the questionnaire via telephone, I will be happy to schedule a time with you to do so.

Finally, you'll notice that the questionnaire is in a fairly simple MS Word format. I chose this "low-tech" approach so that you can easily review the entire questionnaire prior to completing it, and so that I can readily compile the responses, especially any text-based comments.

Thank you in advance for your prompt attention to this request for information. If you have questions or concerns, please let me know.

In early August, a reminder email was sent to colleges who had not yet responded to the questionnaire. Although the option for a telephone interview was provided, all respondents chose to complete the questionnaire in writing.

E) Response Rates

Feedback via the questionnaire was received from 22 of the 24 colleges (92%). Two colleges indicated that due to organizational restructuring, there was not a manager with adequate background available to complete the questionnaire at this time. However, all three of those colleges also indicated that they would attempt to provide a response early in the fall 2017. If additional responses are received, the researcher will update this environmental scan report as needed, prior to submitting the final project report.

F) Key Issues

Several key issues were identified in the environmental scan as described below.

Funding for the Delivery of ACE Courses

For many years (decades) colleges used the tuition-short funding mechanism to charge fees for the Basic Training for Skills Development (BTSD) program. As mentioned previously, the ACE program is an update of BTSD 4.

In 2013, the Colleges Unit of the [then] MTCU eliminated the tuition-short funding stream which made it challenging for college upgrading programs to continue to deliver a fee-paying stream for ACE. At that time, there were 11 colleges with an ACE fee-paying stream, and now that number has dwindled to one. (This is exclusive of the WSIB fee-for-service agreement in place at all 24 colleges for both academic upgrading and postsecondary studies. WSIB fees typically do not generate significant revenue for academic upgrading/ACE programs.)

ACE courses are primarily delivered using Literacy and Basic Skills (LBS) funding from the Employment and Training Division of MAESD, which enables colleges to provide "free" seats to eligible adult learners. The reliance on this funding means that colleges must adhere to stringent performance management metrics and reporting which are related to broad contract compliance criteria. In addition, LBS funding has been flat-lined since the late 1990's, so meeting the contact compliance requirements while also maintaining high standards of program delivery is increasingly challenging given current LBS funding levels.

ACE Program Curriculum

Of the 22 colleges who responded to the e-scan questionnaire, all 22 indicated that they are delivering ACE courses which closely align to the original 2003 ACE outcomes. While there is certainly room to update various pieces of the curriculum, it is important to remember that the 2003 curriculum was evaluated by Curriculum Services Canada and deemed comparable to corresponding grade 12 college-destination secondary school courses. This evaluation was completed in 2007, and the secondary school curriculum to which the ACE courses were compared has not been significantly updated since that time.

Because ACE courses are primarily used by adult learners to fulfill admission requirements for postsecondary college programs, the consistency of the curriculum delivery over time is important. In addition, the consistency is also important to promote student mobility, e.g. completing ACE courses at one college and applying for postsecondary at a different college.

Mastery Learning and Grading in ACE Courses

When the ACE program was initially approved system-wide, all colleges agreed that a 70% passing grade was appropriate. The majority of colleges surveyed in this e-scan continue to agree with a 70% passing grade. Although it may seem high, it must be noted that ACE programs are in the business of preparing students to succeed in postsecondary or apprenticeship training, so achieving less than 70% does not bode well for success.

In addition, when the ACE program was approved, it was (and still is) important for colleges to distinguish themselves from secondary school adult credit programs where the pass mark is generally 50%.

It was noted by several respondents that while the "pass mark" for course completion may be 50%, the individualized, mastery learning model still used in most ACE programs requires students to achieve at least 70% (and sometimes more) on assignments, test, etc., throughout the course before moving on to new material. As a result, many students achieve 70% or better even though the stated "passing grade" may be 50%.

Other colleges noted that although students could pass with a 50%, most realize that in order to be considered for admission to postsecondary programs they require higher grades and therefore strive to achieve those grades. This is especially true for oversubscribed programs where the minimum average required for consideration is often 80% or better.

Finally, on the topic of grading, a number of colleges have a policy in place where students can pass individual ACE courses with less than 70%, but in order to achieve the overall ACE Certificate they must have a minimum 70% average.

The use of mastery learning as an instructional approach is a long-time cornerstone of ACE program delivery. The issue of passing grades and minimum requirements for graduation, i.e. completing the ACE Certificate, warrant further discussion among colleges to promote both consistency and student mobility.

Provincial ACE Course Codes

At one time, colleges collaborated to create and distribute a provincial "ACE Course Codes" listing, primarily for use by Admissions assessors who may be presented with an applicant who has completed ACE courses at one college but is applying to postsecondary at another college. Since ACE course codes (and sometimes course titles) vary from college to college, this listing has become very useful for Admissions departments. However, the e-scan indicated that only 63% of colleges have the most recent (2013) listing available and many are unsure if their Admissions assessors are aware of the listing. The development of the ACE Reference Guide will include an update of the provincial ACE Course Codes list. This document is key in the effort to promote transfer credit and student mobility, and it is essential that it is kept up-to-date and available at all colleges.

Responsibility for Retaining ACE Documentation

The e-scan results indicated that ACE documentation (program approval, course outlines, graduation requirements, course code lists, etc.) is housed in many different areas across colleges. Sometimes it is at the dean/director level, sometimes at the associate dean/chair level, possibly at the program level, and/or with a central academic support centre and/or with the Registrar's Office. Many colleges indicated that more than one area is responsible for retaining the documentation. While the variation from college to college is not unusual, it is essential that the documentation is readily available to new managers who oversee ACE, and this does not appear to be the case at a number of colleges.

Value of the ACE Program within Colleges

At many colleges, senior management recognize the inherent value in supporting ACE program delivery, both in terms of making an investment which generates domestic student enrollment in postsecondary as well as providing an important community service. Of the 21 respondents to this e-scan, only two indicated that they perceived a lack of support for ACE programming from senior management. Despite the perceived internal support, some colleges also indicated that the comparatively small financial contribution to overhead available through LBS-funded activity is an ongoing concern, coupled with the increasing space constraints which are the reality at many colleges.

In 2015-16 academic year, 3,364 ACE students moved into college postsecondary programs at the same college where they completed their ACE courses (source: *Prepared for Success Report*, CSCAU, 2016). This number remains fairly consistent year over year and can be verified by previous *Prepared for Success* reports. Conservatively, another 100 students per year (possibly many more) complete ACE courses and are admitted to programs at other colleges than those at which they completed their ACE program. (The exact number of students who upgrade via ACE at one college and move into postsecondary at another college cannot be tracked at this time.) Those 3400+

students generate significant domestic revenue annually for colleges and are typically successful in terms of GPA and retention. In other words, the majority of ACE graduates provide colleges with a strong source of successful and well-prepared mature students.

Competition between ACE and "Pre" Programs

A small number of colleges indicated that there is real (or perceived) competition between their ACE program and programs such as Pre-Technology, Pre-Health, Pre-Media, etc. This is understandable because ACE and Pre-programs are both intended to assist students in qualifying for admission to other college programs. Although ACE programs do not include social sciences or vocationally-specific courses, there is considerable similarity between the math, science and communications courses delivered in ACE and those delivered in some of the Pre-programs. The sense of competition may be more apparent in colleges who struggle to fill their Pre-programs, or it may just simply occur by virtue of the similarity of the curriculum in those core courses mentioned above. In any case, colleges should ensure that academic advisors and recruiters understand the ACE program and the clientele for whom it may be suitable while also being knowledgeable about the Pre-programs. Most ACE students are not interested in a full-time, tuition-based preparatory program but instead prefer to utilize the individualized, course-based approach which they can access via ACE.

G) Emerging Trends and Factors Affecting ACE Delivery

The e-scan conducted for this project was intended to be a snapshot of ACE program delivery which can inform the development of the ACE Reference Guide and also inform discussions which need to occur with the college AU/ACE managers to establish consensus on relevant issues that affect student mobility and transfer credit. Rather than trends as such, the e-scan identified factors that are (and will) affect ACE programming across the province. These factors can be captured somewhat by referring to the responses to the two questions at the end of the questionnaire: "What are the biggest 'selling features' of ACE?"; and, "What are the biggest threats to ACE delivery?"

Strengths of ACE Program Delivery

Virtually all colleges responded similarly to this question. The most common strengths identified were as follows:

a) The ability to offer **free** courses and support to adult learners, many of whom are unemployed or underemployed and seeking to upgrade to meet admission requirements for postsecondary college programs, apprenticeship, or in some cases for direct employment.
b) The opportunity to "**prepare for college at college**" and to access college services, e.g. Health Centre, Counselling, Library, Fitness, etc.
c) **Scheduling options** which allow adult learners to have input into their timetables to help balance employment, family and health needs.
d) **Individualized programming** that enables learners to take only the course(s) they need to meet the requirements of their next-step goal.
e) The **continuous intake** model of delivery (at the majority of colleges) so learners can access courses almost any time throughout the year.
f) The ability for learners to work individually, at a **flexible pace**, to complete course work as quickly as possible, or to take more time if difficulties arise.
g) The welcoming environment and **ongoing support** (both academic and personal) available to learners throughout their ACE program studies.

Threats to ACE Program Delivery

The majority of colleges also provided similar insights when identifying threats to ACE programming. The most common responses are as follows:

a) The **lack of stable funding** and the resulting need to use LBS funding to deliver ACE courses.
b) The **lack of funding** to adequately and widely market ACE to potential adult learners.
c) **Ongoing competition** (or the perception thereof) between school board adult credit programming for OSSD completion and ACE programming delivered by colleges
d) **Lack of internal support and/or awareness** of ACE programming at some colleges
e) The heavy **administrative burden** resulting from the mandatory performance management requirements that are contractually tied to the LBS funding used to deliver ACE.
f) The **lack of an ongoing fee-payer mechanism** within the Colleges Unit to provide a stable fee-paying stream for colleges who wish to use it.
g) The ongoing **space constraints** at many colleges, particularly at "main campus" sites.
h) **Lack of employer recognition** of ACE as a grade 12 equivalent credential (for hiring/promotion purposes), which relates to the overall marketing challenges.

H) Implications for Ontario College ACE Programs

Many of the strengths cited above bode well for the ongoing success of ACE programming in Ontario. There is considerable dedication to program quality and student success across all college ACE programs. In addition, adult learners gain a big advantage when they are able to "prepare for college at college" and become familiar with the postsecondary environment while they are completing their upgrading (ACE) preparation. The flexibility of the program and course delivery are very appealing to adults, and the level of support they receive in the program is considerable.

The implications of some of the threats noted above are substantial. The reliance on LBS funding, and the challenges of establishing (or re-establishing) a fee-payer stream are significant. If the viability of ACE programming is threatened, colleges stand to lose a long-established source of well-prepared, domestic, non-traditional students who have already made a commitment to the college by choosing to do their academic upgrading there. The community service that each college provides through ACE delivery is also important as there are many partnerships and referral mechanisms in place across communities which link to college academic upgrading/ACE programs.

The issue of student mobility across ACE programs is one that was also raised in response to the final question on the e-scan: "Is there specific information/documentation that you would like to see included in the 'ACE Reference Guide' that would promote the consistency of ACE program delivery and/or promote student access and mobility across colleges?" It is clear that all colleges need to revisit their transfer credit policies for ACE students, to ensure that the original intent of the ACE program is actively and seamlessly maintained, i.e. that all ACE courses are transferable across colleges for the purpose of applying to postsecondary programs. A secondary issue to be considered is the combining of ACE courses from more than one college (and from the ACE Distance program) for learners wishing to achieve the overall ACE Certificate and how that can be readily facilitated.

The two issues described above (transferability of ACE courses and certificate completion) will be addressed through this ONCAT – ACE project in the coming months. The researcher will conduct in-person and/or telephone/email consultations with all colleges with a view to establishing consensus on these issues and others as they arise. In November 2017, all college AU/ACE managers will meet in person, and these topics can be further discussed at that time. Consultation with CRALO will also be part of this next phase to ensure that college

Registrars and Admissions staff are aware of the transfer credit and mobility issues and solutions around the ACE program.

When completed, the ACE Reference Guide will include clear information about curriculum, transfer credit, and completion/credential requirements and will provide a centralized and accessible resource for college managers, faculty, and staff.

I) Conclusion

Currently, MAESD's new Highly Skilled Workforce Division is reviewing all funded adult education programs in Ontario in an effort to create a more seamless and clearer set of pathways for lifelong learning across the province. Both LBS and ACE are part of that review, as are Ministry of Education's secondary school adult credit programs. Related education such as language training for new immigrants is also part of the review.

Although the ACE program is well-established in all 24 public colleges, there is a need to review and update the documentation and processes related to student mobility, transfer credit and completion. This environmental scan has provided important baseline information regarding the state of ACE delivery, the strengths and threats related to programming, and the issues that need to be addressed going forward. This ACE Reference Guide will be a practical resource for college managers, faculty, and staff to promote consistency of program delivery and student mobility within this important adult education pathway in Ontario.

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Academic and Career Entrance (ACE) Reference Guide 2018

CSC
COLLEGE SECTOR COMMITTEE
FOR ADULT UPGRADING + ACE

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The opinions, findings, and recommendations expressed are those of the authors and do not necessarily reflect the views of ONCAT.

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Purpose of the Guide

In recent years, the need to re-issue the original Academic and Career Entrance (ACE) program documentation to colleges and to revisit province-wide policies and processes for ACE delivery has become apparent, based on ongoing inquiries submitted to the College Sector Committee for Adult Upgrading (CSC) and also via issues and questions raised in recent years at provincial Academic Upgrading/ACE managers meetings. In addition, requests for information from the Ministry of Advanced Education and Skills Development (MAESD) have also pointed to the need to consolidate historical and current ACE documentation and information.

This ACE Reference Guide is intended to provide information that supports consistent delivery of the ACE program across Ontario's 24 public colleges and promotes student mobility and transfer credit. The intended audience is academic managers within the colleges who are involved with preparatory programming and the delivery of ACE. It may also be useful for Registrar/Admissions personnel, especially with respect to issues of ACE transfer credit. There has also been interest from some Vice Presidents, Academic in learning more about the background and current status of ACE program delivery.

Introduction to the Academic and Career Entrance Program

The Academic and Career Entrance (ACE) program is an Ontario college grade 12 equivalent program for adult students who wish to upgrade their skills and knowledge to meet admission requirements for Ontario college postsecondary programs or for registration as an apprentice in Ontario. Some adult students also use ACE to upgrade for direct entry into employment.

The program approval (curriculum, graduation requirements, tuition structure, etc.) for ACE resides in the Postsecondary Education Division of MAESD, while the main source of funding for the activity, the Literacy and Basic Skills Program, resides in the Employment and Training Division of MAESD.

Many colleges deliver ACE, along with "Pre-ACE" courses, under the broader umbrella of "Academic Upgrading", "Academic and Career Preparation", or "College and Career Preparation".

Since 2004, ACE has been delivered by all 24 public colleges (English and French) in Ontario at almost 80 sites across the province. The ACE program is also delivered online (via the ACE Distance program) by the College Sector Committee for Adult Upgrading (CSC). In addition, the CSC acts on behalf of all 24 colleges to support and coordinate ACE program delivery and to liaise with MAESD and other stakeholders

Since 1995, the annual *Prepared for Success* report has been compiled and issued by the CSC to document program choice, GPA, and retention data in semester one for adult students who move from academic upgrading programs (including ACE) into college postsecondary programs. In 2016-17, more than 3,750 former AU/ACE students entered a variety of college postsecondary programs across the province, achieving an average semester one GPA of 3.15. (Source: *Prepared for Success 2016-17).* See Appendix 1 for a brief "Fact Sheet" from the 2016-17 *Prepared for Success* report.

The terms and content of the original (2004) ACE program approval remain in place, though at some colleges the documentation and organizational history regarding ACE have been displaced within the institution. As a result, the need for an updated compilation of ACE background, policies, and resources is needed, in the form of this ACE Reference Guide.

ACE Program Environmental Scan 2017

An environmental scan was conducted in summer 2017 to gather information about the current status of ACE program delivery across colleges. Twenty-two colleges responded to the e-scan questionnaire which consisted of 23 questions divided into five sections:

- Instructions and Contact Information
- ACE Course Outlines
- ACE Outcomes and Grading
- ACE Documentation and Recognition
- ACE - Broader Issues and Strengths

The key issues identified and discussed in the e-scan report include the following:

- Funding for the ACE program delivery
- ACE program curriculum
- Mastery learning and grading in ACE courses
- ACE course codes across colleges
- Responsibility for retaining ACE documentation
- Value of the ACE program within colleges
- Perceived competition between ACE and postsecondary General Arts and Sciences “Pre-” programs
- Emerging trends and factors affecting ACE delivery
- Implications for college ACE programs

A number of the issues identified in the environmental scan have been addressed in this guide.

Background and History – BTSD to ACE

Although the ACE program in its current form was approved for delivery in 2004, the previous iteration of ACE, Basic Training for Skills Development Level 4 (BTSD Level 4) dates back to the emergence of the community college system in the late 1960’s. In those early years, BTSD was one of the first system-wide programs approved for delivery, and it still exists in the college system today. Originally, BTSD consisted of four separate programs as listed below:

- BTSD Level 1: equivalent to grades 1 to 4;
- BTSD Level 2: equivalent to grades 5 to 8 ;
- BTSD Level 3: equivalent to grade 9 - 10; and
- BTSD Level 4: equivalent to grade 11 – 12 (now ACE).

All four levels included mathematics and communications courses, while BTSD Level 3 and Level 4 also included sciences. Colleges issued completion certificates for each level, specifying the courses that the student had completed. Some features of the BTSD program are included below, as noted in the 1980 BTSD program description.

Purpose: *to meet individual needs and develop competencies in the skills of communications, mathematics and science required to access other training programs and/or the job market. The development of personal, social or life skills is general for all subjects and is particularly included as part of the communications subject area. The program has been designed to provide a natural training progression from skills required by or common to all occupations to higher level skills required by more sophisticated occupations.*

Entrance Requirements: *Pre-tests will determine the trainee's functional level to assist the institution to place the trainee at the appropriate learning level. It also enables the trainee to bypass certain sections(s) if he/she can already meet the performance criteria. Individual trainees will be required to meet specified objectives and their program time will be negotiated taking into consideration the average time required, the time available, prior experiences and learning style.*

Career Clusters: *The career cluster courses will provide entry into the corresponding skills or apprenticeship programs. They also provide the basic communications, mathematics, science and other job-related skills to allow the graduate to being to work in some occupations. The general BTSD cluster provides entry into those occupations requiring grade equivalency.*

Average Duration: *Duration will vary depending on student aptitude and point of entry. Maximum duration of government sponsored students in BTSD training is 52 weeks. Maximum permissible time for each level is as follows; L1 – 24 weeks; L2 – 36 weeks; L3 – 32 weeks; L4 – 32 weeks*

It is interesting to note that many features of the BTSD Levels 1-4 program listed above were implemented in provincially-funded adult upgrading programs which emerged in the 1980's and 90's including the Technical Upgrading Program, the Ontario Basic Skills program and the Literacy and Basic Skills program (both the original 1997-98 and the updated 2011-12 LBS programs). See Appendix 2 for additional details from the 1980 outline.

ACE Program Development 2002-2004

In 2002, the CSC undertook a consultative project with the support and participation of all 24 colleges to update and re-name the BTSD Level 4 program. The goals of the project were as follows:

- to review the BTSD Level 4 curriculum being delivered across colleges;
- to review relevant secondary school curricula;
- to develop new courses which better reflect the academic preparation required for adults seeking to enter college postsecondary or apprenticeship;
- to promote consistent program delivery across all colleges;
- to promote course recognition and student mobility across colleges;
- to validate the curriculum and instructional objectives to ensure grade 12 equivalency and continued access to postsecondary and apprenticeship for adult students in the college system.

In 2003, as a result of extensive consultation with college Academic Upgrading programs, the CSC submitted a program modification proposal to the [then] Program Quality Unit, Colleges Branch, Ministry of Training, Colleges and Universities (MTCU). Briefly, the proposal included additional curriculum and courses (for example, Computer Fundamentals), updated outcomes, an increased funding weight, and a new name: Academic and Career Entrance. All 24 Vice-Presidents, Academic, provided written agreement to the proposed modifications

to BTSD Level 4 and the transition to ACE. See Appendix 3 for an excerpt from the 2003 Program Modification proposal.

In 2004, MTCU approved the ACE program proposal, including a small increase in the funding weight of the program within the tuition-short category. All college presidents received a letter confirming the approval. (See Appendix 4 for a copy of the letter.) The CSC provided the approved course outlines and updated graduation requirements to all colleges, and they were implemented shortly thereafter.

The 2004 ACE approval includes 10 courses, available in both English and French as listed below:

- Communications
- Core Mathematics
- Business Mathematics
- Apprenticeship Mathematics
- Technical Mathematics
- Biology
- Chemistry
- Physics
- Self-Management/Self-Direction
- Computer Fundamentals

To earn an ACE Certificate, students must complete four ACE courses: communications, one math course, and two electives. The credential earned is a locally-approved college certificate. (It should be noted that colleges no longer issue BTSD Level 1, 2 or 3 certificates.)

In practice, the majority of ACE students take only the course(s) required for admission to their chosen college postsecondary program. However, the ACE Certificate is required for those wishing to register for an apprenticeship and for those needing a grade 12 equivalent credential to present to an employer.

In 2007, MTCU funded the CSC to undertake a pilot project to deliver ACE courses online, using LBS funding as part of the “e-Channel” distance learning initiative within the Employment and Training Division. By 2009, ACE Distance became an ongoing program which is described more fully in the “ACE Distance” section of this guide. Like the classroom-based ACE program, the ACE Distance program is available in both French and English.

Also in 2007-08, at the request of the Ministry of Education, the ACE curriculum was submitted to Curriculum Services Canada to assess the comparability of ACE courses to corresponding secondary school courses. The results of that evaluation are shown in Table 1 on the following page. Curriculum Services Canada also provided a detailed explanation of the features of the course comparability that led to the ACE/secondary school course equivalencies.

Table 1: ACE and Ontario Secondary School Course Equivalencies

ACE-OSS Equivalencies
Curriculum Services Canada **2008**

Academic and Career Entrance Program (ACE)	**Ontario Secondary Schools**
English	
ACE Communications	English, Grade 12, College Preparation ENG4C
Math	
ACE Apprenticeship Mathematics	Foundations for College Mathematics, Grade 12, College Preparation MAP4C
ACE Business Mathematics	Foundations for College Mathematics, Grade 12, College Preparation MAP4C
ACE Technical Mathematics	Mathematics for College Technology, Grade 12, College Preparation MCT4C
ACE Core Mathematics	Mathematics for Work and Everyday Life, Grade 12, Workplace Preparation MEL4E
Science	
ACE Biology	Biology, Grade 11, College Preparation SBI3C
ACE Physics	Physics, Grade 11, University Preparation SPH3U
ACE Physics	Physics, Grade 12, College Preparation SPH4C
ACE Chemistry	Chemistry, Grade 12, College Preparation SCH4C

Funding for ACE Program Delivery

BTSD Levels 1-4, subsequently BTSD Levels 1-3 and ACE, are the only remaining programs that fall under the tuition short category, as listed in MAESD's *2017-18 Enrolment and Audit Guidelines.*

As noted in a 2012 MTCU memo to colleges, "Tuition short funding originated as a category for vocational/pre-vocational programs of less than 52 weeks' duration with separate payment arrangements, i.e. through federal-provincial training agreements that were grand-parented into Ministry funding and reporting procedures after the original inter-governmental agreements ended."

At one time, colleges delivered many short-term programs under the tuition short category. In addition to BTSD, programs such as English as a Second Language, Basic Job Readiness Training, and a variety of locally driven, employment focused training programs for which a grade 12 or equivalent was not required were categorized as tuition short programs.

Seat purchases were commonly made by the [then] Canada Manpower agency and Workers Compensation Board. Private insurance companies and Indigenous organizations also purchased seats for their clients. Students who were not sponsored could often obtain funding for tuition and materials from the colleges' Ontario Special Bursary Plan (OSBP).

Fulltime activity in tuition short programs is measured in "trainee days", with one day equal to five trainee hours. One weighted funding unit (WFU) is equal to 180 trainee days. Tuition is charged as a weekly rate. Part-time activity is measured in Student Contact Hours (SCH). The hourly tuition is usually set the same as for continuing education courses. Colleges reporting to the Ministry for tuition short programs must itemize trainee days and SCHs in order to be eligible for a general purpose operating grant allocation. This model readily allows students to enter and exit on a weekly basis, attend full or part-time, and results in students (or sponsoring agencies) only being charged for the number of weeks or hours that the student participates in the program. This was (and still is) key in the self-directed, flexibly-paced programming offered in BTSD Levels 1-3 and ACE.

In 2013, MTCU discontinued the tuition short category for all programs except BTSD Levels 1-3 and ACE. Other programs that had been under the tuition short category were either converted to postsecondary certificate or diploma programs, or discontinued. At that time the CSC, along with a number of colleges, advocated with MTCU to ensure that the tuition short program category remained available for BTSD Levels 1-3 and ACE so that the model of continuous intake, flexibly-paced delivery could continue.

Currently, only a very small number of colleges still offer BTSD 1-3 and ACE programming for fee-payers. Those who do continue to report on that tuition short activity via trainee days and SCHs as outlined above. However, the tuition that each college charges to WSIB for BTSD and ACE courses (under the terms of the provincial WSIB service agreement with all colleges) are based on the tuition short model.

There are two significant contributors to the decline of fee-payer BTSD and ACE students across the colleges. One is the 2012-13 transition from the Ontario Special Bursary Plan to the Institution-Funded Special Bursary, which has resulted in fewer adult students being able to access bursary funds for fee-payer BTSD and ACE programming. The second contributor is the increasing challenge associated with meeting the targets for the number of "Learners Served" under the MAESD-funded Literacy and Basic Skills (LBS) Service Agreements. As a result, colleges have increasingly moved potential BTSD and ACE students into seats funded through their LBS Service Agreement to help achieve the "Learners Served" target. Because MAESD's LBS guidelines do not support nor mandate any specific curriculum, colleges can use LBS funding to provide "free" seats for BTSD Levels 1-3 and ACE courses.

A significant drawback of colleges having to rely on LBS funding to deliver pre-ACE and ACE is that they must adhere to the mandated LBS performance management framework which does not lend itself to academic, course-based, credentialed programming such as ACE. Also, it has become increasingly difficult to meet contractual LBS obligations with limited provincial funding and increased administrative and reporting demands within the LBS agreements.

ACE Curriculum and Course Outlines: Past, Present and Future

When the ACE program approval was granted by MTCU in 2004, the resulting course outlines were created in a format which differs from the current course outline format that is now considered acceptable across colleges. For example, the original ACE outlines included a mixture of content, outcomes, expectations, and examples of

instructional activities. In other words, those original outlines contained curriculum elements as well as objectives and/or outcomes. Over the years, most colleges have transferred the original ACE outlines into their own course outline template and added information on Essential Employability Skills, internal college processes, etc., while at the same time removing some of the more specific curriculum information which is no longer included in a typical college course outline.

In this guide, the original 2004 ACE course outlines have been reformatted into a more streamlined template. No changes to the course content or outcomes have been made. The original outlines, in the updated template, can be found in Appendix 5 of this guide.

Although much of the original ACE curriculum still provides sound background for adults preparing for college postsecondary studies or apprenticeship, all ACE courses should be reviewed and updated in the near future. The CSC would be pleased to lead a consultative process with all 24 colleges to undertake this curriculum review and renewal. For that purpose, the CSC is liaising with MAESD to identify the process for submitting ACE program revisions and subsequently gaining system-wide approval for those revisions.

Since the original ACE curriculum was evaluated by Curriculum Services Canada and deemed comparable to corresponding Ontario grade 12 college-destination secondary school courses (see Table 1), it would be prudent to undertake a new evaluation for comparability to grade 12 courses when revisions are made to the ACE curriculum.

ACE Certificate and Graduation Requirements

As mentioned in the "ACE Program Development" section of this guide, the ACE graduation requirements include four courses: communications, one mathematics course, and two electives from the approved ACE course list. Students who complete those requirements are then eligible to receive a locally-approved ACE Certificate from their college. (See Appendix 6 for a sample certificate.) Most ACE students take only the course(s) required for admission to their chosen college postsecondary program, but each year a number complete the overall ACE Certificate.

The ACE Certificate is also an acceptable grade 12 equivalent credential for registration as an apprentice in Ontario. Appendix 7 contains MAESD's most recent (2013) Apprenticeship Policy on Academic Requirements for registration, as well as the "List of Acceptable Documents", both of which confirm the acceptance of the ACE Certificate as grade 12 equivalent for apprenticeship registration.

A number of employers also accept the ACE Certificate as grade 12 equivalent for hiring purposes. Colleges often liaise directly with employers if an ACE graduate is applying for employment and the employer requires information about the ACE program and the certificate. A coordinated provincial campaign to market ACE to employers would be welcomed by all college ACE programs to increase employer awareness and recognition of the ACE credential. To date, funding has not been available for such a marketing initiative, though colleges continue to discuss the need and importance of pursuing this.

All colleges provide some form of recognition for ACE graduates. Some include ACE Certificate recipients in their convocation ceremonies. Others have smaller recognition and celebration events within the Academic Upgrading/ACE department and often invite college executive team members and local dignitaries.

ACE Course Codes and Titles

At various points in recent years, the suggestion has been made that all colleges use the same course codes for ACE courses, to promote student mobility and transfer credit. Since each college has its own format for assigning course codes, it is not possible to have the same codes across all colleges. Some years ago, in order to assist with ACE student mobility, the CSC collected ACE course codes from all colleges for in-class and online delivery options (as these can be different), and compiled them in a single reference document. The resulting "ACE Course Codes" document has been updated a number of times over the years and was updated again in 2017 as part of the development of this guide. See Appendix 8 for the updated ACE Course Codes document.

The ACE Course Codes compilation is provided to all colleges for use by academic managers and admissions personnel. In terms of student mobility, the ACE Course Codes document is particularly useful when a student completes ACE courses at one college but applies to a postsecondary program at another college. It is also useful when a student takes ACE courses at more than one college and completes the graduation requirements for the overall ACE Certificate, in which case transfer credits would be assessed by the college issuing the certificate.

Although ACE course codes cannot be uniform across colleges, it may be feasible for colleges to return to using the original (or updated) ACE course titles. This is an area to be explored further. Having consistent course titles across colleges would further contribute to transparency and enhance student mobility and transfer credit.

ACE Program Delivery Models

The ACE program delivery models in place across the 24 colleges have many similarities and are derived from the 1980 BTSD program guidelines. (See Appendix 2). ACE is a flexible, student-centred program where adult students can

- be assessed to determine prior learning and starting points in the continuum of the curriculum;
- take advantage of continuous intake throughout the year, i.e. weekly, biweekly, monthly;
- take only the courses needed for their chosen goal;
- learn in a self-directed environment;
- be part of a college community of adult learners;
- have options for flexible scheduling, e.g. full-time, part-time, days, evenings;
- complete course work at an accelerated (or decelerated) pace as appropriate;
- "stop out" if life circumstances warrant but readily return to the program;
- obtain admission requirements for college programs or apprenticeship, or upgrade for employment; and
- complete ACE Certificate requirements if they wish.

These remain as delivery features across colleges. Some colleges also offer traditional, semester-based intake with a teacher-led format for specific courses, but the majority offer continuous intake with a self-directed learning model.

All colleges also deliver "pre-ACE" courses. The majority of students start with one or more pre-ACE courses to prepare them for the academic content and rigour of the ACE course(s) required for their postsecondary or apprenticeship goal. The initial assessment process for students noted above determines placement in the continuum of the pre-ACE through ACE curriculum. Therefore, access to ACE coursework may either be through promotion from pre-ACE courses or by direct entry if a student demonstrates the academic readiness.

As mentioned earlier in this guide, many colleges describe and market their pre-ACE and ACE courses under a broader title or department such as “Academic Upgrading”, “Academic and Career Preparation”, or “College and Career Preparation”, to name a few. This has become more common as colleges have had to rely increasingly (and now almost exclusively) on LBS funding to deliver programming. Because MAESD’s LBS guidelines do not support any specific curriculum, it has become simpler for many colleges to embed pre-ACE and ACE in the broader “Academic Upgrading” program entity. This is an unfortunate situation for ACE programming across the province because it significantly diminishes awareness and marketing of ACE, both within and outside of the college.

Arguably, the most enduring feature of pre-ACE and ACE program delivery is the opportunity for adult students to “prepare for college at college”. Students can take advantage of college services and resources just as postsecondary students do. As they proceed through the program, they can gradually familiarize themselves with college processes and services, use the college’s learning management system, and readily access information about their postsecondary goals. This familiarity with the college as a whole contributes significantly to the preparedness and confidence of ACE students when they transition into postsecondary studies.

ACE Distance (online) Delivery

The ACE Distance program provides asynchronous, online delivery for all ten approved ACE courses, in both English and French, with 24/7/365 technical support. The CSC holds the agreement with MAESD to deliver ACE Distance as part of the LBS “e-Channel” distance learning initiative within the Employment and Training Division. A fee-payer stream also exists.

Intakes are monthly, with a minimum of six “free” intakes per year. Applicants must meet similar eligibility requirements as those in classroom-based ACE courses, including completion of the “Learn to Learn” readiness module.

Remedial (pre-ACE) courses are also available in communications and mathematics. In addition, ACE Distance offers university preparation courses in Biology and Chemistry through the fee-paying stream. ACE Distance courses are part of the OntarioLearn consortium (a shared collection of online college courses across all 24 public colleges). In 2018, ACE Distance will be undertaking a refresh and updating of the instructional design and presentation of several courses within the program.

In the LBS-funded (free) stream, students are registered in ACE Distance via the CSC and also with the Part-time Studies department at their local college. Registration at a college provides access to college services and ensures that students receive final grades which become part of their permanent student record and appear on an official transcript. This is essential since students use ACE Distance courses as prerequisites to apply for postsecondary programs, just as classroom-based students do. Fee-paying ACE students also register through their local college but do not have to meet the same eligibility requirements as LBS-funded students do.

Students can be registered concurrently in a classroom-based ACE program and in ACE Distance (free or fee-paying), e.g. a student may take ACE Biology and Chemistry in a classroom setting while also being registered in ACE Communications through ACE Distance. To achieve the requirements for the ACE Certificate, ACE Distance courses can be combined with classroom-based ACE courses. Some students complete all required courses online to qualify for the ACE Certificate, in which case the registering college issues the certificate.

Mastery Learning and Grading in ACE Courses

When the ACE program was initially approved system-wide, all colleges agreed that a 70% passing grade was appropriate for all courses. (The passing grade for most BTSD courses had been 80%.) The majority of colleges surveyed in the 2017 ACE Environmental Scan continue to use a 70% passing grade. Although it may seem high, it must be noted that ACE programs are in the business of preparing students to succeed in postsecondary programs and/or apprenticeship training, so achieving less than 70% does not bode well for success in further education. In addition, it is important for colleges to distinguish themselves from various non-college adult upgrading programs where the 50% standard is acceptable.

While the official passing grade for ACE course completion may be less than 70% at a small number of colleges, the individualized, mastery learning model still used in most ACE programs requires students to achieve at least 70% (and sometimes more) on assignments, tests, etc. within the course before moving on to new material. As a result, many students achieve 70% or better, irrespective of the stated passing grade.

The majority of ACE students realize that in order to be considered for admission to postsecondary programs they require higher grades than 50% and therefore strive to achieve those grades. This is especially true for students applying to oversubscribed programs where the minimum grades required for consideration is often well over 80%.

The issue of grading standards for ACE courses warrants further discussion among colleges in the context of consistency, student mobility and preparedness for postsecondary studies.

ACE Transfer Credit across Colleges

One of the cornerstones of the ACE program is the consistent delivery of ACE course outcomes across all 24 colleges, based on the approved 2004 curriculum. In the 2017 ACE environmental scan, all 22 colleges who responded indicated that they are delivering ACE courses which closely align to the original 2004 ACE course outcomes. The provincial consistency of ACE course delivery is important for a number of reasons:

- to ensure ACE course acceptance for postsecondary admission across colleges;
- to promote a consistent level of knowledge and skills for ACE students as they prepare for further education; and
- to provide seamless transfer credit for ACE students taking courses at more than one college, especially with respect to achieving the requirements for the ACE Certificate.

Although most ACE students take all of their courses at one college, some do complete courses at more than one college and subsequently need to obtain transfer credit if they have met the graduation requirements and wish to receive the ACE Certificate. Several colleges have granted transfer credit for the purpose of issuing the ACE Certificate, and those that have not could do so via their college's existing transfer credit process. The "ACE Course Codes" document is particularly important in assessing transfer credit as well as assessing admission requirements across colleges.

Based on the 2017 ACE environmental scan data, the majority of colleges agree that substitutions or transfer credit of non-ACE courses should not be considered when determining eligibility for the ACE Certificate. The main reason cited for this approach is to maintain the integrity of the ACE program as a college preparatory and upgrading program where adult students "prepare for college at college" using curriculum, instructional

approaches, and evaluation criteria designed for that purpose. A small number of colleges feel that ACE should be subject to the same residency and transfer credit processes as those for postsecondary programs, which could allow transfer credit of non-ACE courses to be used toward the granting of the ACE Certificate. Additional consultation is needed among colleges to fully address this topic and work toward consensus.

Summary

The Ontario colleges' Academic and Career Entrance program is a key component of adult education in the province. ACE programs have a long and successful history of producing well-prepared adult students who are highly successfully when they transition to postsecondary studies, apprenticeship, and employment.

Although the ACE program is well-established in all 24 public colleges, it would be useful to review and update the curriculum and revisit consensus program policies. It is also important that the CSC proceeds with the engagement of MAESD to discuss options for the funding of ACE program delivery.

The CSC hopes that this ACE Reference Guide will be a practical resource to promote understanding of the ACE program and consistency of program delivery and student mobility within this important adult education pathway in Ontario.

Appendices

Appendix 1: Prepared for Success Fact Sheet, 2016-17

Appendix 2: BTSD Program Description, 1980

Appendix 3: BTSD Level 4 Program Modification Proposal, 2003

Appendix 4: ACE Program Approval letter, 2004

Appendix 5: ACE Course Outlines, 2004

Appendix 6: Sample ACE Certificate

Appendix7: Apprenticeship Policy on Academic Requirements, MAESD, 2013

Appendix 8: ACE Program Provincial Course Codes List, 2017

FACTSHEET

PREPARED for SUCCESS

College upgrading programs continue to prepare graduates for success in postsecondary programs

What is PREPARED for SUCCESS?

PREPARED for SUCCESS (PFS) is an annual study conducted by the College Sector Committee for Adult Upgrading (CSC). It examines the postsecondary outcomes of students who have moved from upgrading programs to full time postsecondary programs at their colleges.

How long has this study been conducted?

The PFS study has been conducted annually since 2001, or 18 years.

What is the purpose of PFS?

The purpose of this study is to document the positive impact that academic upgrading has on the success of students who enter postsecondary programs.

What has this study shown?

Every year, PFS has shown that individuals who have received prior training in college academic upgrading programs:

- achieve **high marks** in postsecondary programs;
- have the necessary **commitment** to complete their education; and
- make the **right program choices** (low rate of program change).

Academic upgrading programs continue to provide **thousands of dedicated, well-prepared, successful students** to Ontario's public colleges.

Who provides the data for this study?

All 24 Ontario public colleges are asked to participate each year. In 2016-2017, 22 colleges provided data.

What are the highlights of the 2016-2017 study?

- A total of 3,750 upgrading graduates enrolled in postsecondary programs — an **increase of 386 students** over the previous year (with two colleges not reporting data).
- These students represent **at least $9 million in tuition revenue** — plus operating grant funding — for Ontario public colleges in 2016-2017.*

**Calculated at $2400 tuition per student. Source: ontariocolleges.ca/colleges/paying-for-college*

Conclusions

Academic upgrading graduates are **high-achieving, low-attrition** contributors to the Ontario public college system (71% re-enrollment in a second semester, 5% program change, average GPA of 3.15).

Well-prepared, high-performance and career-focussed, these students are poised to become highly-skilled workers, contributing significantly to the provincial economy.

CSC
COLLEGE SECTOR COMMITTEE FOR ADULT UPGRADING + ACE

EMPLOYMENT ONTARIO Ontario Canada

This *Employment Ontario* service is funded in part by the Government of Canada and the Government of Ontario through the Canada-Ontario Job Fund Agreement.

Ontario Ministry of Education | Ministry of Colleges and Universities | Senior and Continuing Education Branch

Appendix 2: BTSD Program Outline, 1980

PROGRAM DESCRIPTION

PROGRAM:

BASIC TRAINING FOR SKILL DEVELOPMENT

Code Number: 9600-000-00

Average Duration: See page 2

PURPOSE:

To meet individual needs and develop competencies in the skills of communications, mathematics and science required to access other training programs and/or the job market. The development of personal, social or life skills is general for all subjects and is particularly included as part of the communications subject area.

The program has been designed to provide a natural training progression form skills required by or common to all occupations to higher level skills required by more sophisticated occupations. The program is divided into four competency levels.

Level	Occupational Goals		
	Technical/ Mechanical	Business and Commerce/ Health Sciences	General Grade-Equivalency
4	Communications Mathematics Science *	Communications Mathematics Science *	Communications Mathematics Science *
3	Communications Mathematics Science *	Communications Mathematics Science *	Communications Mathematics Science *
2	Communications, Mathematics		*
1	Communications, Mathematics		*

* A maximum of 20% instructional time per week may be devoted to related occupational goal instruction.

Levels I and II (Core Programs)

The core program provides training in those basic communications and mathematics skills required by or common to all occupations. It is divided into two levels: Level I accommodates the fuctionally literate and corresponds to Grades 0-4; Level II provides remedial skills from approximately Grades 5-8.

Levels III and IV (Career Clusters)

The career cluster programs are designed to provide students with the fundamentals in communications, mathematics and science to enable them to perform the variety of tasks required by the different occupations falling within each career cluster area.

Program Title BASIC TRAINING FOR SKILL DEVELOPMENT

Code Number 9600 - 000 - 00

Date January, 1980 (E.M.)

PROGRAM DESCRIPTION (CONTINUED)

PURPOSE:

Levels III and IV (Career Clusters) (Continued)

Career clusters are grouped according to the following broad occupational families:

- technical/mechanical
- business and commerce/health sciences
- general (for occupations requiring grade equivalency)

Level III corresponds approximately to Grades 9-10. Level IV, the highest level, corresponds approximately to Grades 11-12. The latter provides preparatory skills for some specific occupations. The approved Ministry skill programs requiring Level IV is published annually.

Caution should be observed in equating school grade levels and BTSD levels since grade levels are oriented towards proof of learning ability rather than identification of skills actually needed for work performance.

ENTRANCE REQUIREMENTS:

Pre-tests will determine the trainee's functional level to assist the institution to place the trainee at the appropriate learning level. It also enables the trainee to bypass certain section(s) if he/she can already meet the performance criteria.

Individual trainees will be required to meet specified objectives and their program time will be negotiated taking into consideration the average time required, the time available, prior experiences and learning style.

OCCUPATIONAL OPPORTUNITIES

The career cluster courses will provide entry into the corresponding skill or apprenticeship programs. They also provide the basic communications, mathematics, science and other job-related skills to allow the graduate to begin work in some occupations.

The general BTSD cluster provides entry into those occupations requiring grade equivalency.

AVERAGE DURATION

Duration will vary depending on student aptitude and point of entry.

Maximum duration of government sponsored students on BTSD training is 52 weeks. Maximum permissible time for each level is as follows: LI - 24 weeks; LII - 36 weeks; LIII - 32 weeks; LIV - 32 weeks.

Program Title BASIC TRAINING FOR SKILL DEVELOPMENT
Code Number 9600 - 000 - 00
Date January, 1980

PROGRAM DESCRIPTION (CONTINUED)

AVERAGE DURATION (Continued)

Duration is open for fee-payers.

The program allows for the individual rate of progress of each student.

The program design facilitates continuous intake and exit of students.

CERTIFICATION

Upon successful completion, the graduate will receive a certificate and a record of his/her performance.

In case of unsuccessful completion or early termination, the trainee will receive a letter of standing indicating work successfully completed.

Appendix 3: Program Modification BTSD 4 to ACE 2003

Ontario

Ministry
of Training, Colleges
and Universities

Proposal to Modify an MTCU-Funded Program

For assistance in completing this form, refer to the Policy and Procedure Manual, Programs Section.

1. College

College Sector Committee for Adult Upgrading (CSC)
The CSC is a subcommittee of ACAATO

2. Current program title and APS Number (Provide the MTCU approved title)

Basic Training for Skills Development
CCDO Code 9605-000-00 (sample APS 00066 at Canadore College; each of the 24 colleges has a distinct APS code)

3. Modification(s) proposed (Describe the proposed modification of title, duration, program content, quota or campus of program delivery)

Program name: From Basic Training for Skills Development (BTSD) to Academic and Career Entrance Program (ACE)

Duration: The current approval indicates 32 weeks for BTSD IV. Duration in this modification proposal is provided in terms of contact hours per course.

Program Content: Current BTSD IV approval is very broad: Communications, Mathematics and Science. Proposed modification is more specific and includes Communications, Mathematics (Core, Apprenticeship, Business, Technology), Science (Biology, Chemistry, Physics) and adds Computers and Self Management/Self Direction.

Quota: NA

4. Rationale for the proposed modification(s)

Program Name: The name Basic Training for Skills Development (BTSD) reflected the primary purpose of the program when it was approved in 1967, but there have been significant changes in the educational and employment environment since then. The change to **Academic and Career Entrance** was identified by the Advisory Committee as more accurately reflecting the dual purposes of providing adult students with the necessary academic and personal management skills required to qualify for admission to post secondary programs and/or to secure employment opportunities or improvements. Although BTSD has remained as the name for funding purposes, in reality it has ceased to be used by colleges when advertising or describing the program for potential students. (The use of the term “Basic” has definite negative connotations based on its application in the secondary school system.) It is also the feeling of the advisory committee that the new name and particularly the acronym, ACE, has significant marketing potential for the College system.

Duration: The original approval was for a program funded almost exclusively by the Federal Government on a per diem basis. The guidelines indicate that most students should be able to complete BTSD Levels 1, 2, 3, and 4 in a 52 week period. **The proposed modification is for BTSD IV only**. Hours for each of the 10 courses have been identified as follows: Communications: 150 hours, Self Management/Self Direction: 55 hours, Computers: 110 hours, Biology: 120 hours, Chemistry: 120 hours, Physics:140 hours, Core Mathematics: 120 hours, Apprenticeship Mathematics: 100 hours, Business Mathematics: 120 hours, and Technology Mathematics: 120 hours

The use of contact hours instead of weeks also reflects changes to delivery since 1967. In 1967, block intakes with minimal individual replacement of drop outs were the norm. Now, the dominant practice is continuous intake and individualized delivery. Students are scheduled for a minimum of 6 hours per week to a maximum of 25 hours. The student, in consultation with the college, determines scheduling. Individual student needs, availability and non-school commitments (family, employment) are taken into consideration.

Graduation requirements: In order to graduate from the program i.e. receive an ACE Certificate, students must complete ACE Communications, one ACE Mathematics course, and any two other ACE courses. The hours required for graduation range from a minimum of 435 hours to a maximum of 530 hours. Hours depend on the ACE courses selected by individual students based on their academic, training, and/or employment goals.

Program Content: Subjects identified in the existing BTSD approval are Communications (Levels 1 – 4), Mathematics Levels 1 – 4) and Science (Levels 3 & 4). These broad descriptions met the training needs of participants in 1967, but since then the postsecondary learning environment and consequently entrance requirements have changed significantly. The program content for the Academic and Career Entrance program reflects the reality that different postsecondary programs require different upgrading courses and academic skills to ensure success in postsecondary. Updated course outlines are attached for the following: Communications, Computers, Self Management/Self Direction, Core Mathematics, Apprenticeship Mathematics, Business Mathematics, Technology Mathematics, Biology, Chemistry and Physics. In 1967, Self Management/Self Direction and Computers were not available or recognized as critical to academic and employment success. The proposed 10 courses reflect the need to individualize training for specific employment and academic goals.

Quota: NA

5. Proposed date of implementation of the modification

April 1, 2003

6. College contact responsible for this proposal

Name Lynne Wallace
Title Executive Director, College Sector Committee for Adult Upgrading (CSC)
Phone 705-675-2124 or 705 969-2963

7. Required appendices. Refer to the Policy and Procedure Manual, for explanations of information to be included in appendices.

For a **title change**, provide **APPENDIX IV** program advisory committee support.

For **content changes,** provide **APPENDIX I,** program competencies, courses, and course competencies, and indicate where the changes have been made. Also, provide **APPENDIX IV** program advisory committee support and if appropriate, **APPENDIX II,** evidence of need for the program.

For **duration change**, provide **APPENDIX I** program competencies, courses and course competencies, and indicate where changes in either have been made. Also, provide **APPENDIX IV**, program advisory committee support.

For **quota change,** provide **APPENDIX II**, evidence of need for the program and **APPENDIX IV**, program advisory committee support. If practical experience facilities are required, identify the facilities to be used and arrangements made for their use and attach as an appendix.

8. Date of board of governors' meeting at which the proposed program modification was approved

9. President's Signature Date

13-2980 (Rev. 9/99)

Please send five copies of the proposal to: Manager, Program Quality Unit, Colleges Branch, Ministry of Training, Colleges and Universities, 9th Floor, Mowat Block, 900 Bay Street, Toronto, Ontario M7A 1L2

Ministry of Training, Colleges and Universities
Postsecondary Education Division

Colleges Branch
Program Quality Unit
9th Floor, Mowat Block
900 Bay St
Toronto ON M7A 1L2
Tel (416) 325-2874
Fax (416) 327-1853
E-mail:jane.kirkwood
@edu.gov.on.ca

Ministère de la Formation et des Collèges et Universités
Division de l'éducation postsecondaire

Direction des collèges
Unité de la qualité des programmes
9e étage, édifice Mowat
900, rue Bay
Toronto ON M7A 1L2
Tél (416) 325-2874
Téléc (416) 327-1853
Internet: jane.kirkwood
@edu.gov.on.ca

Ontario

June 29, 2004

Dr. John W. Tibbits
President
Conestoga College Institute of Technology
and Advanced Learning
299 Doon Valley Drive
Kitchener, Ontario
N2G 4M4

Dear Dr. Tibbits:

RE: **PROGRAM MODIFICATION**

Program	-	Academic and Career Entrance
CCDO Code	-	9605-000
APS Number	-	00072
Duration	-	415 - 530 Hours
Tuition Short Program Weight	-	1.0
Tuition Short Allowance	-	0.1
Effective Date	-	June 29, 2004

The Ministry of Training, Colleges and Universities has reviewed the system-wide proposal, dated June 18, 2003, to modify the Basic Training for Skill Development - Level 4 (BTSD) program by changing the title to Academic and Career Entrance / Accès carrières études (ACE) and changing the delivery from weeks to courses/hours.

Please accept this as approval to offer the modification as proposed.

The approved title, and other information to be included on the approved programs list are also shown above.

Yours sincerely,

Jane Kirkwood

Jane Kirkwood
Manager
Program Quality Unit

ACE Communications Course Outline 2003

Course Description

Successful learners must be effective communicators in academic, personal and work settings. Effective communicators are able to express themselves well when presenting and defending ideas and opinions by using oral, visual and written forms of communications. Learners who achieve the learning outcomes will have well-developed communication skills that will prepare them for success in a variety of college postsecondary programs.

Suggested Length: 150 hours with the understanding that some learners may require additional time to complete the course.

General Learning Outcomes

Throughout this course, learners will:

- Read with Understanding for Various Purposes
- Write Clearly to Express Ideas
- Speak and Listen Effectively
- Interpret the Media Effectively

Expectations

The Communications course emphasizes consolidation of reading, writing and speaking and listening skills. Learners will be asked to demonstrate their ability to do the following:

- evaluate information, ideas, issues and styles of a variety of informational texts, media works and literary pieces;
- use different sources for gathering information;
- select appropriate forms of writing;
- choose from a range of organizational structures in producing unified and effective written work;
- process and use oral communications effectively; and
- analyze a variety of media works.

Content

The content of the course is shaped both by the demands at the postsecondary college level and the college preparation English curriculum in the secondary school. Areas of study include but are not limited to the following:

- Vocabulary development
- Technical reading
- Analysis of literacy works
- Analysis of media forms
- Researching information
- Note-taking
- Summarizing
- Technical/business writing (letters, resumes, etc.)
- Report and essay writing
- Library/resource use
- Oral presentations
- Group discussions

Evaluation for the Course

The methods and weightings of assessments and evaluation are determined by individual colleges.

ACE Communications Course Outline 2003 (con'd)

Units and Specific Outcomes

1.0 Read with Understanding for Various Purposes Learners who have successfully completed this unit will have demonstrated their ability to evaluate information, ideas, issues and styles of a variety of informational texts and literary pieces.	
1.1 Comprehension	• Select and uses a wide variety of effective reading strategies. • Apply a variety of strategies to extend vocabulary while reading with an emphasis discerning nuances and judging precision. • Select and uses specific and significance evidence from texts to support judgments and arguments.
1.2 Interpretation	• Analyze and assess ideas, issues, explicit and implicit information in texts and media works. • Identify bias in written media works. • Compares ideas, values and perspectives in texts. • Analyzes the influence of various factors (social, cultural and/or economic) on the themes and interpretations of texts.
1.3 Forms and Conventions	• Analyze how elements in fictional and non-fictional works are used to enhance or influence meaning. • Analyze how language is used in expository writing to communicate information and ideas. • Analyze how authors use a variety of means such as literary devices to enhance meaning in texts. • Analyze the effect of the author's in a choice of language, syntax and literacy devices on self and others. • Explain how writers use elements of design to organize information and present ideas.

2.0 Write Clearly to Express Ideas Learners who have successfully completed this unit will have demonstrated their ability to produce unified and effective written work by using different sources for gathering information, selecting appropriate forms of writing and choosing from a range of organizational structures.	
2.1 Research	• Investigate topics for written work by posing questions, and identifying information needs and purposes for writing. • Develop research plans to acquire information and ideas. • Gather information from a variety of sources. • Understand issues surrounding plagiarism.
2.2 Purpose and Form	• Assess information and ideas from research to determine whether they are sufficient, reliable, credible, and suitable to the form and purpose of the writing. • Select and use appropriate forms to produce written work (book reports, research reports, summaries, short essays, video scripts) for specific audiences and purposes. • Select and use voice appropriate to purpose and audience. • Select and use language such as specialized vocabulary and figurative language as appropriate to purpose and audience.
2.3 Organization	• Use appropriate structures and organizational patterns to present information in reports, essays, and expressive writing. • Revise drafts using editing and proofreading skills to strengthen content and improve organization, precision, expression and effective style. • Cite research information acceptable research methodology.
2.4 Mechanics	• Use a variety of elements of grammar correctly and effectively. • Use grammar in unconventional ways for a particular effect. • Use punctuation correctly to achieve clarity. • Spell technical and literary terms correctly. • Confirm spelling of unfamiliar words by using word knowledge and a variety of resources.

ACE Communications Course Outline 2003 (con'd)

Units and Specific Outcomes (continued)

3.0 Speak and Listen Effectively Learners who have successfully completed this unit will have demonstrated their ability to process and use oral communications effectively.	
3.1 Presenting	• Use an expanded vocabulary appropriate to the topic. • Make effective use of specialized business and technical language. • Use the language structures of standard Canadian English. • Use techniques for making effective oral presentations with a focus on previewing reviewing, summarizing, using parallel structure and sustaining an appropriate tone. • Use props, handouts, charts and technology effectively.
3.2 Interacting	• Contribute to and lead discussions • Suggest directions and solve problems with a group. • Connect ideas and arguments to other knowledge. • Make inferences. • Summarize important ideas.
3.3 Listening	• Record key information. • Detect assumptions, omissions and perspectives in discussions and oral presentations. • Assess the validity of arguments, evidence and conclusions. • Formulate questions to extend understanding.

4.0 Interpret the Media Effectively Learners who have successfully completed this unit will have demonstrated their ability to assess a variety of media works and to create one type of media work.	
4.1 Analysis	• Distinguish between explicit and implicit messages in media works • Explain how key elements in media forms are used to influence people. • Explain how different audiences react to different media works • Explore connections between media works/practices with industry codes/government regulations.
4.2 Development	• Design or collaborate on the creation of a media work based on knowledge of media works. • Document choices about design and production made during the creation of the media works.

ACE Core Mathematics Course Outline 2003

Course Description

Successful learners in this program will be able to perform numeric and algebraic operations with and without the use of technology, estimate measurements, collect, display, and analyze data and effectively defend and communicate their solutions.

The general learning outcomes plus the appropriate goal-specific outcomes of this course are prerequisite for students whose goal is grade 12 equivalency in Apprenticeship, Technical, or Business Mathematics. Students seeking the grade 12 equivalency in Mathematics for Everyday Life/Workplace preparation must complete the general learning outcomes and the goal-specific outcomes for Everyday Financing.

Suggested Length: 60 - 90 hours for the general learning outcomes with the understanding that some learners may require additional time to complete the course.
20 – 30 hours for the goal specific outcomes with the understanding that some learners may require additional time to complete the course.

General Learning Outcomes (Units 1, 2, and 3)

Throughout this course, learners will:

- Use mathematical operations and simple algebra.
- Identify relationships among values.
- Apply rules of statistics and probability.

Goal Specific Outcomes (Units 4, 5, 6, and 7)

- Apprenticeship and Technical Math: solve problems involving measurement, geometry, and analytic
- geometry. (Units 4 and 5)
- Business Math: solve problems involving simple and compound interest (Unit 6)
- Workplace Math: solve problems involving everyday finance applications (Unit 7)

Apprenticeship and Technical Mathematics Goal Specific Expectations (Units 4 and 5)

- Investigate transformational geometry.
- Understand geometric relationships.
- Write equations of relations and identify shapes of their graph.
- Investigate properties of slope.
- Graph and write linear equations.

Business Mathematics Goal Specific Expectations (Unit 6)

- Calculate simple interest.
- Calculate compound interest.
- Compare simple and compound interest applications

Mathematics for Everyday Life (Workplace) Goal Specific Expectations (Unit 7)

- Identify various ways of earning money.
- Understand national and provincial forms of taxation understand purchasing.
- Understand saving and investing understand borrowing.
- Understand costs of owning and operating a vehicle understand travel costs.
- Compare costs of various modes of travel determine costs of renting and buying a house design budgets.

Evaluation for the Course

The methods and weightings of assessments and evaluation are determined by individual colleges.

ACE Core Mathematics Course Outline 2003 (con'd)

Units and Specific Outcomes

Note: Units 1 to 6 are compulsory; units 7 and 8 are elective units, one of which must be completed as determined by the student's goal and in consultation with the professor.

1.0 Number Sense and Algebra	• Consolidate and apply numerical skills. • Understand and apply laws of exponents. • Apply scientific notation. • Manipulate polynomial expressions. • Solve first-degree equations including formulas and Pythagorean Theorem. • Use algebraic models (first-degree equations to solve problems). • Communicate solutions and justify reasoning applied.
2.0 Relationships	• Pose problems associated with numerical relationships. • Collect data using principles of sampling and surveying. • Organize, display and analyze data appropriately. • Use linear relational graphs to interpolate and extrapolate values. • Describe, in written form, situations that match the events illustrated in various graphs. • Determine whether a relation is linear or non-linear. • Describe conditions that affect the shape of a graph.
3.0 Statistics and Probability	• Construct and interpret graphs • Collect and organize data. • Apply principles of probability. • Interpret statements about statistics and probability.
4.0 Measurement and Geometry	• Sketch various 2-D and 3-D figures on the 2-D plane. • Investigate maxima and minima for area and volume. • Describe applications of maxima and minima. • Understand and apply the SI (metric) system. • Measure accurately in metric units. • Estimate distances and capacities using metric units. • Solve problems involving area, perimeter, and volume of composite 2-D and 3-D figures. • Judge reasonableness of solutions. • Estimate with reasonable accuracy the perimeter and area of large regions. • Apply transformational geometry. • Investigate geometric relationships.
5.0 Analytic Geometry	• Investigate the relationship between the equation of a relation and the shape of its graph. • Investigate the properties of slope.
6.0 Simple and Compound Interest	• Calculate simple and compound interest. • Solve applied problems using simple and compound interest.
7.0 Everyday Financing	• Identify various ways of earning money. • Explain national and provincial forms of taxation. • Describe purchasing. • Describe saving and investing. • Describe the process of borrowing • Calculate costs of owning and operating a vehicle. • Compare costs of various modes of travel • Determine costs of renting and buying a house. • Design budgets

ACE Apprenticeship Mathematics Course Outline 2003

Course Description

Learners who complete this course successfully will have consolidated their basic mathematical skills, improved their problem-solving techniques, and learned the basics of functions, analytic geometry, and trigonometry. Depending on their longer-term goals, they will also choose two or three of: operating with functions, statistics and probability, personal finance, workplace finance, exponential growth, and applications of sequences and series. These skills will prepare them for various college apprenticeship programs, and/or for the workplace.

Suggested Length: 100 hours with the understanding that some learners may require additional time to complete the course.

Prerequisite: Core Mathematics (general learning outcomes and Apprenticeship and Technical goal-specific outcomes)

General Learning Outcomes

Throughout this course, learners will:

- Solve mathematical problems using a variety of appropriate strategies.
- Use basic number concepts to solve practical problems and as a foundation for advanced concepts.
- Use algebraic notation, axioms, and modelling in solving problems and as a foundation for advanced concepts
- Manage and interpret statistical data.

Content

The content of the course is shaped both by the demands at the postsecondary college level and the college preparation chemistry curriculum in the secondary school. Areas of study include but are not limited to the following:

Core Course Content (compulsory units of study)

- Number Sense and Algebra
- Measurement and Geometry
- Proportional Reasoning
- Analytic Geometry
- Relations and Functions
- Trigonometric Functions

Elective Course Content (1 out of 2 units of study)

- Statistics and Probability
- Personal and Workplace Finance

Evaluation for the Course

The methods and weightings of assessments and evaluation are determined by individual colleges.

ACE Apprenticeship Mathematics Course Outline 2003 (con'd)

Units and Specific Outcomes

Note: Units 1 to 6 are compulsory; units 7 and 8 are elective units, one of which must be completed as determined by the student's goal and in consultation with the professor.

1.0 Number Sense and Algebra	• Perform operations on polynomials. • Expand and simplify polynomial expressions involving several variables. • Solve first degree equations, including equations with fractional coefficients, using an algebraic method • Manipulate scientific formulae. • Substitute into formulae and solve for one variable, with and without the help of technology. • Use algebraic modelling to solve problems in various topics, e.g. relations, measurement, direct, partial and joint variation. • Communicate solutions to problems in appropriate mathematical forms, e.g. written explanation, formulae, charts, tables, graphs. • Justify the reasoning used in solving problems.
2.0 Measurement and Geometry	• Estimate, with reasonable accuracy, distances and capacities in metric and Imperial units • Estimate, with reasonable accuracy, large numbers. • Judge the reasonableness of answers produced by a calculator, a computer, or manual calculation, using mental mathematics and estimation. • Solve problems involving the properties of the interior and exterior angles of triangles and quadrilaterals, and of angles related to parallel lines. • Communicate the solutions, using appropriate language and mathematical forms, e.g. written explanations diagrams, formulae, tables.
3.0 Proportional Reasoning	• Solve problems involving percent, ratio, rate. • Solve problems involving direct, inverse and joint proportions. • Solve problems with similar triangles in realistic applications.
4.0 Analytic Geometry	• Determine the characteristics that distinguish the equation of a straight line from the equations of non-linear relations. • Use graphing software to obtain graphs. • Classify relations according to the shapes of their graphs. • Identify $y = mx + b$ and $ax + by + c = 0$ as standard forms of linear equations, including the special cases $x = a$, $y = b$. • Identify $y = ax^2 + b$ as a standard form of a quadratic equation.
5.0 Relations and Functions	• Expand and simplify polynomials involving multiplication and squaring of binomials. • Factor polynomials including difference of squares, incomplete square, and sum and difference of cube. • Solve quadratic equations by factoring, using the remainder theorem and factor theorem. • Use systems of linear equations to solve workplace-related problems. • Construct graphs of quadratic functions whose equations are given the form $y = a(x – h)^2 + k$, or $y = ax^2 + bx + c$. • Obtain graphs of quadratic functions whose equations are given the form $y = a(x – h)^2 + k$, or $y = ax^2 + bx + c$ using graphing software. • Determine the maxima and minima of quadratic functions using a calculator or graphing software. • Identify the effect of simple transformations on the graph and the equation of $y = x^2$.
6.0 Trigonometric Functions	• Define the primary and secondary trigonometric ratios of angles, using the sides in right triangles • Demonstrate an understanding of the signs of these rations for obtuse angles. • Solve problems involving the sides and angles in right triangles using primary trig rations. • Solve problems involving the side and angles of oblique triangles, using the sine law and the cosine law.
7.0 Statistics and Probability	• Collect and organize data. • Identify and apply measures of central tendency. • Display data using appropriate graphical representations. • Interpret data from a variety of sources. • Apply principles of probability in a variety of applications
8.0 Personal and Workplace Finance	• Solve problems involving various ways or earning money, e.g. salary, hourly rate, overtime, commission, using calculator or appropriate software. • Solve problems involving the estimation and calculation of various taxes. • Estimate and calculate discounts, sale prices, and after-tax costs. • Identify, calculate, and compare the interest costs involved in making purchases under various plans, e.g. installment, layaway, credit card, credit line. • Explain the overhead and fixed costs involved in operating a small business.

ACE Business Mathematics Course Outline 2003

Course Description

This course provides students with the mathematical skills needed to perform business operations. It builds a strong foundation for students moving on to further study and training in specialized Business Studies. It will also provide practical skills for those who wish to move directly into the world of business.

Suggested Length: 100 hours with the understanding that some learners may require additional time to complete the course.

Prerequisite: Core Mathematics (general learning outcomes and Business goal-specific outcomes)

General Learning Outcomes

Throughout this course, learners will:

- Apply algebraic skills, manipulate algebraic formulas, and improve problem-solving skills.
- Use estimation in a variety of applications, solve problems involving measurement , and judge solutions for reasonableness and accuracy.
- Manipulate ratios and proportions, and apply them in the solution of various problems.
- Determine the relationship between the form of an equation and the shape of its graph (linear or quadratic).
- Graph linear and non-linear relations, and describe the connections between various representations of relations.
- Manipulate trigonometric ratios of any angle, and solve problems involving these ratios.
- Collect, organize, display, analyze and interpret data; apply probability to a variety of situations.
- Solve problems involving various forms of remuneration and taxation; investigate saving and investments, borrowing, and purchasing of items.

Content

The content of the course is shaped both by the demands at the postsecondary college level and the college preparation mathematics curriculum in the secondary school. Areas of study include but are not limited to the following:

ExponentialGrowth:

- Broaden understanding of exponential growth as it applies to personal finance
- Investigate properties of exponential functions
- Manipulate exponential expressions
-

Solve problems and investigate financial applications involving:

- Simple Interest
- Compound Interest
- Annuities
- Retail-buying, selling, and commission

Apply Mathematics in making informed decisions about

- Transportation
- Accommodation

Evaluation for the Course

The methods and weightings of assessments and evaluation are determined by individual colleges.

ACE Business Mathematics Course Outline 2003 (con'd)

Units and Specific Outcomes

1.0 Exponential Growth	• Describe the significance of exponential growth or decay. • Identify exponential growth or decay using tables of values, graphs or equations. • Sketch graphs of exponential functions. • Use graphing software or graphing calculator to investigate the properties of exponential functions including range, domain, increasing or decreasing through domain, asymptotes. • Manipulate exponential expressions.
2.0 Arithmetic and Geometric Sequences and Series	• Determines terms that follow three or more given terms in a sequence. • Distinguish whether a sequence is arithmetic, geometric or neither. • Solves problems using formulas for the nth term and sum of n terms of Arithmetic & Geometric sequences and series.
3.0 Simple and Compound Interest	• Calculates Simple & Compound Interest • Solve questions for any variable of equation I=Prt using a scientific calculator. • Calculate A or P in formula $A = P(1+It)^n$ using a scientific calculator • Calculate I or n in formula $A = P(1+It)^n$ using a spreadsheet. • Identify relationship between simple interest, arithmetic sequences, and linear growth. • Solve problems related to the relationship between compound interest, geometric sequences and exponential growth.
4.0 Retail Sales	• Apply formulas to solve complex word problems involving discounts, markups, markdowns, profit and loss.
5.0 Annuities	• Calculate present value and periodic payment of a regular annuity using a scientific calculator. • Generate an amortization table using a spreadsheet or other software.
6.0 Organizing and Analyzing Data	• Generate questions that have a finite number of responses for own investigation. • College data on relevant information related to the alternatives to be considered in making a decision. • Compare alternatives by rating and ranking information and by applying mathematical calculations and analysis. • Summarize and present data in various formats (tables, charts, graphs, calculations, explanatory notes). • Make inferences and convincing arguments based on data analysis.

ACE Technical Mathematics Course Outline 2003

Course Description

The Technical Mathematics course builds on and expands the fundamental algebraic skills mastered in Core Mathematics. Calculators and/or appropriate software are an integral part of the course. The objective of the course is to prepare students to have the necessary mathematical skills to prepare for mathematics-focused college postsecondary programs. Students who have successfully achieved the learning outcomes will be able to apply their skills to solve applied problems involving trigonometry, polynomial/rational/exponential expressions, polynomial/exponential/logarithmic functions, and the principles of geometry and measurement.

Suggested Length: 120 hours with the understanding that some learners may require additional time to complete the course.

Prerequisite: Core Mathematics (general learning outcomes and Apprenticeship and Technical goal specific outcomes)

General Learning Outcomes

In this course, learners will:

- Use computation and algebraic manipulation.
- Use measurement for various purposes and solve geometry problems.
- Solve problems involving trigonometry.
- Analyze models of a variety of functions.

Content

The content of the course is shaped both by the demands at the postsecondary college level and the college preparation mathematics curriculum in the secondary school. Areas of study include but are not limited to the following:

- Polynomials and Factoring
- Linear Equations
- Systems of Equations
- Rational Expressions
- Radicals/Complex Numbers
- Quadratics
- Logarithms
- Trigonometry

Evaluation for the Course

The methods and weightings of assessments and evaluation are determined by individual colleges.

ACE Technical Mathematics Course Outline 2003 (con'd)

Units and Specific Outcomes

1.0 Monomials, Polynomials, and Factoring	• Simplify algebraic expressions • Factor polynomials
2.0 Equations in One Variable and Formulas	• Create and solve algebraic equations in one variable. • Manipulate formulas.
3.0 Systems of Equations	• Determine the point of intersection of linear equations. • Solve problems of linear equations in two variables. • Solve equations in there variables. • Solve applied problems.
4.0 Fractional Expressions and Equations	• Simplify rational expressions. • Solve rational equations. • Solve problems involving factional equations
5.0 Radicals and Complex Numbers	• Apply the laws of exponents to simplify expressions. • Manipulate algebraic expressions.
6.0 Quadratics	• Demonstrate a working knowledge of quadratic equations • Determine the relationship between the equations and the graph o quadratic functions. • Solve problems involving quadratic equations.
7.0 Logarithms and Functions	• Apply logarithmic functions • Demonstrate an understanding of exponential growth and decay. • Demonstrate facility in the use of function notation. • Demonstrate the manipulation of algebraic expressions • Demonstrate an understanding of proportionality.
8.0 Trigonometry	• Demonstrate the use of radian measure in solving equations and graphing. • Solve problems involving trigonometry with triangles. • Determine the relationships between the graphs and the equations of sinusoidal functions.
9.0 Measurement and Geometry	• Demonstrate an understanding of the relationship between three-dimensional objects and their two-dimensional representations. • Use measurement in a variety of ways. • Solve geometry problems.

ACE Biology Course Outline 2003

Course Description

This biology course provides learners with a strong knowledge of biology as it applies to health, social and environmental issues. Emphasis is given to analyzing problems, performing laboratory exercises and communicating scientific information effectively. The content of the course reflects the needs of many adult learners entering postsecondary college programs in health and environmental sciences. As such, it allows learners to complete five out of a possible six units of study.

Suggested Length: 120 hours with the understanding that some learners may require additional time to complete the course.

General Learning Outcomes

Throughout this course, learners will:

- Employ, individually and in groups, a disciplined approach to the processes of biology including scientific inquiry, problem solving and design.
- Apply biology concepts and principles in such areas as the study of cells, microbiology, human anatomy and physiology, plant structure and physiology and environmental science.
- Apply knowledge of the content to health, workplace, societal, and environmental biology issues.
- Select and use appropriate numeric, symbolic, graphical and linguistic modes to represent and communicate scientific concepts and experimental results.
- Assess career choices in science and technology
- Perform various laboratory activities (real-time or virtual) in accordance with laboratory, college and legislated safety procedures.

Content

The content of the course is shaped both by the demands at the postsecondary college level and the college preparation biology curriculum in the secondary school. Areas of study include but are not limited to the following:

- Cell biology - cell theory, structure/function of organelles, cellular processes, transport mechanisms
- Microbiology - anatomy, physiology, reproduction and genetic composition of representative organisms from the monera, protists, fungi and bacteria; viruses; genetic manipulation; symbiotic relationships involving micro-organisms
- Human anatomy and physiology - human systems such as nervous, skeleto-muscular, digestive, cardiovascular, reproductive, endocrine, etc.; pathophysiology of those systems; homeostasis
- Plant structure and physiology - classification of plants, life cycle, growth and differentiation, role of tropisms
- Environmental science - principles of taxonomy, energy pyramids, symbiotic relationships, biogeochemical cycles, ecosystems, population growth biomes

Related laboratory activities (virtual or real-time) may be included pertaining to the above topics.

Evaluation for the Course

The methods and weightings of assessments and evaluation are determined by individual colleges.

ACE Biology Course Outline 2003 (con'd)

Units and Specific Outcomes

Note: any five of six units are required for course completion as determined by the learner's goal.

1.0 Cellular Biology	• List the main points of the cell theory. • Explain the functions of organelles. • Identify and describe the 4 major biochemical compounds. • Describe the role of enzymes in biochemical reactions. • Define various transport processes across cell membranes. • List the features of each stage of mitosis. • Compare respiration and photosynthesis. • Apply knowledge of cellular processes to a personal or medical issue.
2.0 Microbiology	• Compare representative bacteria, protists, viruses and fungi in terms of shape, motility, role and connection to human disease. • Describe different modes of reproduction in micro-organisms. • Compare the genetic material of viruses and bacteria with those of eukaryotic cells. • Identify the symbiotic roles of micro- organisms. • Illustrate some uses of viruses and bacteria in biotechnology and genetic engineering. • Evaluate the implications of viral, bacterial and fungal infections on a human host.
3.0 Human Anatomy and Physiology I	• Define the levels of organization from cells through to systems • Describe the anatomy and physiology of the following systems: musculo-skeletal, circulatory, nervous, endocrine, reproductive. • Explain the causes, symptoms and treatments of major disorders of the above systems. • Define homeostasis. • Explain the role of the endocrine system and central nervous system in maintaining homeostasis. • List the features of each stage of meiosis. • Apply principles of genetics to solve simple patterns of inheritance.
4.0 Human Anatomy and Physiology II	• Describe the anatomy and physiology of the following systems: respiratory, digestive, excretory, and lymphatic. • Explain the causes, symptoms and treatments of major disorders of the above systems. • Describe the composition of blood. • Identify ABO blood types based on antigen/antibody presence. • Explain the roles of various types of white blood cells with respect to the immune response.
5.0 Plant Structure and Physiology	• Illustrate how plants are classified by identifying characteristics. • Describe the structure and physiology of plant tissues. • Explain the steps in the life cycle of a plant. • Differentiates between major divisions of plants. • Describe the processes of growth and differentiation in plants. • Explain the role of tropisms in plants. • Identify the importance of plant diversity in maintaining ecosystems. • Outline the use of plants in various industries (food, textile, etc.). • Explain the role of aquatic plants in the purification of waste or run-off water.
6.0 Environmental Science	• Demonstrate an understanding of taxonomy by classifying organisms from a local ecosystem • Use energy pyramids to explain the mechanisms and interactions of a food chain. • Explain the ecological role of representative organisms from each of the kingdoms of life. • Describe the flow of matter through the biogeochemical cycles (carbon, nitrogen, phosphorus and water cycles). • Define population growth and the factors influencing it. • Analyze a local environmental issue.

ACE Biology Course Outline 2003 (con'd)

Laboratory Component

NOTE: Program managers were surveyed in July 2002 regarding feasibility of real-time lab offerings for OBS IV/BTSD 4 sciences. Since the availability of such a lab component varies among the colleges, the use of virtual lab activities may be an option for some colleges. A preliminary list of virtual resources is included following this chart. Those resources have not yet been reviewed but are meant as a starting point to assist identifying appropriate virtual resources.

General Outcomes for Laboratory Component	• Complete laboratory activities in an organized and safe manner. • Recognize and identify common laboratory equipment and apparatus. • Record complete, objective observations. • Use a variety of measuring devices. • Performs accurate measurements utilizing the correct number of significant digits. • Create tables and graphs from data collected. • Use experimental results to lead to conclusions and interpretations of data. • Identify the importance of controlled conditions during experimentation.
1.0 Cellular Biology	• Determine factors affecting rates of diffusion across various membranes. • Prepare a wet mount of a stained specimen. • Investigate the effect of environment on enzyme action. • Conduct tests to identify macromolecules.
2.0 Microbiology	• Identify various specimens using prepared slides. • Prepare a culture of micro- organisms on agar using aseptic techniques. • Design and conduct an experiment to determine the effect of an antibacterial agent on a bacterial culture.
3.0 Human Anatomy and Physiology I	• Use various instruments to collect data on human conditions such as heart rate, blood pressure, pulse. • Design and conduct an experiment related to human physiology, i.e. the effect of breathing patterns during exercise on heart rate. • Perform a dissection of a vertebrate to identify organs and the relationship between structures and their functions.
4.0 Human Anatomy and Physiology II	• Survey and analyze the eating habits of a sample group in terms of potential health issues. • Design and conduct an experiment related to human physiology, i.e. the effect of breathing patterns during exercise on heart rate. • Perform a dissection of a vertebrate to identify organs and the relationship between structures and their functions.
5.0 Plant Structure and Physiology	• Investigate tropisms by growing plants from seed. • Distinguish between monocot and dicot plants, using appropriate instruments and sources.
6.0 Environmental Science	• Investigate and explain how a change in one population can affect the entire food web. • Investigate the effect that human population growth has on the environment and the quality of life of the affected ecosystem.

ACE Chemistry Course Outline 2003

Course Description

This Chemistry course provides learners with a strong knowledge of chemistry as it applies to industry and environmental issues. Emphasis is given to analyzing problems, performing laboratory exercises and communicating scientific information effectively. The content of the course reflects the needs of many adult learners entering postsecondary college programs in health and environmental sciences. As such, it allows learners to complete three core units and two elective units of study.

Suggested Length: 120 hours with the understanding that some learners may require additional time to complete the course.

General Learning Outcomes

Throughout this course, learners will:

- Employ, individually and in groups, a disciplined approach to the processes of biology including scientific inquiry, problem solving and design.
- Apply biology concepts and principles in such areas as the study of cells, microbiology, human anatomy and physiology, plant structure and physiology and environmental science.
- Apply knowledge of the content to health, workplace, societal, and environmental biology issues.
- Select and use appropriate numeric, symbolic, graphical and linguistic modes to represent and communicate scientific concepts and experimental results.
- Assess career choices in science and technology
- Perform various laboratory activities (real-time or virtual) in accordance with laboratory, college and legislated safety procedures.

Content

The content of the course is shaped both by the demands at the postsecondary college level and the college preparation chemistry curriculum in the secondary school. Areas of study include but are not limited to the following:

Core Course Content (compulsory units of study)

- Nature of matter - atomic theory, sub-atomic particles, periodic table, Lewis structures, ions, elements, compounds
- Qualitative analysis - observations and inferences, processes, Bohr model, bonding, spectroscopy
- Chemical calculations - mole concept, chemical equations, experimental error, percentage composition, stoichiometry, percentage yield, industry and everyday applications

Elective Course Content (2 out of 3 units of study)

- Electrochemistry - galvanic and electrolytic cells, redox reactions, corrosion, conductance, displacement reactions, electrochemical cells, industry and everyday applications
- Organic chemistry - characteristics of carbon, properties of molecules, functional groups, organic reactions, distillation, industry applications
- Chemistry in the environment - properties of gases, acids and bases, acid rain, air quality, societal and economic implications

Related laboratory activities (virtual or real-time) may be included pertaining to the above topics.

Evaluation for the Course

The methods and weightings of assessments and evaluation are determined by individual colleges.

ACE Chemistry Course Outline 2003 (con'd)

Units and Specific Outcomes

Note: Units 1, 2, and 3 are compulsory; units 4, 5, and 6 are elective units, two of which must be complete as determined by learner's goal.

1.0 Nature of Matter	• Define and classify matter. • Distinguish between physical and chemical properties. • Identify the key points of Dalton's atomic theory. • Name the three basic sub-atomic particles and lists their properties. • Draw Lewis structures. • Distinguish between elements, compounds and ions. • Describe the periodic classification of the elements. • Recognize trends within the periodic table.
2.0 Qualitative Analysis	• Explain the difference between observation and inference. • Describe the basic processes in qualitative analysis (flame tests, precipitation reactions, and absorption spectra). • Use Lewis structures to illustrate covalent and ionic bonding. • Relate the charge on an ion to electron loss or gain. • Use a solubility table to predict precipitate formation. • Write double displacement and net ionic equations. • Name inorganic compounds using the rules of nomenclature. • Write chemical formulas for molecules and compounds.
3.0 Chemical Calculations	• Identify types of chemical reactions. • Write balanced equations. • Define the mole concept. • Calculate formula and molecular masses. • Explain how the following variables are related: coefficients in balanced chemical equations, molar quantities, mass and number of particles. • Solve problems involving moles, molar mass and Avogadro's number. • Solve problems involving mole, mass, and volume calculations in chemical equations. • Calculate percentage yield. • Identify sources of experimental error.
4.0 Electrochemistry	• Name the components of galvanic and electrolytic cells. • Describe the role of galvanic and electrolytic cells in terms of oxidation and reduction. • Explain the chemical reactions involved in corrosion. • Relate the chemistry of corrosion to the chemical reactions in an electrochemical cell. • Describe various techniques used to prevent corrosion of metals.
5.0 Organic Chemistry	• Describe the characteristics of the carbon atom in terms of bonding and the formation of long chain molecules. • Explain the general properties of molecules containing oxygen or nitrogen. • Identify the structures of the functional groups that define their common families i.e. alkanes, alkenes, alcohols, etc. • Draw Lewis structures to represent covalent bonding in organic compounds. • Describe, with the use of structural formulas, organic reactions such as addition, combustion, polymerization.
6.0 Chemistry in the Environment	• List the characteristics of gases. • States the effect of temperature and pressure on a fixed quantity of gas. • Explain the Arrhenius definition of acids and bases. • Differentiate between strong and weak acids with respect to dissociation. • Write balanced chemical equations for neutralization reactions. • Identify the gases responsible for acid rain and their sources. • Apply the definitions of concentrated and dilute to acids. • Identify substances in environmental water whose concentration must be controlled to ensure the water is fit for human consumption and use.

ACE Chemistry Course Outline 2003 (con'd)

Laboratory Component

NOTE: Program managers were surveyed in July 2002 regarding feasibility of real-time lab offerings for OBS IV/BTSD 4 sciences. Since the availability of such a lab component varies among the colleges, the use of virtual lab activities may be an option for some colleges. A preliminary list of virtual resources is included following this chart. Those resources have not yet been reviewed but are meant as a starting point to assist identifying appropriate virtual resources.

General Outcomes for Laboratory Component	• Complete laboratory activities in an organized and safe manner. • Recognize and identify common laboratory equipment and apparatus. • Record complete, objective observations. • Use a variety of measuring devices. • Perform accurate measurements utilizing the correct number of significant digits. • Create tables and graphs from data collected. • Use experimental results to lead to conclusions and interpretations of data. • Identify the importance of controlled conditions during experimentation.
1.0 Nature of Matter	• Construct molecular models using a kit. • Investigate the chemical properties of representative families of elements (e.g., combustibility, reaction with water of Mg, Ca or C, Si). • Investigate the properties of changes in substances, and classify them as physical or chemical based on experiments (e.g., solubility, combustibility, change of state, changes in colour).
2.0 Qualitative Analysis	• Determine the presence of ions in an unknown sample i.e. a household chemical, using flame tests and precipitate reactions. • Conduct qualitative analysis using such equipment as gas discharge tubes, centrifuge and spectroscope. • Identify an unknown gas sample by comparing its observed absorption spectra with known spectra of known gases.
3.0 Chemical Calculations	• Prepare aqueous solutions, using appropriate concentration units. • Dilute a stock solution to a specified concentration.
4.0 Electrochemistry	• Construct a galvanic cell and assess its advantages and disadvantages in terms of portability, rechargability, chemical spillage, etc. • Design and carry out procedure to determine the factors that affect the rate of corrosion i.e. stress, two-metal contacts, nature of electrolyte, etc.
5.0 Organic Chemistry	• Determine the physical and chemical properties of some common organic compounds i.e. solubility, conductivity, odour. • Identify trends based on those properties. • Synthesize a condensation product i.e. aspirin or an ester, a common organic compound (soap).
6.0 Chemistry in the Environment	• Determine acidity of common household substances using an indicator. • Conduct an acid-base titration to determine concentration of an acid or a base. • Determine the concentration of dissolved ions i.e. calcium ions in a water sample using gravimetric and colourimetric analysis.

ACE Physics Course Outline 2003

Course Description

This physics course will enable the learners to develop the basic concepts of physics. Learners will study and explore concepts related to dynamics, forces, energy, mechanics, electricity and fluids. They will apply these concepts and principles to solve applied problems while communicating the scientific and technical information and evaluating the impact of physics on society and the environment. The content of the course reflects the needs of many adult learners entering postsecondary college programs in technology and related fields. As such, it allows learners to complete three core units and two elective units of study.

Suggested Length: 140 hours with the understanding that some learners may require additional time to complete the course.

General Learning Outcomes

Throughout this course, learners will:

- Apply physics concepts and principles to solve problems.
- Communicate scientific and technical information effectively and perform laboratory activities.
- Evaluate the implication of physics and its application to personal, workplace, societal, and global issues.

Content

The content of the course is shaped both by the demands at the postsecondary college level and the college preparation physics curriculum in the secondary school. Areas of study include but are not limited to the following:

Core Course Content (compulsory units of study)

- Forces and Motion
- Work, Energy, Power and Machines
- Light and Optics

Elective Course Content (2 out of 3 units of study)

- Electricity and Magnetism
- Waves and Sound
- Hydraulic and Pneumatic Systems

Related laboratory activities (virtual or real-time) may be included pertaining to the above topics.

Evaluation for the Course

The methods and weightings of assessments and evaluation are determined by individual colleges.

ACE Physics Course Outline 2003 (con'd)

Units and Specific Outcomes

1.0 Forces and Motion	• Differentiate between scalar and vector quantities. • Use vector diagrams to analyze uniform motion in two dimensions. • Combine vector quantities graphically to solve motion and force problems. • Analyze the gravitational force acting on an object near, and at a distance from, the surface of the earth. • Analyze the forces acting on an object and determine the acceleration of the object. • Apply Newton's three laws of motion to explain straight line motion. • Analyze the relationship among the net force acting on an object, its mass, and its acceleration to discover Newton's laws. • Explain the difference between uniform and non-uniform motion • Define and specify units for displacement, velocity, uniform acceleration, average and instantaneous acceleration. • Solve problems of uniform motion involving displacement, velocity, acceleration, and time.
2.0 Work, Energy, Power, and Machines	• Define and specify units and solve problems involving force, displacement, and work. • Define and specify units and solve problems involving power, work, and time. • Define and specify units and solve problems involving potential energy and kinetic energy. • Apply the law of Conservation of Energy to relate work, kinetic energy, and potential energy. • Analyze the relationships among percent efficiency, input energy, and output energy. • Define and specify the units for force, coefficients of frictions, torque, mechanical advantage, and work. • Identify and give practical examples of simple machines (inclined plane, wedge, screw, pulley, wheel and axle). • State the law of the lever and apply it to solve related problems. • Name the three classes of levers and give practical examples of each.
3.0 Light and Optics	• Define and specify the units related to the concepts of light • Use Snell's Law to indicate how the velocity and wavelength of light depend on the index of refraction. • Use ray diagrams to explain total internal reflection. • Use ray diagrams to illustrate the characteristics and positions of images formed by lenses. • Solve problems for distance, size of image, or size of object using the lens equation.
4.0 Waves and Sound	• Define and specify the units of mechanical wave concepts. • Define periodic motion and describe energy transfer by wave motion. • Describe with the aid of diagrams sound waves in air, sound characteristics, and velocity/wavelength/frequency relationships. • Compare the speed of sound in different media, and describe the effect of temperature on the speed of sound. • Describe what happens to speed and wave motion as a wave passes from one medium to another. • Apply the knowledge of mechanical resonance to sound. • Explain interference and diffraction of sound waves.
5.0 Electricity and Magnetism	• Define and specify the units of electric charge, electric current, electric potential, electric flow, magnetic field, electromagnetic induction. • Apply the right hand rule to determine the magnetic field produced when electric current flows through a long straight conductor and a solenoid. • Explain the factors that affect the force on a current-carrying conductor in a magnetic field. • Apply Lenz's law to applicable problems. • Compare DC and AC and electrical systems. • Solve problems involving voltage, current, power, time. • Describe the function of basic circuit components. • Analyze circuit problems involving potential difference, current and resistance. • Distinguish between analog and digital circuits.
6.0 Hydraulic and Pneumatic Systems	• Use the concepts and units related to fluids to solve applicable problems. • State Bernoulli's principle and describe practical applications. • State Pascal's principle and explain how it applies to brakes, lifts, etc. • Describe common components used in hydraulic and pneumatic systems. • Solve applied problems using the relationships among force, area, pressure, volume and time in hydraulic and pneumatic systems.

ACE Computer Skills Course Outline 2003

Course Description

This course prepares learners to perform basic computer skills needed to succeed in further studies as well as providing practical skills for those who wish to move directly to the world of work. It enables students to create documents, navigate the Internet to conduct research and communicate in educational, workplace and personal settings.

Suggested Length: 110 hours with the understanding that some learners may require additional time to complete the course.

General Learning Outcomes

- Students who have successfully completed this course will have demonstrated their ability to use success strategies that promote lifelong learning and that can be applied in their personal, employment and academic lives.

Expectations

- Learn and use appropriate computer terminology.
- Recognize and perform basic tasks required to operate a computer.
- Develop basic keyboard mastery, speed and accuracy using an electronic keyboard.
- Use appropriate functions of one or more operating systems and apply them to application programs.
- Use word processing software to produce documents for academic, vocational and personal use.
- Produce and manipulate spreadsheets in order to perform basic financial analysis and calculations.
- Use an operating system to manage files.

Content

The content of the course is shaped by the demands and expectations at the postsecondary level and in the workplace. Areas include but are not limited to the following:

- Software applications
- Creation of documents
- Electronic file management
- Electronic research
- Electronic communication

Evaluation for the Course

The methods and weightings of assessments and evaluation are determined by individual colleges.

ACE Computer Skills Course Outline 2003 (con'd)

Units and Specific Outcomes

1.0 Software Applications	• Demonstrate the use of software. • Demonstrate the use of software features that facilitate the joint production of documents.
2.0 Creation of Documents	• Produce correctly formatted documents from printed, handwritten and revised copies.
3.0 Electronic File Management	• Demonstrate an understanding of the different processes for managing electronic data.
4.0 Electronic Communication	• Communicate with others using electronic tools.
5.0 Electronic Research	• Use electronic media to gather information for a particular purpose. • Use electronic tools to collect information required to solve a specific problem.
6.0 Ethical Issues related to Information Technology	• Demonstrate an understanding of ethical business practices related to the use of information technology.

ACE Self-Management/Self-Direction Course Outline 2003

Course Description

The Self-Management/Self-Direction course provides students with an opportunity to learn and use success strategies that can be applied to their academic, employment and personal life. The strategies will equip them with the knowledge, skills and behaviours to become effective, confident and flexible learners. The course will focus on areas such as self-reflection, critical thinking, goal setting, study skills, organizational skills, group dynamics and career/employment exploration.

Suggested Length: 55 hours with the understanding that some learners may require additional time to complete the course.

General Learning Outcomes

- Students who have successfully completed this course will have demonstrated their ability to use success strategies that promote lifelong learning and that can be applied in their personal, employment and academic lives.

Expectations

- Demonstrate a variety of self-assessment and self-reflection techniques.
- Use systematic methods to solve problems and make decisions
- Demonstrate responsibility in their role as a learner.
- Formulate achievable educational, employment and personal goal.
- Use efficient learning strategies to facilitate the learning process.
- Use organizational techniques and approaches to meet deadlines.
- Work effectively with other students on an individual basis and in a group setting.
- Demonstrate knowledge and use of college structure, supports and resources.
- Demonstrate knowledge of community resources, structures and supports.
- Embrace the belief that learning continues for life.

Content

The content of the course is shaped by the demands and expectations at the postsecondary level and in the workplace. Areas include but are not limited to the following:

- Study skills (develop learning strategies, analyze learning styles, note taking, reading text books techniques for writing exams)
- Development of a training plan (setting long and short term goals)
- Career preparation (achieving -long term goal success)
- Time-management strategies
- Stress-management approaches
- Interaction with others in groups or teams in ways that contribute to effective working relationships and goals
- Use of the library
- Development and implementation of an innovative job search strategy
- Conflict resolution techniques
- Participation in college and community events
- Networking

Evaluation for the Course

The methods and weightings of assessments and evaluation are determined by individual colleges.

ACE Self-Management/Self-Direction Course Outline 2003 (con'd)

Units and Specific Outcomes

1.0 Self-awareness	• Demonstrates a variety of self-reflection and self-assessment techniques.
2.0 Critical Thinking	• Uses systematic methods to analyze information, solve problems, and make decisions.
3.0 Responsibility for Self	• Demonstrates responsibility in role of learner.
4.0 Goal Setting	• Formulates achievable educational, employment, and personal goals.
5.0 Developing Strategies for Learning and Employment	• Uses efficient strategies to facilitate the learning process and to find suitable employment.
6.0 Organizational Skills	• Uses organizational techniques and approaches to meet deadlines.
7.0 Working with Others	• Works effectively with other students on an individual basis and in a group setting.
8.0 Maximizing the College Experience	• Demonstrates knowledge and use of college structure, supports and resources
9.0 Community Involvement	• Demonstrates knowledge of community resources, structures and supports.
10.0 Lifelong Learning	• Embraces the belief that learning continues for life.

Algonquin College
of Applied Arts and Technology

by virtue of authority vested in its Board of Governors by the Province of Ontario, Canada
has conferred this certificate to

[redacted]

who has successfully completed the following
program

Academic and Career Entrance

President

ALGONQUIN COLLEGE OF APPLIED ARTS AND TECHNOLOGY
THE BOARD OF GOVERNORS

Registrar

Signed and sealed at Ottawa, Ontario this 9th day of January 2018

312 **Confirming Academic Requirement**	Date: April 08, 2013 Version: 1.0 Page: 1 of 4
OOR Procedure Reference:	

http://cscportal.edu.gov.on.ca/sites/ORUportal/Pages/apprenticeship/OOR/oor_apprentices.aspx?source=thanks.aspx

1.0 Revision History

April 08, 2013	1.0	New document

2.0 Parties Affected

Applicants for an apprenticeship program

3.0 Legislative/Regulatory References

http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_09o22_e.htm

Ontario College of Trades and Apprenticeship Act, 2009 (OCTAA)
Section 64 – Functions
Section 65 – Training agreements

Regulations
Board regulation establishing apprenticeship programs (pending)

Policies
Ontario College of Trades policy for setting academic entry requirement (pending)

Forms
012-1661 Application for Apprenticeship Training

4.0 Policy

4.1 The ministry will determine whether applicants for an apprenticeship program established by the Ontario College of Trades meet the academic entry requirements set out by the Registrar of the Ontario College of Trades.

4.1.1 Placeholder for the Ontario College of Trades trade-specific academic entry requirements

4.1.2 The ministry will accept apprentices registered in other Canadian jurisdictions without confirming that they meet the Ontario academic requirement for their trade if they provide proof that they have a valid registration in the other jurisdiction at the time they wish to register in Ontario as an apprentice.

4.2 Equivalency to Grade 12 for the Purpose of Apprenticeship Registration

4.2.1 For the purpose of entrance into an apprenticeship program where the academic entry requirement is Grade 12 (OSSD) or its equivalent, the following are considered equivalent to an Ontario Secondary School Diploma:

(a) A secondary school graduation diploma from any other Canadian province or territory or from issued by a state or territory of the Unites States. Note: The equivalent to the OSSD in Quebec is the Secondaire V graduation diploma. The diploma from Quebec's high school "trades" program, although a graduation diploma, is not the equivalent of an OSSD.

(b) A Canadian General Education Development (GED) certificate issued by a Canadian province or territory or issued by a state or territory of the United States.

(c) A non-Canadian GED certificate determined by the Independent Learning Centre (ILC) to be equivalent to the Ontario GED.

(d) A transcript, diploma or certificate from another country, assessed at an Ontario OSSD level by a recognized assessment service.

(e) A Canadian postsecondary diploma or degree.

(f) A non-Canadian postsecondary diploma or degree that has been assessed as equivalent to a Canadian postsecondary diploma or degree by a recognized assessment service.

(g) An Academic and Career Entrance/Accès carrières études (ACE) Certificate issued by an Ontario college of applied arts & technology

or an Ontario college institute of technology and advanced learning.

(h) A certificate of completion for a Ministry of Training, Colleges and Universities-approved trade-specific training program from an Ontario college of applied arts & technology or an Ontario college institute of technology and advanced learning.

(i) A certificate of apprenticeship or certificate of qualification in any trade from Ontario or other Canadian jurisdiction.

(j) A certificate of completion of an academic upgrading program from another Canadian jurisdiction that is accepted by an Ontario college of applied arts & technology or an Ontario college institute of technology and advanced learning for entry into an Ontario postsecondary program.

(k) A postsecondary certificate of completion for a trade-specific training program from another Canadian jurisdiction that is equivalent to a certificate program delivered by an Ontario college of applied arts & technology or an Ontario college institute of technology and advanced learning as assessed by this institution.

(l) A postsecondary certificate of completion for a trade-specific training program from a non-Canadian jurisdiction that has been assessed by a recognized assessment service as equivalent to a trade-specific certificate program delivered by an Ontario college of applied arts & technology or an Ontario college institute of technology and advanced learning.

(m) The successful completion of a college of applied arts and technology, an Ontario college institute of technology, or a university admission test by a graduate of a home schooling program or a private school in Ontario.

4.3 Equivalency to another Grade Level

(a) Successful completion of a grade level from another Canadian province or territory is equivalent to the same Ontario grade level.

(b) An assessment of a non-Canadian educational level to an Ontario grade level by a recognized assessment service is acceptable.

4.4 Apprentices previously registered under the Trades Qualification and Apprenticeship Act (TQAA)

4.4.1 An apprentice whose TQAA contract of apprenticeship is deemed to be a training agreement under OCTAA and who subsequently enters into other registered training agreements under the OCTAA for the same trade will be subject to the academic standards in place at the time of original registration under the TQAA.

4.5 Apprentices previously registered under the Apprenticeship and Certification Act (ACA)

4.5.1 An apprentice whose ACA training agreement is deemed to be a training agreement under OCTAA and who subsequently enters into other registered training agreements under the OCTAA for the same trade will be subject to the academic standards in place at the time of original registration under the ACA.

Ministry of Advanced Education and Skills Development

Employment and Training Division

Ministère de l'Enseignement supérieur et de la Formation professionnelle

Division de l'emploi et de la formation

Ontario

PROOF OF EDUCATION

Acceptable documentation for proof of education (Please attach photocopy of only one of the following):

- Secondary School diploma
- Academic transcript
- Post-Secondary diploma (diplomas or certificates from private career colleges are **not** acceptable)
- Post-Secondary degree
- General Education Development (GED) certificate
- Transcript, diploma, certificate or degree from another country outside of Canada and the United States, assessed by a recognized assessment service
- Level IV Ontario Basic Skills
- Academic and Career Entrance (ACE) certificate
- Certificate of completion of a Ministry Advanced Education and Skills Development approved trade-specific training program from an Ontario College of Applied Arts and Technology
- Certificate of Apprenticeship or Certificate of Qualification in any trade from Ontario or other Canadian jurisdiction
- Certificate of completion of an academic upgrading program that is accepted by an Ontario College of Applied Arts & Technology for entry into an Ontario postsecondary program

PROOF OF SOCIAL INSURANCE NUMBER

Acceptable documentation for social insurance number (Please attach photocopy of only one of the following):

- SIN card
- Government issued document verifying SIN number

PROOF OF AGE

Acceptable documentation for proof of age (Please attach photocopy of only one of the following):

- Driver's license (including graduated license)
- Passport (valid or expired)
- Birth certificate
- New Ontario ID card
- Nexus card
- Recent photo accompanied by a letter from a notary public or lawyer confirming date of photo
- Baptismal certificate

Acceptable documentation of proof of age if accompanied by a photo:

- Certificate of Canadian citizenship or naturalization
- Certificate of Indian or Métis status issued by the federal government
- Current identity document issued by a government ministry or agency with a vigorous registration and security clearance process (e.g., OPP or RCMP security check)
- Canadian firearms registration licence

Please note: **Do not submit original documents.** To ensure the security of your personal information, you may wish to send copies of your documents through password protected email, registered mail or in person.

Academic and Career Entrance (ACE) Program

Provincial Course Codes List

Fall 2017

Compiled by

COLLEGE SECTOR COMMITTEE FOR ADULT UPGRADING + ACE

www.cscau.com

Algonquin

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications	College Preparation Communication	ENG4C	ENL5958	ENL8000
Computer Fundamentals	Computer Skills	n/a	DAT0110	DAT3000
Apprenticeship Math	N/A	MAP4C	MAT0001	MAT8010
Business Math	College Preparation Mathematics – Business	MAP4C	MAT0010	MAT8011
Core Math*	Intermediate Mathematics	MEL4E*	MAT5951	MAT8012
Technical Math	College Preparation Mathematics – Technology	MCT4C	MAT5952	n/a
Biology	College Preparation Biology	SB13C	SCI5952	SCI8010
Chemistry	College Preparation Chemistry	SCH4C	SCI5953	SCI8011
Physics	N/A	SPH3U/SPH4C	SCI5954	SCI8012
Self-Management/Self-Direction	Success Strategies	n/a	SSC5727	SSC8010

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
College Preparation Mathematics – Technical	MAP4C	MAT0001	
Communications: Preparation for Degree Programs	ENG4U	ENL0076	

Notes:

*****_MAT5951 Intermediate Mathematics is accepted as equivalent to MBF3C for admission purposes._

We offer MAT5964 Fundamental Math for Health Sciences as part of the Preparation for Health Sciences package of courses and taken that way, it is accepted for admission to some health sciences programs.

We have internal agreements with a handful of postsecondary programs that advertise the requirement for MAP4C but having reviewed the course outline for Intermediate Math will accept that instead. These agreements are reviewed and updated annually.

Boréal

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communication française	n/a	FRA 4C	ACE1011	ACE1011
Informatique	n/a	n/a	n/a	ACE1002
Mathématiques - apprentis	n/a	MAP 4C, MCT 4C*	ACE1007	ACE1007
Mathématiques financières	n/a	MAP 4C	ACE1008	ACE1008
Mathématiques générales	n/a	MEL 4E, MAP 4C*, MCT 4C*	ACE1006	ACE1006
Mathématiques techniques	n/a	MCT4C	ACE1009	ACE1009
Biologie	n/a	SB1 3C, SB1 4C*	ACE1003	ACE1003
Chimie	n/a	SCH 4C	ACE1004	ACE1004
Physique	n/a	SPH 4C, SPH3U**	ACE1005	ACE1005
Autogestion/ Autodirection	n/a	n/a	n/a	ACE1001

* Course equivalency codes provided by Boreal – not part of evaluation done by MED in 2007.
** SPH3U is recognized as equivalent by MEDU – not recognized at Boreal as U-stream equivalent

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
n/a			

Cambrian

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications		ENG4C	ACE 0400	ACE0002
Computer Fundamentals		n/a	ACE 0401	ACE0010
Apprenticeship Math		MAP4C	n/a	ACE0008
Business Math		MAP4C	ACE 4303	ACE0001
Core Math*		MEL4E*	n/a	ACE0003
Technical Math		MCT4C	ACE 0404	ACE0007
Biology		SB13C	ACE 0406	ACE0009
Chemistry		SCH4C	ACE 0405	ACE0004
Physics		SPH3U/SPH4C	n/a	ACE0005
Self-Management/Self-Direction		n/a	ACE 0402	ACE0006

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
*Core Math General	MBF 3C	ACE 0303	Course equivalency codes provided by Cambrian – not part of evaluation done by MED in 2008.
*Core Math Advanced	MCF 3M	ACE 0304	Course equivalency codes provided by Cambrian – not part of evaluation done by MED in 2008.

Canadore

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	A ACE Distance delivery course code
Communications		ENG4C	AEN 450	CN-AEN450
Computer Fundamentals		n/a	ACA 450	CN-ACA450
Apprenticeship Math		MAP4C	APM 450	CN-APM450
Business Math		MAP4C	ABM 450	CN-ABM450
Core Math		MEL4E	AAM 450	CN-AAM450
Technical Math		MCT4C	ATM 450	CN-ATM450
Biology		SB13C	ABI 450	CN-ABI450
Chemistry		SCH4C	ACH 450	CN-ACH450
Physics		SPH3U/SPH4C	APH 450	CN-APH450
Self-Management/Self-Direction		n/a	ASM 450	CN-ASM450

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
n/a			

Centennial

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications		ENG4C	ACOM-012	
Computer Fundamentals		n/a	ACMP-012	
Apprenticeship Math		MAP4C	AMAT-015	
Business Math		MAP4C	AMAT-014	
Core Math		MEL4E	AMAT-012	
Technical Math		MCT4C	AMAT-016	
Biology		SB13C	ABIO-012	
Chemistry		SCH4C	ACHE-012	
Physics		SPH3U/SPH4C	APHY-012	
Self-Management/Self-Direction		n/a	ASEL-012	

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
n/a			

Conestoga

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications		ENG4C	COMM 1250	OLRN1406
Computer Fundamentals		n/a	COMP 1012	OLRN1525
Apprenticeship Math		MAP4C	MATH 1420	OLRN1555
Business Math		MAP4C	MATH 1375	OLRN1565
Core Math		MEL4E	MATH 1691	OLRN1535
Technical Math		MCT4C	MATH 1385	OLRN1545
Biology		SB13C	SCIE 1010	OLRN1575
Chemistry		SCH4C	SCIE 1030	OLRN1585
Physics		SPH3U/SPH4C	SCIE 1020	OLRN1590
Self-Management/Self-Direction		n/a	CDEV 1240	OLRN1515

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
n/a			

Confederation

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications		ENG4C	UE600	OL963
Computer Fundamentals		n/a	UW601	OL971
Apprenticeship Math		MAP4C	n/a	OL969
Business Math		MAP4C	UM600	OL962
Core Math		MEL4E	UM602	OL964
Technical Math		MCT4C	UM601	OL968
Biology		SB13C	UB600	OL970
Chemistry		SCH4C	UC600	OL965
Physics		SPH3U/SPH4C	UP600	COL966
Self-Management/Self-Direction		n/a	UW600	OL967

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
n/a			

Durham

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications		ENG4C	CPC 6403	ACE1084
Computer Fundamentals		n/a	CMPS 1433	ACE1085
Apprenticeship Math		MAP4C	n/a	ACE1080
Business Math		MAP4C	n/a	ACE1082
Core Math		MEL4E	CPM 6403	ACE1086
Technical Math		MCT4C	CPTM 6401	ACE1089
Biology		SB13C	CPBI 6401	ACE1081
Chemistry		SCH4C	CPCH 6401	ACE1083
Physics		SPH3U/SPH4C	CPPH 6401	ACE1087
Self-Management/Self-Direction		n/a		ACE1088

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
n/a			

Fanshawe

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications		ENG4C	COMM-0006	COMM-0006
Computer Fundamentals		n/a	COMP-0002	COMP-0002
Apprenticeship Math		MAP4C	MATH-0009	MATH-0009
Business Math		MAP4C	MATH-0011	MATH-0011
Core Math		MEL4E	MATH-0010	MATH-0010
Technical Math		MCT4C	MATH-0012	MATH-0012
Biology		SB13C	BIOL-0004	BIOL-0004
Chemistry		SCH4C	CHEM-0004	CHEM-0004
Physics		SPH3U/SPH4C	PHYS-0006	PHYS-0006
Self-Management/Self-Direction		n/a	SKLS-0004	SKLS-0004

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
n/a			

Fleming

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications	Communications – College Preparation	ENG4C	COMM007	COMM136
Computer Fundamentals	Computer Awareness	n/a	COMP117	COMP375
Apprenticeship Math		MAP4C		MATH94
Business Math	Mathematics – College Preparation (Business)	MAP4C	MATH062	MATH91
Core Math	Core Mathematics	MEL4E	MATH060	MATH92
Technical Math	Mathematics – College Preparation (Technology)	MCT4C	MATH061	MATH93
Biology		SB13C	SCIE008	SCIE130
Chemistry		SCH4C	SCIE012	SCIE128
Physics		SPH3U/SPH4C	SCIE165	SCIE129
Self-Management/Self-Direction	Strategies for College & Work	n/a	GNED056	GNED82

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
n/a			

George Brown

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications	ACE English	ENG4C	ENGL 7031, ENGL 7101	ENGL 7121
Computer Fundamentals	ACE Computer Studies	n/a	COMP 7101	COMP 7121
Apprenticeship Math	ACE Math for Apprenticeship	MAP4C	MATH 7053, MATH 7102	MATH 7122
Business Math	ACE Math for Business	MAP4C	MATH 7103	MATH 7123
Core Math	Workplace Math (Onsite)	MEL4E	MATH 7105, MATH 7104	MATH 7124
Technical Math	ACE Math for Technology	MCT4C	MATH 7101	MATH 7121
Biology	ACE Biology	SB13C	BIOL 7004, BIOL 7104	BIOL 7121
Chemistry	ACE Chemistry	SCH4C	CHEM 7004, CHEM 7104	CHEM 7121
Physics	ACE Physics	SPH3U/SPH4C	PHY 7004, PHY 7104	PHY 7121
Self-Management/Self-Direction	ACE Personal and Professional Exploration (onsite)	n/a	PREP 7138	PREP 7121

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
ACE English	ENG 4C	ENGL 7111	Delivered by Community Partners

Georgian

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications		ENG4C	AACE 1000	AACE 1000
Computer Fundamentals		n/a	AACE 1001	AACE 1001
Apprenticeship Math		MAP4C	AACE 1005	AACE 1005
Business Math		MAP4C	AACE 1004	AACE 1004
Core Math		MEL4E	AACE 1003	AACE 1003
Technical Math		MCT4C	AACE 1006	AACE 1006
Biology		SB13C	AACE 1007	AACE 1007
Chemistry		SCH4C	AACE 1008	AACE 1008
Self-Management/Self-Direction		n/a	AACE 1002	AACE 1009

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
n/a			

Humber

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications		ENG4C	ACEC E10	n/a
Computer Fundamentals		n/a	ACEC C10	n/a
Apprenticeship Math		MAP4C	ACEC M30	n/a
Business Math		MAP4C	ACEC M20	ACEC M20
Core Math		MEL4E	ACEC M10	ACEM 019
Technical Math		MCT4C	ACEC M40	n/a
Biology		SB13C	ACEC S20	ACEC S20
Chemistry		SCH4C	ACEC S10	ACEC S10
Physics		SPH3U/SPH4C	ACEC S30*	n/a
Self-Management/Self-Direction		n/a	ACEC A10	n/a

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
University Stream Biology	SBI 4U	ACES 021	
University Stream Chemistry	SCH 4U	ACES 011	

La Cité

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications		ENG4C	AFB18223	AFB18223 200
Computer Fundamentals	Computer Skills	n/a	AFB19129	AFB19129 200
Apprenticeship Math		MAP4C	AFB21268	AFB21268 200
Business Math		MAP4C	AFB21030	AFB21030 200
Core Math		MEL4E		
Technical Math		MCT4C	AFB18225	AFB18225 200
Biology		SB13C	AFB 18228	AFB 18228 200
Chemistry		SCH4C	AFB 18229	AFB 18229 200
Physics		SPH3U/SPH4C	AFB 18230	AFB 18230 200
Self-Management/Self-Direction		n/a	AFB 19578	AFB 19578 200

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
n/a			

Lambton

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications		ENG4C	ENGL 0100	ENG 0100
Computer Fundamentals		n/a	COMP 0100	COMP 0100
Apprenticeship Math		MAP4C	MATH 0110	MATH 0110
Business Math		MAP4C	MATH 0120	MATH 0120
Core Math		MEL4E	MATH 0100	MATH 0100
Technical Math		MCT4C	MATH 0130	MATH 0130
Biology		SB13C	BIOL 0100	BIOL 0100
Chemistry		SCH4C	CHEM 0100	CHEM 0100
Physics		SPH3U/SPH4C	PHYS 0100	PHYS 0100
Self-Management/Self-Direction		n/a	SKLS 0100	SKLS 0100

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)

Loyalist

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications	COMM 6000	ENG4C	ENGL 6006, ENGL 6007, ENGL 6008, ENGL 6009, ENGL 6010	COMM9001
Computer Fundamentals	ACE Computers COMP 6000	n/a	COMP 6001, COMP 6002, COMP 6003, COMP 6004	COMP9045
Apprenticeship Math	MATH 6015	MAP4C	MATH 6006, MATH 6007, MATH 6009	MATH9003
Business Math	MATH 6014	MAP4C	MATH 6007, MATH 6008, MATH 6010	MATH9002
Core Math	MATH 6013	MEL4E	MATH 6001, MATH 6002, MATH 6003, MATH 6004	MATH9000
Technical Math	MATH 6016	MCT4C	MATH 6006, MATH 6007, MATH 6008, MATH 6009	MATH9001
Biology		SB13C	n/a	HLTH9023
Chemistry		SCH4C	n/a	HLTH9022
Physics		SPH3U/SPH4C	n/a	HLTH9021
Self-Management/Self-Direction	ACE Success Strategies COUN 6000	n/a	n/a	GNRL9701

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
ACE Preparation Math		MATH 6012	
ACE Preparation Communication		COUN 6001	

Mohawk

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications		ENG4C	COMM10148	COMM10148
Computer Fundamentals		n/a	COMP 10083	COMP10083
Apprenticeship Math		MAP4C	MATH 10047	MATH10047
Business Math		MAP4C	MATH 10046	MATH10046
Core Math		MEL4E	MATH 10045	MATH10045
Technical Math		MCT4C	MATH 10044	MATH10044
Biology		SB13C	BIOL 10011	BIOL10011
Chemistry		SCH4C	GSCI 10004	GSCI10004
Physics		SPH3U/SPH4C	PHYS 10000	PHYS10000
Self-Management/Self-Direction		n/a	CRED 10044	CRED10044

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
n/a			

Niagara

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications		ENG4C	ENSD1088 or ENSD 1090	n/a
Computer Fundamentals		n/a	CAPL1085	n/a
Apprenticeship Math		MAP4C	MASD1083	n/a
Business Math		MAP4C	MASD1082	n/a
Core Math*		MEL4E*	MASD1085 or MASD 1091	n/a
Technical Math		MCT4C	MASD1081 or MASD 1092	n/a
Biology		SB13C	BIOL1061	n/a
Chemistry		SCH4C	CHEM1061	n/a
Physics		SPH3U/SPH4C	PHYS1061	n/a
Self-Management/Self-Direction		n/a	STDV1084 or STDV 1093	n/a

*Core math course outcomes have been adjusted for equivalence to MAP 4C

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
n/a			

Northern

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications		CM6309	ENL5958	CM6309
Computer Fundamentals		IN6307	DAT0110	IN6307
Apprenticeship Math		MA6306	MAT0001	n/a
Business Math		MA6318	MAT0010	n/a
Core Math		MA6308	MAT5951	MA6308
Technical Math		MA6328	MAT5952	n/a
Biology		BI6308	SCI5952	BI6308
Chemistry		CH6308	SCI5953	CH6308
Physics		PH6309	SCI5954	n/a
Self-Management/Self-Direction		GN6304	SSC5727	n/a

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
n/a			

Sault

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications		ENG4C	ENG 94	ACE025
Computer Fundamentals	ACE Computers	n/a	CPT 93	ACE030
Apprenticeship Math		MAP4C	MTH 97	ACE005
Business Math		MAP4C	MTH 95	ACE015
Core Math		MEL4E	MTH 94	ACE035
Technical Math	ACE Technology Mathematics	MCT4C	MTH 96	ACE050
Biology		SB13C	BIO 94	ACE010
Chemistry		SCH4C	CHM 94	ACE020
Physics		SPH3U/SPH4C	PHY 94	ACE040
Self-Management/Self-Direction	ACE Foundations for College and Career*	n/a	SEL 93	ACE045

*Title for in-class delivery only

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
n/a			

Seneca

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications		ENG4C	EAC 149	n/a
Computer Fundamentals		n/a	CPR 090	n/a
Apprenticeship Math		MAP4C	MTH 099	n/a
Business Math		MAP4C	BNM 091	n/a
Core Math		MEL4E	MTH 070, MTH 097	n/a
Technical Math		MCT4C	MTH 092	n/a
Biology		SB13C	BIO 093	n/a
Chemistry		SCH4C	CHM 093	n/a
Physics		SPH3U/SPH4C	n/a	n/a
Self-Management/Self-Direction		n/a	CSM 090	

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
n/a			

Sheridan

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications		ENG4C	COMM 66200	Pending
Computer Fundamentals		n/a	APPL 65000	Pending
Apprenticeship Math		MAP4C	N/A	Pending
Business Math		MAP4C	MATH 66600	Pending
Core Math		MEL4E	MATH 66500	Pending
Technical Math		MCT4C	N/A	Pending
Biology		SB13C	BIOL 66000	Pending
Chemistry		SCH4C	CHEM 66000	Pending
Physics		SPH3U/SPH4C	N/A	Pending
Self-Management/Self-Direction		n/a	LIFE 66520	Pending

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
Advanced Computers	Grade 12 computers	APPL 66000	

St. Clair

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications		ENG4C	ACE 10	ACE 10-067
Computer Fundamentals		n/a	ACE 28	ACE 28-067
Apprenticeship Math		MAP4C	ACE 16	ACE 16-067
Business Math		MAP4C	n/a	ACE 14-067
Core Math		MEL4E	ACE 18	ACE 18-067
Technical Math		MCT4C	ACE 12	ACE 12-067
Biology		SB13C	ACE 20	ACE 20-067
Chemistry		SCH4C	ACE 22	ACE 22-067
Physics		SPH3U/SPH4C	ACE 24	ACE 24-067
Self-Management/Self-Direction		n/a	ACE 26	ACE 26-067

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
n/a			

St. Lawrence

ACE Course Title	Your college's course title (if different from the ACE title)	OSS Equivalent	In-class delivery course code	ACE Distance delivery course code
Communications		ENG4C	ACEE 6000	DACE002450
Computer Fundamentals		n/a	ACEC 6210	DACE010450
Apprenticeship Math		MAP4C	ACEM 6040	DACE008450
Business Math		MAP4C	ACEM 6020	DACE001450
Core Math		MEL4E	ACEM 6010	DACE003450
Technical Math		MCT4C	ACEM 6030	DACE007450
Biology		SB13C	ACES 6130	DACE009450
Chemistry		SCH4C	ACES 6110	DACE004450
Physics		SPH3U/SPH4C	ACES 6120	DACE005450
Self-Management/Self-Direction		n/a	ACED 6310	DACE006450

Additional courses that can be used to satisfy admission requirements for college.

Course Title	Accepted as equivalent to	Course code	Comments (if required)
n/a			