

**DURHAM COLLEGE OF APPLIED ARTS AND TECHNOLOGY**  
**BOARD OF GOVERNORS 435<sup>th</sup> REGULAR MEETING**  
**PUBLIC SESSION AGENDA**  
**NOVEMBER 10, 2010**

DATE: November 10, 2010  
TIME: 6:00 p.m.

PLACE: Community Room  
Oshawa Campus

**\*\*NOTE:** The annual Board of Governors photo will be taken at 5:50 p.m. in the atrium adjacent to the meeting room.

1. CALL TO ORDER
2. INTRODUCTION OF GUESTS  
Vidal Chavannes, Manager Program Development and Quality Initiatives, Office of Research Services and Innovation; Greg Murphy, Dean, School of Media, Art and Design; Norm Fenton, Dean, School of Skilled Trades, Apprenticeship and Renewable Technology; Susan Sproul, Dean, School of Health and Community Services; and Ross Stevenson, Professor, School of Science and Engineering Technology.
3. ADDITIONS/DELETIONS TO THE AGENDA
4. CONFLICT OF INTEREST DECLARATIONS
5. PRESENTATIONS
  - 5.1. Judy Spring, Dean, School of Business, IT and Management
6. APPROVAL OF PREVIOUS MINUTES
  - 6.1. Approval of the Minutes of the 434<sup>th</sup> Regular Meeting (Public Session) held September 8, 2010\*
7. ACTION ARISING FROM PREVIOUS MINUTES
8. CHAIR'S REPORT
9. PRESIDENT'S REPORT
  - 9.1. President's Report – September and October 2010 \*(for Information)
10. COMMITTEE REPORTS
  - 10.1. AUDIT AND FINANCE COMMITTEE (M. SIMPSON)
    - 10.1.1. Audit and Finance Committee Report #2 – October 5, 2010 \*
    - 10.1.2. Audit and Finance Committee Report #3 – October 27, 2010\*
  - 10.2. EXECUTIVE COMMITTEE (B. ROBINSON)
    - 10.2.1. Executive Committee Report #1 of September 20, 2010 \*
    - 10.2.2. Executive Committee Report #2 of October 25, 2010\*
  - 10.3. GOVERNANCE REVIEW COMMITTEE (G. CUBITT)
    - 10.3.1. Governance Review Committee Report #1 of September 15, 2010\*
  - 10.4. NOMINATING COMMITTEE (M. NEWELL)
11. CONTINUING BUSINESS
  - 11.1. Program Review Dashboard Report \* - Don Lovisa/Judy Robinson (for information)
12. NEW BUSINESS
  - 12.1. New Program Approvals: Accessibility Coordination; Construction and Hoist Techniques; Biofuels Bioprocesses Technician; Fine Arts - Advanced\* – Don Lovisa/Judy Robinson (for action)
13. OTHER BUSINESS
  - 13.1. Program Advisory Committee Minutes \* (for action)
  - 13.2. Program Advisory Committee Event – Don Lovisa (for information)

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- 14. INQUIRIES AND COMMUNICATIONS
- 15. UPCOMING EVENTS
  - 15.1 Scholarship Ceremony – November 18, 2010 – Campus Recreation and Wellness Centre
  - 15.2 Colleges Ontario Orientation Session – November 20 and 21, 2010/Colleges Ontario Conference – November 21 and 22, 2010
  - 15.3 Annual Queen’s Park Day – November 23, 2010
  - 15.4 Annual Holiday Dinner – Market Place Cafeteria, Durham College, Wednesday, December 15, 2010
- 16. BY-LAWS
- 17. MOVE TO IN-CAMERA SESSION
- 18. ADJOURNMENT

\* Documentation attached

**DURHAM COLLEGE OF APPLIED ARTS AND TECHNOLOGY  
MINUTES OF THE 434TH REGULAR MEETING (PUBLIC SESSION)  
OF THE BOARD OF GOVERNORS  
SEPTEMBER 8, 2010**

Date: September 8, 2010  
Time: 6:00 p.m.

Place: Community Room  
Oshawa Campus

**IN ATTENDANCE**

GOVERNORS: Bill Robinson, Chair  
Ron Chatterton  
Rhonda Christian  
Jill Cook  
Garry Cubitt  
Kevin Dougherty  
Aileen Fletcher  
Carlee Fraser  
Doug McKay  
Michael Newell  
Darrell Sewell  
Mary E. Simpson  
Jackie Simkin  
Judy Spring  
Franklin Wu

REGRETS: Fred Upshaw

PRESIDENT: Don Lovisa

SECRETARY: Leigh Doughty

SENIOR STAFF: Nevzat Gurmen  
Ken Robb  
Margaret Greenley  
Donna McFarlane  
David Chambers  
Tony Doyle  
Karen Graham

**CALL TO ORDER**

The meeting was called to order at 6:00 p.m.

**DURHAM COLLEGE OF APPLIED ARTS AND TECHNOLOGY  
MINUTES OF THE 434TH REGULAR MEETING (PUBLIC SESSION)  
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**INTRODUCTION OF GUESTS**

Donna McFarlane, Vice-President of External Communications and Marketing, introduced Norm Fenton, Dean, School of Skilled Trades, Apprenticeship and Renewable Technology; Debbie McKee Demczyk, Director, Office of Research Services and Innovation; Vidal Chavannes, Manager, Program Development and Quality Initiatives; Mary Blanchard, Associate Vice-President, Academic, Academic Planning; Greg Murphy, Dean, School of Media, Art and Design; Susan Sproul, Dean, School of Health and Community Services; Stephanie Ball, Dean, School of Justice and Emergency Services; Sue Todd; Dean School of Science and Engineering Technology; Cosette Kazarian, Communications and Marketing; Melissa Mancini, Durham Metroland; Kyla Morgan, The Chronicle.

**ADDITIONS/DELETIONS TO THE AGENDA**

None noted.

**CONFLICT OF INTEREST**

None noted.

**PRESENTATIONS**

Norm Fenton, Dean, School of Skilled Trades, Apprenticeship and Renewable Technology made a presentation to the Board regarding programs at the Whitby campus. There are currently 534 full time post secondary students at the campus, though numbers may increase with last minute enrolment and 1,381 apprenticeship students, served by 48 full time and 38 part time faculty. Norm highlighted the mechanical, electrical, power and energy programs, together with the various apprenticeship programs, offered at Whitby campus, including several new programs for 2011 such as “bio-energy and bio-fuels technician”, “building construction technician”, and “wind turbine technician”. Whitby campus is looking to expand new apprenticeship programs in: construction millwright; general carpenter; refrigeration and air conditioning mechanic; and instrumentation and control technician. OPG needs to be prepared for necessary nuclear refurbishment programs in 2013 – 2025 and Durham College can play a role in this area. Norm highlighted the program advisory committees, that provide important feedback to faculty and administration. Finally, he closed out the presentation with two recent graduate success stories: Peter Coughlin, Advanced Plumber Apprentice won gold in the Ontario and National Skills competitions; and Christopher McFarlane, Intermediate Machinist won silver in the Ontario Skills competition.

The Chair thanked Norm for his presentation.

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**APPROVAL OF PREVIOUS MEETINGS**

Moved by Governor Fletcher

Seconded by Governor Simpson

**“That the minutes of the 433<sup>rd</sup> regular meeting of the Durham College Board of Governors, held June 9, 2010, be approved.”**

CARRIED

**ACTION ARISING FROM PREVIOUS MINUTES**

None noted.

**CHAIR’S REPORT**

Nothing noted.

**PRESIDENT’S REPORT**

President Lovisa’s report for July and August 2010 was presented. The President highlighted a video created by two of our recent graduates from the Primary Care Paramedic program at Durham College, who won the top prize in a competition held by the Sudden Cardiac Arrest Foundation. The video has received more than 72,000 views on YouTube through September 1, and Durham College will receive an automated external defibrillator (AED) for the graduates’ win.

The report was received for information.

**COMMITTEE REPORTS**

Audit and Finance Committee Report #1 of August 31, 2010 and Executive Committee Report #10 of July 31 and August 10, 2010; were presented to the Board by the respective Chair of each standing committee.

Governor Simpson highlighted several items from the Audit and Finance report including an update on the balanced budget and the work plan for the coming year.

The Chair highlighted several items from the Executive Committee report including the four goals of the Board for 2010-11, which include three themes: succession planning for the college; risk management planning; and engagement, participation and professional opportunities.

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Moved by Governor Cubitt

Seconded by Governor Fraser

**That Audit and Finance Committee Report #1 of August 31, 2010 and Executive Committee Report #10 of July 13 and August 10, 2010 be approved.**

CARRIED

**CONTINUING BUSINESS**

**Budget update**

Nevzat Gurmen, CFO, confirmed we continue to work within a balanced budget with no changes to the budget at this time.

**Multi-Year Accountability Agreement Update (MYAA)**

Debbie McKee-Demczyk presented changes to the MYAA report. The new MYAA template became available in July 2010. The new requirements encompass system wide indicators and mark progress on our commitments relating to access, quality and accountability. A new initiative from the Ministry is strategic priorities for credit transfer information; online learning; and international students. The information collected this year will form system wide targets for the coming year. The Ministry has identified fifteen system wide indicators we are to report on, seven of which are new to the survey. The new format moves away from multiple unique indicators in the reports, which were not consistent or comparable college wide. The format also moves away from proposed actions to instead focus on what colleges are doing well. For each indicator we are to identify promising actions, such as success stories or key accomplishments. Durham College reported on fifty promising indicators this year.

The credit transfer piece of the report refers only to college to university transfers. Currently, there is no mechanism for college to college transfer statistics or university to college transfers. The Ministry is developing long term indicators for this collection of data. Our promising practices at Durham College include: career advising for students for up to two years; a bridge program from personal support worker to practical nurse; an annual graduate certificate fair; and a Durham College/UOIT pathways committee.

Debbie advised the Ministry is very interested in online learning at present. They recently issued a survey regarding online learning and results are being compiled. Durham College offered a number of online learning practices to the Ministry. We have increased online course delivery and expanded the number of hybrid and core courses available. We are very active in the Ontario Learn system in Ontario and also offer online courses in skills trades.

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Durham College had eighty-four international students enrolled in full time programs in 2009/10. We have invested in human resources in our international section, with increased agent representation in international recruitment and have launched various promotions in China to prospective students.

Durham College has an impressive graduate employment rate and retention rate, consistent in annual KPI ratings. At Durham College we focus on these key areas as we report on the MYAA to the Ministry.

Moved by Governor Spring

Seconded by Governor Simkin

**That the updated Multi-Year Accountability Agreement Update (MYAA) be approved and submitted to the Ministry.**

CARRIED

## **NEW BUSINESS**

### **Program Approvals**

Mary Blanchard presented six new programs for Durham College including Digital Photography and Digital Video Production (2 year diploma); Chemical Laboratory Technician (2 year diploma) program; Developmental Services Worker; Emergency Services Fundamentals and Welding Techniques (1 year program) postsecondary program of instruction.

All six programs are slated to commence in September 2011. Budgets for all programs have been reviewed by the CFO and all information regarding these programs has been reviewed by the President. The programs meet general education compliance. Each program was created through industry research and analysis and meets the key deliverables of the revised Durham College strategic plan. The Academic Leadership Team and the Office of Research are currently working to develop twenty new programs to meet the 2011-12 enrolment targets. These programs will contribute to enrolment growth, meet the labour market needs of our community and provide meaningful opportunities for students.

The Board complimented the new format for the program reports.

Moved by Governor McKay

Seconded by Governor Newell

**That the Board of Governors approve the Digital Photography and the Digital Video Production programs.**

CARRIED

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Moved by Governor Dougherty

Seconded by Governor Chatterton

**That the Board of Governors approve the Developmental Services Worker program; the Emergency Services Fundamentals program and the Welding Techniques program.**

CARRIED

Moved by Governor Fraser

Seconded by Governor Dougherty

**That the Board of Governors approve the Chemical Laboratory Technician program.**

CARRIED

Norm Fenton, Debbie McKee Demczyk, Vidal Chavannes, Mary Blanchard, Greg Murphy, Susan Sproul, Stephanie Ball and Sue Todd left the meeting at 7:30 p.m.

### **2010/11 Accessibility Plan**

Margaret Greenley presented the 2010/11 Accessibility Plan.

Highlights of the year include our opportunity to be the host site for the Durham Region Accessibility Expo held in the Campus Recreation and Wellness Centre on June 17, 2010. Durham College alumni, John Draper, delivered a keynote address at the 2010 Association of Canadian Community College's (ACCC) conference. Thirdly, former CICE students accepted the community living Oshawa/Clarington 2009 Inclusion Award on behalf of Durham College and the CICE program itself was awarded the 2010 Innovation award at the EmployABILITY Awards Program and Gala hosted by the Durham Region Employment Network (DREN).

We have a large number of students registered on campus who have registered with the disabilities office. Our major focus will be on upcoming AODA standards in the areas of information and communication; employment; and transportation. We will focus on mental health awareness, putting seven initiatives in place to raise this profile. Our final objective is to have a fully accessible teaching and learning environment. We are making a concerted commitment to improve our teaching and learning approach.

The yearly accessibility plan has been developed collaboratively by the Durham College and UOIT Accessibility Working Group and submitted for approval to their respective leadership teams and boards.

Moved by Governor Spring

Seconded by Governor Cook

**That the Durham College Board of Governors endorse the 2010/11 Accessibility Plan.**

CARRIED



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**OTHER BUSINESS**

**Program Advisory Committee Minutes**

Moved by Governor Cubitt

Seconded by Governor Simpson

**That the Program Advisory Committee minutes be received as presented.**

CARRIED

**Durham College Foundation and Business Plan**

David Chambers presented the Durham College Foundation report for 2009/10. The foundation is the official trustee assigned to oversee the portfolio of endowment funds for the College. The most current portfolio performance position of the endowment, according to returned investment reports as of July 31, 2010 is \$9,244,546.

This year the Foundation generated \$419,495 for bursaries from private donations. A disbursement of \$322,000 was transferred to Student Awards, available for student bursaries. Through the Office of Development, the Foundation assisted in planning and participated in the annual Donor Recognition/Student Recipient reception.

Highlights for 2010 include a \$5 million confirmed commitment of The Regional Municipality of Durham to invest in the development of Whitby Campus; a Memorandum of Understanding was signed by the Alumni Association and Durham College, confirming the Alumni's official position and status as a member of the Durham College Family; and finally, in June 2010 Dr. Peter Zakarow was named the recipient of the first ever Honorary Diploma in recognition of his sterling contributions to Durham College.

David advised the main goal for 2010/11 is to raise funds for the Whitby phase III expansion. The long range outlook for the foundation includes the need to fortify research; recording of contacts and other background information; stewardship; and work to increase the number of development officers that will eventually be aligned to the specific schools at Durham College.

Moved by Governor Wu

Seconded by Governor Christian

**That the Durham College Board of Governors receive the Durham College Foundation Annual Report.**

CARRIED

Moved by Governor Cubitt

Seconded by Governor Newell

**That the Durham College Board of Governors receive the Durham College Foundation Business Plan for 2010/11.**

CARRIED

**DURHAM COLLEGE OF APPLIED ARTS AND TECHNOLOGY  
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**Annual Appointments to the Board – CFO and Board Secretary**

Annual appointment of the Chief Financial Officer and the Board Secretary are required per Durham College By-Law No. 1, subsection 8.3.

Moved by Governor Dougherty      Seconded by Governor Simpson

**That the Durham College Board of Governors appoint Nevzat Gurmen as Chief Financial Officer and Leigh Doughty as Board Secretary for the Durham College Board of Governors for the year 2010-2011.”**

CARRIED

**UPCOMING EVENTS**

It was noted that Fall Convocation is October 21, 2010. The annual Board retreat will be held October 29 – 31, 2010. Colleges Ontario Orientation will be held November 20 and 21, 2010.

**BY-LAWS**

**Report on Amendments to Durham College By-Law #1**

President Lovisa provided an update on recent legislative changes that impact Durham College By-law #1. Amendments are recommended to bring the by-law in line with new Ministry legislation. Changes include the external appointment process as well as changes to quorum, sections 5, 6, 18 and 25 of the by-law.

**Amendment to Durham College By-Law #1**

Moved by Governor Newell      Seconded by Governor Fletcher

**That the following by-law be approved:**

**BY-LAW 10-01      BEING A BY-LAW TO AMEND DURHAM COLLEGE BY-LAW 1 BY-LAW RELATING GENERALLY TO CONDUCT OF THE AFFAIRS OF THE BOARD OF GOVERNORS OF THE DURHAM COLLEGE OF APPLIED ARTS AND TECHNOLOGY PURSUANT TO REGULATION 34/03 UNDER THE ONTARIO COLLEGES OF APPLIED ARTS AND TECHNOLOGY ACT, 2002 (THE “ACT”).**

**and that the said by-law, having been now read and passed, that the Board Chair and Board Secretary be authorized to sign and seal the same.**

CARRIED

**DURHAM COLLEGE OF APPLIED ARTS AND TECHNOLOGY  
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SEPTEMBER 8, 2010**

**MOVE TO IN-CAMERA SESSION**

Moved by Governor Simkin                      Seconded by Governor Fletcher s

**That the Durham College Board of Governors go into an in-camera session to discuss business respecting contractual matters; business protected under Section 17.1 Third Party Information; and Section 19 Solicitor-Client Privileged; per the Freedom of Information and Protection of Privacy Act (FIPPA).**

CARRIED

The public session recessed at 8:00 p.m.

The Board returned to public session at 10:28 p.m.

**ITEMS OUT OF CAMERA SESSION**

There were no items to report out of camera.

**ADJOURNMENT**

Moved by Governor Fletcher                      Seconded by Governor Christian

**That this meeting of the Board of Governors of Durham College adjourn at 10:28 p.m.**

CARRIED

Bill Robinson  
Chair of the Board

Leigh Doughty  
Board Secretary



## BOARD REPORT/EXECUTIVE SUMMARY

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### Action Required:

**Public:**   
**In-Committee:**

**Discussion**   
**Decision**

**DATE:** November 10, 2010

**FROM:** Don Lovisa, President

**SUBJECT: President's Report – November 2010**

### **Our Students:**

#### **Lords rock Ontario and Canada**

- Our student-athletes are once again proving they are not only the best in Ontario, but in Canada as well. Over the past number of weeks, our Women's Golf team has earned national and provincial championships, along with individual bronze and silver national medals and gold and silver in Ontario for Kayleigh Kraemer and Tiffany Albath, respectively. The men's team also earned silver at the provincials and Golf Coach Mike Duggan earned coach of the year honours at both the provincial and national levels. Our women's fastball team claimed a provincial title and a national bronze medal (our best-ever finish at the Canadians) and Erin Dewey was named Ontario's top player for the third year in a row. On the men's side, our baseball team was once again Ontario champions and reached the final four of the national tournament. Finally, our men's basketball team was strong on the home court, earning the title at our annual David Stewart Tip-off Tournament.

#### **Presidents and governor take student questions**

- I was pleased to join Student Association President Anthony Boland and Student Governor Jill Cook for two-hour sessions at both our Oshawa and Whitby campuses where we invited students to ask us questions about the college, campus life or anything else on their minds. We met with quite a few students over the two days and the sessions proved very informative for us all.

## **Minister Milloy serves up pancake breakfast to students**

- Hundreds of incoming and returning students came out early in September for the opportunity to be served breakfast by John Milloy, minister of Training, Colleges and Universities. The minister asked to visit campus to help kick off the new academic year and enthusiastically flipped pancakes and visited with students, before taking media interviews and touring the new Student Services building construction site.

## **Students serve notice of their skills**

- Nineteen students in the new Hospitality Management – Hotel, Restaurant and Tourism and Culinary Skills programs had an excellent opportunity to demonstrate their skills to an influential audience in October when they were invited to help prepare the more than 1,600 hors d'oeuvres for the 12<sup>th</sup> Annual Oshawa Hospital Foundation Fall Gala. Leaders from all levels of government, area businesses and other community representatives were on hand for the event.

## **Our People:**

### **Appreciation evening honours our wonderful staff**

- One of the best nights of the year is our annual staff appreciation event where we honour all of our employees for all the hard work they put in every day toward our success. More particularly we recognize employees marking service milestones ranging from five to 40 years. We're so fortunate to have such a dedicated, loyal group of colleagues across campus, all committed to delivering an outstanding student experience. A number of colleagues mentioned how nice it was to have our Board chair and vice-chair join us for the evening.

### **Durham Day a success at Queen's Park**

- Durham College was well-represented and generated political attention during the Durham Day event at Queen's Park. The day was arranged to highlight Durham Region organizations and among the guests to our group that day were the premier, our local MPPs, and a number of other politicians. MPP John O'Toole also referenced the college and other Durham partners in his remarks that day in the Legislature.

## **Dean named a director with Clean Water Centre**

- Susan Todd, dean of the School of Science & Engineering Technology, was appointed September 17 to two-year term as a part-time member of the Board of Directors for the Walkerton Clean Water Centre. Her expertise and insight will help make an important contribution to the upholding of drinking water standards in Ontario.

## **Our Business:**

### **Chamber video highlights college's innovative technology**

- Durham College was in the spotlight September 16, when it was honoured, along with five other recipients, with a Greater Oshawa Chamber of Commerce Business Excellence Award. Durham was selected as the winner in the Innovative Technology category and the crowd of 200-plus business leaders was treated to a video that captured the college's unique technology advances at its Whitby campus. To see the video, [click here](#).

### **Information sharing with assistant deputy minister**

- I was pleased to be one of six Ontario college presidents invited to a session with Adelsteinn Brown, assistant deputy minister of Ontario's Research and Innovation Ministry. Our discussion was about applied research and innovation and we discussed Durham College's outstanding success in the short time since we were accepted as a member of the Colleges Ontario Network for Industry Innovation (CONII).

## **Our Community:**

### **Concert association's gift music to students' ears**

- We are very pleased that the Durham Region Concert Association recently established a bursary in the amount of \$20,000 to financially assist students studying in the Music Business Management program. The bursary is a fitting legacy to this community group that made considerable contributions to our community for 40 years before recently ending its operations.

## **Durham College approved for NSERC eligibility**

- Durham College has recently completed a Memorandum of Understanding that makes the college eligible to apply for funding from the Natural Sciences and Engineering Research Council of Canada (NSERC). Being eligible to pursue funds from this influential research body will ensure the college can further innovation and applied research opportunities with local small- and medium-sized businesses, making a real impact on our community.

## **Representing Durham College at:**

- WindReach Farm fundraising barn dance;
- Eighth annual Durham Region Farm Tour;
- Ontario Regiment's birthday celebration;
- The United Way Annual Wing-Fest;
- A two-day meeting and a three-day strategic planning retreat for the Committee of Ontario Presidents;
- Fifth Annual Abilities Centre Dream Gala;
- Disney Institute leadership day;
- Co-chair of the Durham Economic Prosperity Conference;
- Building Industry Luncheon for Cancer Cure and Care; and
- Student Association Ramadan Dinner.



PUBLIC AUDIT AND FINANCE COMMITTEE REPORT NO. 2  
MEETING OF OCTOBER 5, 2010  
TO THE DURHAM COLLEGE BOARD OF GOVERNORS FOR CONSIDERATION  
AT ITS PUBLIC MEETING  
HELD NOVEMBER 10, 2010

THE AUDIT AND FINANCE COMMITTEE, AS A RESULT OF ITS MEETING HELD ON OCTOBER 5, 2010 RECOMMENDS AS FOLLOWS:

1. Review of Budget and Cash Flow

Fall semester enrolment is expected to reach 7,521 in total. As of November 1, 2010, the number of GPOG funded enrolment is projected to be 7,062. This number is 6.4% higher than the previous year and 1.5% higher than the budget. There is a system wide decrease in the Second Career Program (SCP) students due primarily to the economic recovery. Likewise, SCP students enrolled in Durham College programs is estimated to decline from 425 in fall 2009 to 345 in 2010. We estimate enrolment of 114 international students, a decline of 24% over projected budget of 150. There is a \$770K decrease in the apprenticeship program. The Ministry is holding all colleges to the 2009/10 allocation for apprenticeships. We have budgeted based on the information provided to date. The College was notified of their 2010-11 allocations in August 2010 and the forecast has been updated accordingly. The shortage in government funding will be funded from the improvements in operational cash flow as compared to the 2010-11 budget. Staff advised that discussion at a recent conference indicates the public sector is moving into a new system of accounting and colleges will be required to implement this system in 2012. Cash flow as at August 31, 2010 was in a positive position.

Committee received the report.

2. Update on Accumulated Surplus/Deficit

An update on the accumulated surplus/deficit position of the College as at March 31, 2010 was provided. The calculation provides the Ministry with an indicator of whether the College operations to date have been financially successful or if we are in risk of running a loss in the future. Based on the current Ministry formula, Durham College was in an accumulated surplus position of \$1.3 million at March 31, 2010 versus a \$518K deficit at March 31, 2009. Colleges in Ontario have disputed this newly proposed formula from the Ministry. The Ministry continues to evaluate the formula.

The report was received for information.

PUBLIC AUDIT AND FINANCE COMMITTEE REPORT NO. 2  
MEETING OF OCTOBER 5, 2010  
TO THE DURHAM COLLEGE BOARD OF GOVERNORS FOR CONSIDERATION  
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HELD NOVEMBER 10, 2010

3. 2011/12 Budget Process

An overview of the 2010-12 budget process was provided to the committee. The process for 2011 is similar to the previous year's process. The budget process includes enrolment targets, operating budgets, capital expenditures and cash flow projection. It is a top-down forecast and the baseline for the 2011-12 budget is the approved 2010-11 budget excluding one-time activities. A preliminary report will be provided to Audit and Finance Committee on March 1, 2011. The formal Budget will then be submitted to the Audit and Finance Committee on April 5, 2011 and to the full Board on April 13, 2011. There is a different process for the capital budget. Staff distribute forms to budget holders for completion well in advance of the December due date. During January 2011 the working committee will review these forms and make recommendations to DCLT for consideration. DCLT will finish the budget process by mid-March 2011 and recommendations will move forward to the Audit and Finance Committee and finally to the Board. We are facing budget pressures this year. The Ministry is indicating that funding will be minimal this year. There will be maintenance costs for the newly constructed buildings to consider. We are planning to introduce twenty new programs in September 2011, which will have both a cost and revenue impact to the College. We will need to continue to invest in student services due to anticipated growth. Staff will work toward a balanced budget.

The report was received for information.

All of which is respectfully submitted,

Mary Simpson, Chair  
Audit and Finance Committee  
October 5, 2010

PUBLIC AUDIT AND FINANCE COMMITTEE REPORT NO. 3  
MEETING OF OCTOBER 27, 2010  
TO THE DURHAM COLLEGE BOARD OF GOVERNORS FOR CONSIDERATION  
AT ITS PUBLIC MEETING  
HELD NOVEMBER 10, 2010

THE AUDIT AND FINANCE COMMITTEE, AS A RESULT OF ITS MEETING HELD ON OCTOBER 27, 2010 RECOMMENDS AS FOLLOWS:

1. KPMG – Audit Plan

KPMG staff presented the engagement letter, which outlines the terms of the audit engagement commencing for the year ending March 31, 2011, highlighting management’s responsibilities and auditor’s responsibilities. As of September 2010 the accounting standards - financial reporting by not-for-profit organizations changed. As the College meets the definition of a government controlled entity as its financial information is consolidated with that of the Province, the basis of accounting will change for all years commencing on or after January 1, 2012. There are significant reporting differences related to format and content of the audit report; reporting framework and incremental documentation requirements. There is a change to auditor’s report, in that it will now change to the date that the Board actually approves the financial statements. KPMG staff outlined the audit plan, indicating areas where we will be taking a substantive approach, or a Controls/Substantive approach; and noted the overall methodology: planning, control evaluation, substantive testing, and completion. Durham College has full continuity from prior years. It was noted in the terms and conditions under section five, “Information Processing Outside of Canada”, that KPMG has both a server in the Netherlands and in the United States. The only information housed on these servers is contact information. There is no confidential information on these servers; all working papers, evidence, etc., is kept in the Canadian office of KPMG. The audit process will start in November with our interim audit.

2. Budget Update

Durham College targets to deliver a balanced budget for the fiscal year 2010-11. A balanced budget is tight but achievable. To ensure a balanced budget, we are enforcing strict control over any new hires. Fall semester enrolment is expected to reach 7,521 in total. As of November 1, 2010, the number of GPOG funded enrolment is projected to be 7,062. This number is 6.4% higher than the previous year and 1.5% higher than budget. Second career program students enrolled in Durham College programs is estimated to be 345. A total of 119 international students are projected to enroll in the College programs. Risks identified include the achievement of domestic and international post-secondary enrolment targets, which is dependent upon certain variables that are beyond the control of the College, including demographic trends, the state of the regional economy and competitive factors. Total approved capital expenditures for fiscal 2010-11 is \$8.8 million for annual renovations and infrastructure investments, and \$33.1 million for the continuing expansion of the Whitby campus and the construction of the new student services building. Capital expenditure projects of the College are progressing in line with their schedules.

All of which is respectfully submitted,

Mary Simpson, Chair  
Audit and Finance Committee  
October 27, 2010

PUBLIC REPORT OF EXECUTIVE COMMITTEE  
REPORT NO. 1 OF MEETING OF SEPTEMBER 20, 2010  
TO THE DURHAM COLLEGE BOARD OF GOVERNORS FOR CONSIDERATION  
AT ITS PUBLIC MEETING  
HELD NOVEMBER 10, 2010

THE EXECUTIVE COMMITTEE, AS A RESULT OF ITS MEETING HELD ON SEPTEMBER 20, 2010 RECOMMENDS AS FOLLOWS:

1. Draft overview of Board Retreat Agenda

A draft overview of the Board retreat agenda was presented for consideration. The theme of the retreat will be “Durham College Continues Good Governance”. There was discussion regarding the outline of the agenda and it was noted that adequate time should be set aside for discussions as part of the information provided in the workshops and presentations.

2. Approval of Various Expense Reports

The expense report was presented to the Committee under the authority of By-law 1, section 31.1 subsections (f) To review and approve the expense accounts of the President; and is a regular reporting procedure of the committee. These were budgeted expenses and in line with College policy.

**ACTION: That the Executive Committee approve the expenses of the President and Members of the Board of Governors submitted for July 2010.**

3. Kathy Rhodes – Faculty/Staff Emeritus

President Lovisa advised the Committee of the administrative policy and procedure on Faculty\Staff Emeritus, indicating that Kathy Rhodes has been granted the designation “Faculty Emeritus”. Committee members concurred Kathy was very worthy of this designation. Kathy will be notified of the designation and will be presented with a certificate at the Fall Convocation on October 21, 2010.

**ACTION: That the nomination of Kathy Rhodes as Faculty Emeritus be received for information.**

All of which is respectfully submitted,

Bill Robinson, Chair  
Executive Committee  
September 20, 2010

PUBLIC REPORT OF EXECUTIVE COMMITTEE  
REPORT NO. 2 OF MEETING OF OCTOBER 25, 2010  
TO THE DURHAM COLLEGE BOARD OF GOVERNORS FOR CONSIDERATION  
AT ITS PUBLIC MEETING  
HELD NOVEMBER 10, 2010

THE EXECUTIVE COMMITTEE, AS A RESULT OF ITS MEETING HELD ON OCTOBER 25, 2010 RECOMMENDS AS FOLLOWS:

1. Program Approvals

Judy Robinson, VP, Academic, presented the Ontario College Certificate in Science and Engineering Fundamentals; Ontario College Diploma in Construction Carpentry; Ontario College Advanced Diploma in Energy Management and Sustainable Building Technology; Ontario College Graduate Certificate in Victimology; Ontario College Graduate Certificate in VFX and Digital Cinema programs for approval. All programs align with the strategic agenda.

**ACTION: That the Executive Committee approve the Ontario College Diploma in Construction Carpentry; the Ontario College Certificate in Science and Engineering Fundamentals; the Ontario College Advanced Diploma in Energy Management and Sustainable Building Technology; the Ontario College Graduate Certificate in Victimology and the Ontario College Graduate Certificate in Visual FX and Digital Cinema.**

2. Terms of Reference– Executive Committee

The Governance Review Committee recently met to continue its discussion regarding proposed revisions to Durham College By-law #1. It was discussed that the following item, currently contained in the Governance Review Committee Terms of Reference, may be better placed in the terms of reference for the Executive Committee: 33A.2 c) “To annually conduct a formal review of the Board”. Traditionally, the Board Chair issues a formal online survey which is used as a self-evaluation tool amongst Board members. The survey data is then compiled into a summary report and reviewed by the Executive Committee during June of each year. This information is used to develop future goals for the Board.

**ACTION: That the Executive Committee formally accept into their terms of reference “To annually conduct a formal review of the Board” and advise the Governance Review Committee of this proposed change to Durham College By-Law #1.**

3. Expense Reports

The expense reports were presented to the Committee under the authority of By-law 1, section 31.1 subsections (f) To review and approve the expense accounts of the President; and is a regular reporting procedure of the committee. These were budgeted expenses and in line with College policy.

**ACTION: That the Executive Committee approve the expenses of the President and Members of the Board of Governors submitted for September 2010.**

PUBLIC REPORT OF EXECUTIVE COMMITTEE  
REPORT NO. 2 OF MEETING OF OCTOBER 25, 2010  
TO THE DURHAM COLLEGE BOARD OF GOVERNORS FOR CONSIDERATION  
AT ITS PUBLIC MEETING  
HELD NOVEMBER 10, 2010

4. 2010/11 Work plan

As part of our work on good governance during 2009, it was determined that an annual work plan be developed. This plan identifies the regularly required business of the Board. Any additional requirements to the annual work plan as a result of new information from the Ministry or staff will be added to the document throughout the current Board year. An approved version of the work plan will be placed on the public Durham College website in order to continue with our accountability and transparency initiative.

**ACTION: That the Executive Committee approve the 2010/11 Durham College Board of Governors work plan.**

All of which is respectfully submitted,

Bill Robinson, Chair  
Executive Committee  
October 25, 2010

PUBLIC REPORT OF GOVERNANCE REVIEW COMMITTEE  
REPORT NO. 1 OF MEETING OF SEPTEMBER 14, 2010  
TO THE DURHAM COLLEGE BOARD OF GOVERNORS FOR CONSIDERATION  
AT ITS PUBLIC MEETING  
HELD NOVEMBER 10, 2010

THE GOVERNANCE REVIEW COMMITTEE, AS A RESULT OF ITS MEETING HELD ON SEPTEMBER 14, 2010 RECOMMENDS AS FOLLOWS:

1. Proposed amendments to Durham College By-Law #1

The Committee discussed the proposed amendments to Durham College By-law #1 and made recommendation for additions or changes related to conflict of interest and a majority of the remaining members. The committee will ask the Executive committee to take over Section 33A.2 c) "To annually conduct a formal review of the Board", and add to their terms of reference. This will be considered by the Executive Committee in October 2010. A new paragraph is to be added to Section 18.1 regarding copopulous members and confidentiality as follows: 18.1(a) i)This shall not apply to governors who also sit on the UOIT Board as "copopulous" governors in instances where these co-populous governors have confidential information that is related to both institutions. A Section 26.3 was added to read "voting by proxy is not permissible". In Section 28.5 it was directed that the term "delegation" be used consistently and replace the word "presentation". It was also decided that Section 28.5 (b) will now read: "Delegations should be limited to 10 minutes. Additional time may be allowed for Board member's questions of clarification". It was noted that the Board may have questions regarding Section 35- The Execution of Documents. This section is currently under review by the Chief Financial Officer. The Committee suggested staff research the language of this section to ensure it protects both Board members and staff from risk.

2. Update on new regulations for external appointment process with MTCU

The Committee reviewed the letter from the Ministry from August 2010, regarding the newly proposed appointment process for external board members. The letter was received for information.

3. Governance Review Committee Work Plan

An overview of the Governance Review Committee work plan for the coming months was discussed. The Chair advised that during winter 2011 we will work to fulfill the sections of our mandate: 1) to assist the Board of Governors in fulfilling its governance oversight responsibilities; 2) to develop strategies to assist new governors to develop advanced governance knowledge. Committee members suggested we develop a checklist of our best practices and areas for improvement, as well as a self assessment tool for new and existing members.

All of which is respectfully submitted,

Garry Cubitt, Chair  
Governance Review Committee  
September 14, 2010





## BOARD REPORT/EXECUTIVE SUMMARY

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<b>Public:</b>	<input checked="" type="checkbox"/>	<b>Action Required:</b>	
<b>In-Committee:</b>	<input type="checkbox"/>	<b>Discussion</b>	<input checked="" type="checkbox"/>
		<b>Decision</b>	<input type="checkbox"/>

**DATE:** November 10, 2010

**FROM:** Don Lovisa, President

**SUBJECT:** **Program Review Dashboard**

### A. Purpose

To present an example of a program dashboard used in the Program Review and Renewal process for information and discussion by the Board of Governors.

### Background

Excellence in postsecondary academic programming is a cornerstone of the vision and mission for Durham College. As an integral component of quality assurance, Durham College utilizes a program performance framework to review and renew postsecondary academic programs. Performance dashboards are used in the development and implementation of the program review and renewal process.

The accompanying dashboard information is presented in response to a request by the Board of Governors regarding the metrics use in the review of the performance of programs.

### B. Discussion/Options

A seven-year roster for program review and roster has been developed to ensure compliance with the comprehensive review of Programs of Instruction as per the Board's Executive Limitations – Programs of Instruction. The set of criteria used in designating programs complies with Ministry's program of standards revisions, program performance as determined by Program Health Matrix, PQAPA mandate, and other relevant criteria as deemed fit by respective school Deans.

Appendix 1 contains an example of a dashboard that leads the development of the extensive Program Information Package and informs recommendations made as a result of the program review. The dashboard presents summarized program-level information on a wide range of key performance metrics such as applications, enrolments, retention, student satisfaction, graduation rate, and graduate employment in a related field.

As each of these performance metrics is analyzed and investigated in-depth, it is further supplemented by rigorous benchmarks embedded in the Program Health Matrix. For example, application change indicated in the dashboard is further enriched with details on first choice applications and total applications trends, corresponding system changes, market share changes and seat capacity implications. Similarly, the KPI metric for student satisfaction on quality of learning is further complemented with specific detailed aspects such as teachers' knowledge and teachers' presentation of the subject material though information provided on Program Health Matrix.

Appendix 2 contains an example of the Program Health Matrix.

**C. Financial/Human Resource Implications**

Not applicable.

**D. Implications for UOIT (if applicable)**

None anticipated.

**E. Recommendation(s)**

That the Board of Governors receive this report for information purposes.

### Dashboard for Program Review and Renewal Process: Example

First Choice Applications Change	Enrolment Change		Cohort Retention First audit to final audit	Student Satisfaction		Graduate Employment In a related field	Graduation Rate
	All years	First year		Knowledge and skills for future career	Quality of learning experience		
	2006-07 to 2009-10	2006-07 to 2009-10	2006-07 to 2009-10	2008-09 Cohort	2009-10 Students	2009-10 Students	
49%	126%	32%	90%	90%	78%	93%	n/a

## Program Health Matrix Report Reporting Year 2009-10

***Freedom of Information and Protection of Privacy Act Notice:***

*This report is intended for internal planning and improvement purposes only. Please note that, for some programs, KPI responses from as few as five respondents are displayed in the Program Health Matrix Report. Therefore, the Program Health Matrix Report should be kept confidential to protect the privacy of the students in accordance with the Freedom of Information and Protection of Privacy Act, R.S.O. 1990.*

<b>MTCU Program Name</b>	<b>Approved Program Name</b>	
<b>MTCU Code</b>	<b>Banner Code</b>	<b>APS Code</b>

### About Program Health Matrix Report

The Program Health Matrix Report is a summative measure of a program's effectiveness. It provides key information on *Quality* and *Growth*, two important dimensions critical to the sustained viability of a program. Overall, the Program Health Matrix Report is intended to help program teams to identify strengths of the program, best practices and possible areas of improvement. *Quality* and *Growth* dimensions are comprised of a number of key factors, as detailed below.

Section I of this Report presents detailed information on the *Quality* dimension of the program. It presents information on select, relevant questions from KPI Student Satisfaction Survey, cohort retention, graduation rate, graduate employment and graduate satisfaction. It also includes information on other key qualitative attributes of the program that contribute to program quality. These include information on Annual Curriculum Renewal, curriculum mapping, program advisory committee, program review, and accreditation, where applicable.

Section II of this Report presents detailed information on the *Growth* dimension of the program. It presents information on first choice applications to the program, first choice applications to similar programs in the college system, total applications to the program, total applications to similar programs in the college system, enrolment in the first semester of the program, enrolment in all years of the program, comparison of applicant confirmations to number of offers made, comparison of applicant confirmations to paid applicants, and finally, comparison of new enrolments to number of offers made.

Each Section of the Report includes the following:

*Factors:* the attributes that are included in each dimension.

*Benchmark:* the benchmarks against which each factor is compared. Where possible, the program factor is compared to its past performance, Ontario postsecondary system performance, and capacity parameter.

*Program Percent/Ratio:* the program result that is being evaluated.

*Benchmark Percent/Ratio:* the result for the benchmark that is being used as a standard.

*Years included in benchmark/Alternative benchmark:* the number of years of data included in the benchmark for select factors. It notes whether an alternative benchmark is used, if applicable.

*Rating:* assessment of program's performance in comparison to the benchmark.

*Score:* the numerical rating for the program based on the performance assessment indicated in the previous column.

Additional information is available in the Program Health Matrix Guide.

The Program Health Matrix Report was developed by a SEM working group that consists of representatives from Academic Council, Academic Leadership Team, and Institutional Research. If you have any questions or comments regarding the Program Health Matrix Report, please feel free to contact Rashmi Gupta, Manager, Office of Research Services and Innovation at (905)721-2000 x2266 or rashmi.gupta@durhamcollege.ca.

## SECTION I - QUALITY

Factors	Benchmarks	Program Percent/ Ratio	Benchmark Percent/ Ratio	Years included in benchmark/ Alternative benchmark	Rating	Score
<b>Teachers' knowledge of their subject (KPI-Student Q15)</b>	MTCU System average - Student Satisfaction KPI - Q15	89.2	91.7		Lower	1
	Program Student Satisfaction KPI - Q15 - last year		76.0		Significantly higher	4
	Program Student Satisfaction KPI - Q15 - average of last three years		83.0	3	Higher	3
<b>Teachers' presentation of the subject material (KPI-Student Q17)</b>	MTCU System average - Student Satisfaction KPI - Q17	67.7	78.0		Significantly lower	0
	Program Student Satisfaction KPI - Q17 - last year		44.0		Significantly higher	4
	Program Student Satisfaction KPI - Q17 - average of last three years		53.7	3	Significantly higher	4
<b>Quality of learning experiences (KPI-Student Q26)</b>	MTCU System average - Student Satisfaction KPI - Q26	77.8	88.6		Significantly lower	0
	Program Student Satisfaction KPI - Q26 - last year		72.9		Higher	3
	Program Student Satisfaction KPI - Q26 - average of last three years		78.0	3	Lower	1
<b>Retention</b>	Program - last year	89.7	76.5		Significantly higher	4
	Program - three years prior		#N/A		Same	2
	Durham College average for same program duration		68.7		Significantly higher	4
<b>Graduation Rate</b>	MTCU System Average - Graduation Rate	#N/A	70.7		Same	2
	Program - last year		68.0	DC-last yr	Same	2
	Durham College average for same program duration		66.3		Same	2
<b>Graduate Employment</b>	MTCU System Average - Graduate Employment	100.0	91.1		Higher	3
	Durham College average		82.8		Significantly higher	4
<b>Graduate Satisfaction</b>	MTCU System average - Graduate Satisfaction	100.0	84.9		Significantly higher	4
	Program Graduate Satisfaction KPI - last year		80.0	DC-last yr	Significantly higher	4
	Program Graduate Satisfaction KPI - average of last three years		81.0	DC-avg last 3 yrs	Significantly higher	4
<b>Annual curriculum renewal</b>		Yes	Yes			4
<b>Functioning PAC (2 meetings/year)</b>		Yes	Yes			4
<b>Current curriculum map</b>		No	Yes			0
<b>PAC - Industry representation (8-11 external members)</b>		Yes	Yes			4
<b>Program review completed within last 10 years</b>		No	Yes			0
<b>Accreditation (where appropriate) - Bonus</b>		No				0
<b>TOTAL QUALITY POINTS - 100 point scale</b>						<b>67</b>

<b>Growth</b>						
<b>Factors</b>	<b>Benchmarks</b>	<b>Program Percent/ Ratio</b>	<b>Benchmark Percent/ Ratio</b>	<b>Years included in benchmark/ Alternative benchmark</b>	<b>Rating</b>	<b>Score</b>
<b>Applications - First Choice</b>	Change in program to change in system - three years prior	49.5	13.5		Higher	4
	Change in marketshare - three years prior	5.4	4.1		Higher	4
	Ratio of first choice applicants to seats	3.27	2.99	3	Higher	4
<b>Applications - Total</b>	Change in program to change in system - three years prior	17.4	13.0		Higher	4
	Change in marketshare - three years prior	4.6	4.5		Higher	4
	Ratio of total applicants to seats	10.56	11.33	3	Lower	0
<b>Enrolment - First Semester</b>	Current seat capacity compared to prior year	45	40		Higher	4
	Ratio of enrolment to max seat capacity compared to prior year	1.00	0.98		Higher	4
	Enrolment compared to prior year	45	39		Higher	4
<b>Enrolment - All Years</b>	Program seat capacity compared to prior year	N/A	N/A	Data not available	Same	2
	Ratio of enrolment to max seat capacity compared to prior year	N/A	N/A	Data not available	Same	2
	Enrolment compared to prior year	77	77		Same	2
<b>Admission resources reqd: Enrolment - First Year</b>	Ratio of confirmation to offer	0.31	0.33	3	Lower	0
	Ratio of true paid to confirmation	0.95	0.87	3	Higher	4
	Ratio of enrol to offer	0.25	0.27	3	Lower	0
<b>Oversubscribed (2009) - Bonus</b>		Yes				4
<b>TOTAL GROWTH POINTS - 100 point scale</b>						<b>74</b>

## BOARD REPORT/EXECUTIVE SUMMARY

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**Public:**   
**In-Committee:**

**Action Required:**  
**Discussion**   
**Decision**

**DATE:** November 10, 2010

**FROM:** Don Lovisa, President

**SUBJECT: Approval of New Postsecondary Programs of Instruction**

### A. Purpose

To obtain approval from the Board of Governors for the following postsecondary programs of instruction for the September 2011 intake:

1. *Accessibility Coordination*

- Duration: 2 semesters
- Credential: Ontario college graduate certificate
- School: Health & Community Services

2. *Construction & Hoisting Techniques*

- Duration: 2 semesters
- Credential: Ontario college certificate
- School: Skilled Trades, Apprenticeship & Renewable Technology

3. *Biofuels & Bioprocesses Technician*

- Duration: 4 semesters
- Credential: Ontario college diploma
- School: Skilled Trades, Apprenticeship and Renewable Technology

4. *Fine Arts - Advanced*

- Duration: 6 semesters
- Credential: Ontario college advanced diploma
- School: Media, Art & Design

## **B. Background**

A key deliverable of the Durham College 2010-11 Business Plan is a dynamic Strategic Enrolment Management plan that includes increased enrolment. The goal of 10,000 domestic students by 2015 will be achieved, in large part, through new program development. This report identifies four proposed new programs that will contribute to enrolment growth, meet the labour market needs of our community, and provide meaningful opportunities to new students.

As per Minister's Binding Policy Directive 3.0 Programs, Framework for Programs of Instruction, a board of governors is responsible for approving programs of instruction a college will offer.

It is the role of the Board to ensure that programs of instruction are developed and implemented consistent with provincial standards where they exist; ensuring that all new and modified postsecondary programs of instruction leading to one of the following credentials – Ontario College Certificate, Ontario College Diploma, Ontario College Advanced Diploma, or Ontario College Graduate Certificate.

The Board will request validation that the programs of instruction conform to the Credentials Framework and are consistent with accepted college system principles and such credentials are awarded to students on successful completion of their respective programs of instruction are consistent with the Credentials Framework.

We confirm that Durham College is in compliance with all Minister's Binding Policy Directives noted above, for programs of instruction.

## **C. Discussion/Options**

### *1. Accessibility Coordination*

The Accessibility Coordination program evolved out of the Ontario government's commitment and recent legislation geared towards improving accessibility. Graduates of this Ontario College Graduate Certificate program will develop competencies that assist employers in eliminating attitudinal, systemic, and physical barriers in public and private settings. For consultants or practitioners already employed in this field, this graduate certificate provides specific knowledge and a comprehensive skill set to ensure improved opportunities for people with disabilities.



Students learn how to plan for and coordinate the accessibility projects necessary within organizations. Projects may include the identification of barriers to full access, the development of policies, guidelines and procedures, management of small and large groups, and the design and delivery of training sessions. Accessibility Coordinators will also have to have sufficient understanding of communication, customer service and other employment specific accommodations that exist. This program prepares students for managing the impact of implementing accessibility standards in both public and private organizations.

On July 27<sup>th</sup> and September 10<sup>th</sup>, 2010, focus groups were held with a number of local agencies and employers from the field of accessibility coordination and services. The focus group confirmed support for this program.

A proposal for the Accessibility Coordination program was developed and submitted to the CVS. On October 20, 2010, the proposal received validation and the program was assigned the Approved Program Sequence (APS) number DURH 01197.

## *2. Construction & Hoisting Techniques*

This program is designed for those wishing to enter the construction industry and in particular the hoisting field. Students gain the knowledge and practical skills to work safely in a construction environment. Students learn the basics of safety, maintenance and operation of cranes and related equipment. Students will have the opportunity to gain hands-on skills on both a crane simulator as well as real machines on the job site.

Graduates will be able to assist in performing basic maintenance on cranes and related equipment. They can enter the workforce with the knowledge, skills and safety awareness to be employed by general construction companies, crane and hoisting companies. Graduates will leave Durham 'field-ready' – a condition sought after by industry contacts.

On May 10, 2010, a focus group meeting was held with a number of local agencies and employers from the hoisting sector. The focus group confirmed support for this program.

A proposal for the Construction and Hoisting program was developed and submitted to the Credentials Validation Service (CVS). We have received verbal confirmation from Tim Klassen – Manager, Ontario College Quality Assurance Service that we will receive a validation decision prior to the meeting on November 10, 2010.

### 3. *Biofuels & Bioprocesses Technician*

The Biofuels and Bioprocesses Technician program is intended to provide participants with theoretical and practical understanding of bioenergy and biofuels technologies and systems and their application in the rapidly evolving alternative energy sector. Participants will focus on bioenergy (ethanol from several different feedstocks, methane from anaerobic digesters and landfill, biodiesel and biomass) and their various uses and applications as mobile fuel, in electricity generation, heat production and as feedstock for bioproducts. The program encompasses a multidisciplinary approach in developing the concepts of bioenergy production and utilization. Students will benefit from a basic grounding in chemistry, microbiology, electrical, mechanical and biomass production aspects of the developing technologies of renewable and sustainable energy.

Program graduates will enter their career with specialized knowledge that will position them to exploit a wide range of opportunities in a new and expanding sector. Graduates can expect to find positions in sales, consulting or technical support with ethanol, methane, biodiesel, biomass, syngas and bioproduct companies, with manufacturers of bioenergy equipment, dealers and installation and repair service providers.

On June 17, 2010, a focus group meeting was held with a number of local agencies and employers from the bioenergy sector. The focus group confirmed support for this program.

A proposal for the Biofuels and Bioprocesses program was developed and submitted to the Credentials Validation Service (CVS). We have received verbal confirmation from Tim Klassen – Manager, Ontario College Quality Assurance Service that we will receive a validation decision prior to the meeting on November 10th.

### 4. *Fine Arts - Advanced*

The Advanced Fine Art Diploma Program offers a broad base of experience and knowledge in the visual arts through a range of ideas, media, materials and techniques. Fundamental courses in art, craft, and design introduce students to historic precedents, practical skills, and the critical thinking inherent in visual culture and its professional disciplines. Students will explore drawing, painting, sculpture, photography, video, sound and multi-media. In addition to the media, materials and techniques common to the fine arts, students in this program will learn to use their skills and talents as artists to make a difference in their community. Using a range of media, including photography, video and web technologies, students will collaborate with community groups and not-for-profit organizations and make a significant contribution to the culture and economy of this region.

Successful graduates of this program will find employment opportunities in many areas of the culture sector including artist representative, gallery or gift shop retail assistant, graphic artist or photographer's assistant. Culture sector workers are often self-employed, and this program will help prepare graduates to open their own studios or businesses.

In the summer of 2010, a focus group meeting was held with a number of local gallery representatives, artists and potential employers. The focus group confirmed support for this program.

A proposal for the Fine Arts - Advanced program was developed and submitted to the Credentials Validation Service (CVS). On October 26, 2010, the proposal received validation and the program was assigned the Approved Program Sequence (APS) number DURH 01198.

Full submissions for all four programs are attached to this board report.

Upon receiving approval from the board for these four programs, funding approval will be sought from the Ministry of Training, Colleges and Universities to offer the programs as of September 2011.

#### **D. Financial/Human Resource Implications**

The projected enrolments will provide increased revenue to Durham College in accordance with the college's target net contribution ratio.

New faculty hires will be necessary to ensure an appropriate ratio of students to full-time faculty. Details of faculty hires are provided in the attachments.

#### **E. Implications for UOIT (if applicable)**

None anticipated.

#### **F. Recommendation(s)**

That the Durham College Board of Governors approve the postsecondary programs of instruction for Accessibility Coordination; Construction and Hoisting Techniques; Biofuels and Bioprocesses Technician; and Fine Arts – Advanced.

## Submission for Board Approval: New Postsecondary Program

Ontario College Graduate Certificate in Accessibility Coordination					
MTCU Code:	Unique				
Funding Unit:	1.0 (Estimate)				
Weight:	1.0 (Estimate)				
Name of dean submitting the request:	Susan Sproul				
Proposed date of implementation:	September 2011				
Date of review by committee:	August 5, 2010				
Year 1 enrolment:	30				
Number of faculty required:	1 FT in the first year of the program				
Space requirements:	Regular classroom				
Capital costs:	\$0				
Budget Projections					
Proposed Tuition	<b>\$3,000</b>				
Net Contribution - % of Gross Revenue	-47.9%	15.8%	40.1%	43.0%	44.7%
TARGET Net Contribution	n/a	Breakeven	40.0%	40.0%	40.0%

### 1.0 APPROVAL STAGES:

Check (√)	Approval Stage
√	New concept paper reviewed by Dean
√	Labour Market Assessed
√	Student Demand Assessed
√	New Program Proposal Document Reviewed by Manager, Program Development and Quality Initiatives and Dean
√	Budget reviewed by Manager, Planning and Reporting; Manager, Program Development and Quality Initiatives; and Dean
√	Budget approved by Vice President – Finance and Chief Financial Officer
√	Reviewed by Program Proposal Review Committee
√	Approved by Vice President - Academic
√	Approved by Credentials Validation Service
	Reviewed by President
	Approved by Board of Governors

## **PROGRAM INFORMATION**

### **2.0 Program Overview**

#### **Description**

- The Accessibility Coordination program evolved out of the Ontario government's commitment and recent legislation geared towards improving accessibility. Graduates of this Ontario College Graduate Certificate program will develop competencies that assist employers in eliminating attitudinal, systemic, and physical barriers in public and private settings. For consultants or practitioners already employed in this field, this graduate certificate provides specific knowledge and a comprehensive skill set to ensure improved opportunities for people with disabilities.
- Students learn how to plan for and coordinate the accessibility projects necessary within organizations. Projects may include the identification of barriers to full access, the development of policies, guidelines and procedures, management of small and large groups, and the design and delivery of training sessions. Accessibility Coordinators will also have to have sufficient understanding of communication, customer service and other employment specific accommodations that exist. This program prepares students for managing the impact of implementing accessibility standards in both public and private organizations.

#### **Vocational Program Learning Outcomes:**

The graduate has reliably demonstrated the ability to:

1. Interpret and apply relevant legislation to all functions of an Accessibility Coordinator.
2. Analyze and evaluate the movement toward social inclusion in Canada, considering historical and contemporary practices and perspectives.
3. Incorporate the principles of universal design to improve accessibility in both public and private settings.
4. Execute audits of both public and private settings, including the identification and analysis of accessibility barriers.
5. Develop financial plans for accessibility practices, incorporating group facilitation, time management and associated business skills in the design and implementation of budgets.
6. Analyze and apply current research to the development of policies and procedures specific to accessibility planning.
7. Advocate for full access in both public and private settings employing the theories and techniques of change management.
8. Facilitate and evaluate large and small group training programs towards the implementation of accessibility legislation.
9. Design, implement, manage and evaluate large and small accessibility projects in a logical, timely and efficient manner including developing a project purpose, methodology, outcomes and success measures.

#### **Admission Requirements**

- A diploma or degree in a human services specialty area.

### 3.0 PROGRAM OF STUDY:

Semester	Course Title (and brief course description)
1	<p><b>Professional Communication</b></p> <p>Students focus on improving their verbal and writing skills to effectively communicate their specialized knowledge in a variety of business and workplace situations. The course prepares students to be able to read and interpret complex documents, to speak confidently and to author effective, appropriate and accurate communications.</p>
1	<p><b>Interpretations of Disability</b></p> <p>In this course, students are introduced to the study of disability, including a historical perspective of what constitutes a disability and the impact on the individual, families and society. Course content is designed to reflect the varied experiences of people living with a disability, highlighting their successful inclusion in public and private spaces as well as periods of exclusion and marginalization.</p>
1	<p><b>Accessibility Legislation &amp; Application</b></p> <p>Students learn the fundamental concepts of accessibility with specific reference to legislation in Ontario. The implications and requirements of the <i>Accessibility for Ontarians with Disabilities Act</i> and the <i>Ontarians with Disabilities Act</i> are explored. Topics include the various barriers that prevent accessibility, financial considerations towards full inclusion as well as real life scenarios which illustrate compliance. The student will explore the differing accessibility needs of organizations and apply the accessibility standards to these settings.</p>
1	<p><b>Universal Design for Communities</b></p> <p>This course addresses the importance of community building given the realities of social exclusion and the challenges represented by diversity in the current social, political and economic context. Students develop skills to promote universal design, both with practical applications such as accessibility assessments, and through policy development and public awareness campaigns.</p>
1	<p><b>Social Policy</b></p> <p>This course examines the politics of social policy in Canada with a specific focus on policy related to accessibility. Students are presented with a foundation and critical look at the roots and impact of inequality and discrimination related to issues of social justice. Students are provided with an opportunity to develop the knowledge and skills required to work in a diverse world through the critical analysis of ideas and core concepts. An examination is made of the changing attitudes and influences that shape and reform social policy in Canada.</p>

1	<p><b>Management and Organizational Behaviour</b></p> <p>The course explores the principles and practices of organizations and the issues which influence management and administrative decision making. Fundamentals of finance, marketing, general operations, strategic planning, and performance measurement are introduced. Organizational change theory and techniques are examined along with the planning and facilitation of initiatives in organizational change.</p>
2	<p><b>Advanced Communication Techniques</b></p> <p>This advanced communications course is designed to further students' proficiency in research techniques, methods of analysis, persuasive oral arguments and written reports. Students develop their delivery and presentation skills while working on a range of oral communication activities that start with short, informal introductions and comments and work up to more researched, persuasive, professional multimedia presentations. Using available technology, students research, write and edit work-related correspondence and reports.</p>
2	<p><b>Leadership and Group Facilitation</b></p> <p>This course focuses on the challenges that leaders face in a dynamic and changing environment. It incorporates theoretical and practical elements rooted in the perspective that people with disabilities require opportunities to lead dignified lives and the means to exercise personal choice, control and independence. Students will define and analyze the systems approach to facilitating change and learn about small group interactions. Through case studies and applied examples, students will develop the skills for successful conflict resolution and transformation. Practice in facilitating groups will build an inventory of knowledge about communication processes, group structure determination, goal development and achievement, leadership, effective presentation, and ethical issues.</p>
2	<p><b>Accessibility Auditing</b></p> <p>Students learn how to conduct an accessibility audit to establish how compliant a particular building, environment or service is in terms of access and ease of use by a wide range of potential users, including people living with a disability. Knowledge of the technical, legislative and social environments is combined with the principles of universal design. The types of barriers investigated include architectural or physical barriers, information or communications barriers, attitudinal barriers, technology barriers and organizational barriers. Students gain experience writing audits that identify both accessible features and access problems along with recommendations for improvements.</p>
2	<p><b>Project Management</b></p> <p>Students gain a basic understanding of project management</p>

	<p>methodology including the tools, techniques, processes and best practices. Alignment of the project objectives with the business goals of an organization is emphasized as this is the environment in which accessibility projects will operate. Students will gain practice in budget development and financial planning specific to accessibility issues. Various project management processes and how they interact during the life cycle of projects are explained. Students gain practice in the coordination of projects, including managing risk in order to successfully complete the project and meet the deliverables.</p>
2	<p><b>Adult Learning Theory</b>  The course is designed to provide students with an understanding of the basic principles and processes of learning and how they manifest themselves in an adult educational context. Students develop the skills and techniques to facilitate the learning process within an organizational setting. A variety of learning strategies will be included so students gain an appreciation of approaches to the integration of work and learning.</p>
2	<p><b>Practical Approaches to Inclusion</b>  In this course students gain a working knowledge of assistive, rehabilitative and adaptive technologies that exist to increase, maintain or improve the functional capabilities of people with disabilities and enhance their independence. It includes augmentative and alternative systems and how they can be implemented to accommodate a variety of physical, perceptual, motor and cognitive disabilities. Students also consider the costs associated with these technologies and how this affects their successful implementation.</p>
2	<p><b>Research Project/Field Placement</b>  Students are given the opportunity to integrate their accessibility coordination theory into practice. Under the supervision of an accessibility coordinator students will participate in committee work, audits and training programs and select a relevant topic to research in depth.</p>



#### 4.0 STRATEGIC ALIGNMENT:

##### Strategic Fit

- The program complements existing programs offered by the School of Health & Community Services.
- It contributes to the School by adding a graduate certificate program as an academic pathway for graduates of the School’s diploma and advanced diploma programs. The program complements the strategic enrolment plans of the College.
- The School has the instructional expertise to develop and deliver the program.

##### Fit with Existing Programs

<p><b>Programs that could feed into the proposed program</b></p> <ul style="list-style-type: none"> <li>▪ Child &amp; Youth Worker</li> <li>▪ Social Service Worker</li> </ul>	<p style="text-align: center;"><b>Program Name</b></p> <p><b>Other complementary programs within School</b></p> <ul style="list-style-type: none"> <li>▪ Addictions &amp; Mental Health</li> <li>▪ Communicative Disorders Assistant</li> </ul>	<p><b>Advanced programs which graduates of this program may consider</b></p> <ul style="list-style-type: none"> <li>▪ N/A</li> </ul>
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##### Benefits to be Stressed

- The uniqueness of the program places Durham College at the vanguard of an emerging industry.
- The graduate certificate credential assists in providing a good balance to the mix of programs offered in the School.
- Graduates gain the knowledge and skills necessary to conduct accessibility coordination and planning in a variety of industries and environments.

#### 5.0 LABOUR DEMAND:

- The government predicts that in 20 years, 20% of the people in Ontario are likely to have a disability, which is an increase of 7% from the current 13% of people who have some form of disability.
- The obligations imposed by the Province of Ontario through the *Ontarians with Disabilities Act* (2001) and *Accessibility for Ontarians with Disabilities Act* (2005) require organizations

to implement accessibility planning and to identify, remove and prevent barriers to persons with disabilities.

- Any business or organization that provides goods and services to people in Ontario has to meet certain accessibility standards in five areas.
- Accessibility must now become part of the strategic and operational planning of almost every institution.
- Please see *Appendix A* for the full labour market analysis.

**6.0 STUDENT INTEREST:**

- This program is unique in that there is no accessibility coordination program currently offered in the system, yet job opportunities do exist in the workforce.

**7.0 ANALYSIS OF COMPETITION:**

- There are no competitor colleges in the Ontario system.
- Based on analysis of the labour market data and the input from the two focus group meetings held with industry and community partners, Durham College is expected to be successful in attracting a sufficient applicant pool for this program.

**8.0 TARGET MARKET:**

- The target market for this program includes graduates of diploma, advanced diploma and degree programs, in particular in the field of human services, as well as working professionals tasked with accessibility planning, looking to develop new skills or improve existing ones.

**9.0 MONITORING AND EVALUATION DURING THE FIRST YEAR OF OPERATION:**

<i>Year 1</i>		
	Expected Enrolment:	30 students
	KPI Student Satisfaction Rate:	Meets or exceeds the college average
	Financial:	On budget

**10.0 OPERATING REVENUE AND EXPENSES – 5-YEAR PROJECTION:**

- This proposed program is expected to surpass the college’s target net contribution ratio based on an initial enrolment of 30 first-year students and growing to 35 first-year students by the fourth year of operation.
- Please see *Appendix B* for the 5-year budget projection.

## Appendix A – Accessibility Coordination Labour Market Analysis

### National Labour Outlook

Accessibility coordinators ensure that a business, organization, structure or event is accessible to people with disabilities. One way that accessibility coordinators accomplish this is by ensuring compliance with statutes such as the Accessibility for Ontarians with Disabilities Act (AODA). Accessibility coordinators may find work in a variety of different industries – more and more businesses are hiring individuals to review and address accessibility concerns and ensure a welcoming, inclusive environment for persons who have disabilities.

There is growing public support for inclusion and full citizenship in all aspects of society for persons with disabilities. Full citizenship means that all needs of persons with disabilities are met and that institutions are accessible to and inclusive of those individuals. To achieve this, government as well as individual organizations are reforming current policies and procedures to reduce barriers to accessibility. Accessibility Coordinators are experts who ensure everyone receives the support they need to achieve the highest standard of living and quality of life.

According to the Council of Canadians with Disabilities (CCD), 14.3% of Canadians report having a disability of some form. Disabilities are multi-faceted and require a wide range of accommodations and supports to ensure equitable access and eliminate exclusionary aspects of daily life. This underscores the importance of employing an accessibility coordinator within the workplace to organize and act as a point person for all accessibility-related matters.

According to Working in Canada, the national outlook for work prospects for Community and Social Service Workers (NOC 4212) is “Fair.” This occupational group includes positions that might correspond to Accessibility Coordinator such as: Return-To-Work Coordinator – Disability Management and Disability Management Worker. The employment growth rate for this group is predicted to be above average to 2018 because of increased government funding for health care and an aging population requiring these services. In addition to growth trends in full-time contractual and self-employment, the downsizing of health institutions has led graduates to successful employment in community based agencies.

Moreover, according to the labour market information provided on the Services Canada website, it is anticipated that the number of job seekers in this category will exceed the number of job openings. Other predictors were the hourly wages for the community service occupation (\$19.20) which is lower than the average wage rate and the unemployment rate (4%) was slightly less than the 2004 average (7%). Working in Canada shows that part-time workers account for 22% of all workers, which is somewhat higher than the 2008 national average of 19%, and has risen since 2001.

Community and Social Service Workers are younger, on average, compared to other occupations, thus limiting opportunities resulting from retirement. Nonetheless, employee turnover and temporary staffing will drive replacement needs and create a number of opportunities for job seekers. Employment growth in this occupation is sensitive to population growth and is largely dependent on government funding. However, provincial governments are continuing to strengthen and update

legislation for accessibility services to respond to the diverse and changing needs of individuals with disabilities.

### **Council of Canadians with Disabilities**

The Council of Canadians with Disabilities (CCD) is a national human rights organization supporting people with disabilities and working toward creating an accessible and inclusive country. Some of the Council's priorities include:

- Disability-related supports
- Poverty alleviation
- Increased employment for persons with disabilities
- Promotion of human rights
- Ratification and implementation of the UN Convention on the Rights of Persons with Disabilities (CRPD)
- Technology developed according to the principles of universal design
- Air, rail, bus and marine transport that is accessible to persons with all types of disabilities

CCD aims to achieve these priorities through governmental reform, litigation and public education to increase support for disability-related initiatives.

Most provinces have enacted legislation to support persons with disabilities and work toward eliminating barriers to social accesses. Through the support of CCD, Canadians with disabilities and their families have launched a National Action Plan to assist policy-makers and politicians in developing a nation-wide strategy for disabilities. Its primary purpose is to develop and implement innovative solutions to social barriers through a comprehensive national disability strategy. Some of the objectives of this action plan are:

- To build solidarity within the disability community and with other anti-poverty groups
- To highlight shared priorities regarding Poverty Alleviation and inform key decision makers of policy proposals
- To build understanding of how a disability poverty alleviation agenda fits within broader anti-poverty proposals being advanced
- To build on the success of End Exclusion 2006 and 2007 (a gathering of 350 individuals to discuss what is needed to create an inclusive and accessible Canada)

### **Canadian Association for Community Living**

The Canadian Association for Community Living (CACL) aims to provide full inclusion and human rights to individuals who have developmental or intellectual disabilities. Founded in 1958, the CACL is a national federation with over 40,000 members, 13 provincial/territorial associations, and 400 local associations. Their goal is to ensure that all people:

- have the same rights and access to choice, services and supports as all other persons;
- have the same opportunities as others to live in freedom and dignity, and have the needed supports to do so;

- are able to articulate and realize their aspirations and their rights.

To advance these goals, the CACL engages in the following activities:

- Provides leadership for the issue of inclusion, advocating for the rights of people with intellectual disabilities and their families, and helping Canadians and communities build an inclusive country.
- Promotes awareness about inclusion and provides the tools for making classrooms, workplaces and communities more inclusive.
- Fosters leadership of families in the community living movement and supports efforts on behalf of all people with intellectual disabilities through local and provincial/territorial Associations for Community Living and grassroots networks.
- Leads community change through partnerships like the Community Inclusion Initiative, a program that strengthens the capacity of communities to include and support people with intellectual disabilities and their families in all aspects of community life.
- Puts research and knowledge to work to inform, lead and support efforts to advance rights and opportunities for people with intellectual disabilities in Canada and around the world.
- CACL's national offices are based in Toronto, with a core of fourteen staff and consultants.

The CACL also supports legal cases and engages with governments to provide policy research and make recommendations. Supported by the government of Canada, CACL helped launch Canada's Community Inclusion Initiative in 1997. The initiative includes all provinces and territories and engages more than 600 communities across Canada. The primary aim of the Initiative is to strengthen community capacities to secure inclusion and citizenship for people with intellectual disabilities and their families. The Federal government provides an annual contribution of \$3 million through its Social Development Partnerships Program.

## **Provincial Labour Outlook**

### **Ontario Ministry of Community and Social Services**

Providing social assistance, community services, child and spousal support orders and accessibility standards enforcement and awareness, the Ontario Ministry of Community and Social Services:

- helps adults with a developmental disability live, work and participate in a range of community activities,
- enforces support orders issued by the courts so that families get the money to which they are entitled,
- promotes accessibility and works to break down barriers that prevent people with disabilities from fully participating in the social and economic life of Ontario, and
- helps Ontarians recover from hardship and regain control of their lives.

In 2005, the ministry became responsible for the Accessibility for Ontarians with Disabilities Act (AODA), which provides legislation that mandates how businesses and organizations are to provide accessible services to students, employees and community members with disabilities. The goal of the AODA is for Ontario to be fully accessible by 2025.

To further improve Ontario's developmental service system, the government passed the Services and Supports to Promote the Social Inclusion of Persons with Developmental Disabilities Act in 2008. The purpose of this act is to change the way the government delivers services and supports for people with a developmental disability. The primary goal is to have a system in which adults with a developmental disability and their families can have more choice and control over their lives. Such changes to legislation will alter the accessibility coordinator employment landscape as employers are required to increase the accessibility of their organizations.

### **Ontario Association on Developmental Disabilities**

The Ontario Association on Development Disabilities (OADD) supports students and professionals within the field. A professional organization, OADD's members include agencies and organizations; university and community college students and instructors; service provider direct care staff and managers; family support workers; case managers; psychologists; social workers; and other dedicated individuals. The Association publishes a journal three times yearly and hosts an annual conference where students and professionals in the field learn about the latest best practices, policy decisions, and research. They also provide three \$1,000 scholarships and six awards to promising scholars across the field.

In addition to providing employment prospects and job listings, OADD includes a list of educational institutions including colleges, universities and private training facilities, which offer programs related to developmental disability work. OADD members developed a Developmental Services Special Interest Group (DSSIG) to enhance and promote the profession of directly supporting people with a developmental disability. The DSSIG has been working toward professionalization of the field with a first step of creating a list of professional standards.

The goal of the DSSIG is to ensure that workers in the developmental disability field are:

- respected professionals
- well educated
- adequately compensated
- provided with access to ongoing supports
- an essential element of an integrated professional network
- practitioners of a prescribed standard of practice

In a 2007 survey of DSSIG members, findings showed that a majority of respondents entered the field to "make a difference", increase community awareness, give something back and promote advocacy. More than 50% said they had been in the field for more than 16 years and 40% had a DSW diploma (compared to 23% with a BA, 6% with a Master's Degree and 3% with ECE). When asked to list training priorities, most emphasized stress management, teamwork, training to specific disabilities, and leadership and relationship management. They found that many work for modest wages, but still remain within in the field because they find their career rewarding and enjoy helping others.

### **Community Living Ontario**

Established in 1953 and with over 12,000 members across the province, Community Living Ontario is a not-for-profit association that advocates for people who have an intellectual disability to be fully included in all aspects of community life. Their goal is that all persons live in a state of dignity, share in

all elements of living in the community, and have the opportunity to participate effectively and they imagine that all people who have an intellectual disability feel a sense of belonging and respect. Supported by 117 local Community Living Associations across Ontario, some of their services include:

- supporting children and/or adults to live, learn, work in the community
- help communities welcome and include people
- advocate for changes so that people have better community lives

The Community Living Ontario website includes a job board as well as job resources for those seeking a career as an accessibility coordinator.

### Local Labour Outlook

Durham Region has a number of local organizations for accessibility coordinator work. Community Living Durham North was launched in 1967 by a group of parents and friends to operate a school on Scugog Island for children with intellectual disabilities who were not being served by the public school system. Today, the organization aims to support individuals who have intellectual disabilities so that they can live, work and enjoy life in the community in which they live. The organization believes that people who have disabilities must be empowered to:

- Live as independently as possible, supported to the extent that is necessary to meet individual needs
- Make real choices, however those choices are expressed
- Enjoy real friendships and other naturally supportive relationships
- Experience the security of unquestioned inclusion in their community

Their vision is that all persons live in a state of dignity, share in all elements of living in the community and have the opportunity to participate effectively. They provide family supports, residential services, respite services, adult day services, youth services, and a community access program. In addition to providing internal employment opportunities, Community Living Durham North also offers an online job board for locally-based opportunities.

Table 1 displays the related local-level employment numbers based on Census 2006 data.

<b>Table 1: Occupations in Accessibility Coordinator Industry (2006 Census)</b>			
<b>Occupation (NOC Code)</b>	<b>Toronto CMA</b>	<b>Oshawa CMA</b>	<b>Total</b>
A112 Human resources managers	8,225	570	8,795
B021 Specialists in human resources	9,510	515	10,025
E034 Health and social policy researchers, consultants and program officers	7,445	220	7,665
E212 Community and social service workers	11,865	1,285	13,150

Table 2 displays employment growth comparing census data from 1996 and 2006.

<b>Table 2: Occupational Growth in Accessibility Coordinator Industry (1996 to 2006 Census)</b>			
<b>Occupation (NOC Code)</b>	<b>Toronto CMA</b>	<b>Oshawa CMA</b>	<b>Total</b>
A112 Human resources managers	88.0%	123.5%	90.0%
B021 Specialists in human resources	95.5%	128.9%	97.0%
E034 Health and social policy researchers, consultants and program officers	54.8%	29.4%	53.9%
E212 Community and social service workers	91.1%	188.8%	97.6%

### **Employment Projections**

Job prospects will be best for individuals with additional post-secondary education (such as bachelor or master’s degrees in arts) and previous work experience with social services for the elderly, individuals with disabilities, and/or treatment for substance abuse. Within the greater Toronto area, where many immigrants and refugees settle, as well as within First Nations communities, language and cultural skills are also assets.

Job titles and descriptions relevant to Accessibility Coordinator were culled from Durham College placement reports and various labour market reports. Based on the titles and descriptions, four key 4-digit NOCs were identified. Since the NOC provides a standardized framework for organizing the labour force in a coherent system, the occupations in 0112, 1121, 4164, and 4212 are across industries focusing on various occupations that may fall into the Accessibility Coordinator sector.

These four codes are: 0112 (Human Resources Managers), 1121 (Specialists in Human Resources), 4164 (Social Policy Researchers, Consultants and Program Officers), and 4212 (Community and Social Service Workers).

Table 3 displays provincial wage and employment information for the above NOC codes along with National, Provincial and Local outlooks (where available). The general national, provincial and local-level outlooks for this sector are expected to be “good” or “fair” until year 2018, depending on the occupation. The national-level projections take into account the rate of projected employment growth and how it compares to projected employment growth for all occupations in Canada, anticipated number of job opening until 2018 due to anticipated retirement and reports by employers on difficulties in finding qualified workers to fill vacant positions and/or employer recruiting activities outside Canada.

Table 4 provides a 10-year national level outlook for the same NOC codes. It presents estimated employment, anticipated growth rate and labour market imbalances for the 3-digit related NOC codes. Since the 3-digit NOC codes are at occupational-group level and encompass a wide range of jobs and skill levels, caution is urged when extrapolating any conclusions.



Examples of job titles for each of these four NOC codes are provided below:

**0112 Human Resources Managers**

Manager, Disability Management Program

**1121 Specialists in Human Resources**

Certified Disability Management Professional  
Disability Case Manager – Human Resources  
Disability Management Coordinator

Disability Management Practitioner  
Disability Management Professional  
Disability Management Specialist

**4164 Social Policy Researchers, Consultants and Program Officers**

Adviser for the Integration of Persons with Disabilities

**4212 Community and Social Service Workers**

Certified Return-To-Work Coordinator – Disability  
Management  
Certified Return-To-Work Facilitator – Disability  
Management

Disability Management Worker  
Return-To-Work Facilitator – Disability Management

**Table 3: Wages, Employment Rate (2009) and Employment Outlook to 2018**

Occupation (NOC Code)	National Level (2009)					Outlook to 2018		
	Average Wages/ Hour	Self-Employment	Males	Females	Part-Time	National	Provincial	Local
0112 Human Resources Managers	\$36.50	0%	41%	59%	3%	Good	Good	N/A
1121 Specialists in Human Resources	\$33.20	10%	30%	70%	7%	Good	Good	N/A
4164 Social Policy Researchers, Consultants and Program Officers	\$31.50	3%	34%	66%	5%	N/A	N/A	N/A
4212 Community and Social Service Workers	\$19.80	2%	25%	75%	23%	Fair	Good	Good

**Table 4: Ten Year (2006-2015) National Employment Outlook – 3-Digit NOC**

Occupation (3-Digit NOC Code)	Estimated Employment 2015 (000s) <sub>1</sub>	Average Annual Growth Rate <sub>2</sub>	Retirement Rate <sub>3</sub>	NFLMS <sub>4</sub>	Labour Market Imbalance <sub>5</sub>
011 Managers in administrative services	126.1	1.4%	2.8%	1.9	49%
112 Human resources and business service professionals	167.7	1.9%	3.0%	2.4	58%
416 Policy and program officers, researchers and consultants	144.3	1.6%	2.5%	-5.3	-46%
421 Paralegals, social services workers and occupations in education and religion, N.E.C.2	366.0	1.3%	1.7%	-4.0	-47%

Source: Looking-Ahead: A 10-Year Outlook for the Canadian Labour Market (2006-2015). Human Resources and Social Development Canada. Original Source: HRSDC, Strategic Policy Research Directorate, 2006 Scenario Reference.

1. The employment forecast by industry is derived based on the projected GDP and labour productivity by industry.
2. Average Annual growth rate - All occupations = 1.1%
3. Average Annual Retirement Rate is expected to rise from 2.1% in 2005 to 2.6% in 2015. Average annual retirement rate is calculated as the number of retirements divided by the level of employment in a given year.
4. Normalized Future Labour Market Situation (NFLMS) is an indicator of excess demand (or supply if negative) normalized to the base year 2005.
5. Labour Market Imbalance reflects the increase (or decrease, if negative) in the number of school leavers and immigrants needed to restore the balance between expected supply and demand. A value of 100% means that the supply of workers must double in order to reach a balanced situation. A negative value indicates the percentage by which supply exceeds demand.

## Relevant Associations

Canadian Association for Community Living ([www.cacl.ca](http://www.cacl.ca))  
Canadian Association for the Deaf ([www.cad.ca](http://www.cad.ca))  
Canadian Association for Social Work Education ([www.cassw-aces.ca](http://www.cassw-aces.ca))  
Canadian Association of Social Workers ([www.casw-acts.ca](http://www.casw-acts.ca))  
Canadian Council of the Blind ([www.ccbnational.net](http://www.ccbnational.net))  
Canadian Hard of Hearing Association ([www.chha.ca](http://www.chha.ca))  
Canadian Mental Health Association ([www.cmha.ca](http://www.cmha.ca))  
Canadian National Institute for the Blind ([www.cnib.ca](http://www.cnib.ca))  
Canadian Paraplegic Association ([www.canparaplegic.org](http://www.canparaplegic.org))  
Community Living Durham North ([www.communitylivingdurhamnorth.ca](http://www.communitylivingdurhamnorth.ca))  
Community Living Ontario ([www.communitylivingontario.ca](http://www.communitylivingontario.ca))  
Community Living Oshawa/Clarington ([www.communitylivingoc.ca](http://www.communitylivingoc.ca))  
Council of Canadians with Disabilities ([www.ccdonline.ca](http://www.ccdonline.ca))  
Disabled Women's Network ([www.dawncanada.net](http://www.dawncanada.net))  
Independent Living Canada ([www.ilcanada.ca](http://www.ilcanada.ca))  
National Education Association of Disabled Students ([www.neads.ca](http://www.neads.ca))  
National Federation of the Blind: Advocates for Equality ([www.nnmh.ca](http://www.nnmh.ca))  
Neil Squire Foundation ([www.neilsquire.ca](http://www.neilsquire.ca))  
Ontario Association of Community Care Access Centre ([www.oaccac.on.ca](http://www.oaccac.on.ca))  
Ontario Association of Social Workers ([www.oasw.org](http://www.oasw.org))  
Ontario College of Social Workers & Social Service Workers ([www.ocswssw.org](http://www.ocswssw.org))  
Ontario Mental Health Foundation ([www.omhf.on.ca](http://www.omhf.on.ca))  
The Ontario Community Support Association ([www.ocsa.on.ca](http://www.ocsa.on.ca))

## Appendix B – Accessibility Coordination 5-Year Budget Projection

DURHAM COLLEGE  
Projected Budget  
BUDGET YRS 2011-16

MTCU Code  
Program: Accessibility Co-ordinator

weight	1.0	F.U.	1.0	# Yrs
Per Year	1.000	Grant / WFU	\$4,160	1

		2011-12 Projection	2012-13 Projection	2013-14 Projection	2014-15 Projection	2015-16 Projection
Student Enrolment - Nov. 1						
Year 1		30	30	30	35	35
<b>Total</b>		<b>30</b>	<b>30</b>	<b>30</b>	<b>35</b>	<b>35</b>
<b>REVENUE</b>						
Tuition Fees - per academic year		\$3,000	\$3,100	\$3,200	\$3,300	\$3,400
Set-Aside Fee Removed		\$315	\$326	\$336	\$347	\$357
Tuition Fee realized by college		\$2,685	\$2,775	\$2,864	\$2,954	\$3,043
<b>Total Tuition Fees</b>		<b>80,550</b>	<b>83,235</b>	<b>85,920</b>	<b>103,373</b>	<b>106,505</b>
Other Revenue - Contract Training						
Total Other Revenue		0	0	0	0	0
Program Wtd Funding Unit (Wt X FU / Dur)		1.00	1.00	1.00	1.00	1.00
Grant - MTCU Operating (assume \$4160/wfu)		\$0	\$62,400	\$124,800	\$124,800	\$135,200
<b>TOTAL REVENUE</b>		<b>\$80,550</b>	<b>\$145,635</b>	<b>\$210,720</b>	<b>\$228,173</b>	<b>\$241,705</b>
<b>EXPENDITURES</b>						
Salaries - Faculty (FT)		75,000	77,250	79,568	81,955	84,413
Salaries - Co-ordinator Allowance		4,800	4,944	5,092	5,245	5,402
Salaries - PT Teaching		0	0	0	0	0
Salaries - PL Teaching		0	0	0	0	0
Salaries - Sessional Teaching		0	0	0	0	0
Contract Teaching		18,000	18,540	19,096	19,669	20,259
<b>Total Teaching Salaries</b>		<b>97,800</b>	<b>100,734</b>	<b>103,756</b>	<b>106,869</b>	<b>110,075</b>
Salaries - Admin (\$100/st)		0	0	0	0	0
Support Staff		0	0	0	0	0
<b>Total Academic Support Costs</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Benefits - Faculty - FT 20%		15,960	16,439	16,932	17,440	17,963
Benefits - Faculty - PT 12.0%		2,160	2,225	2,292	2,360	2,431
Benefits - Admin 21%		0	0	0	0	0
Benefits - SS (FT) 25%		0	0	0	0	0
<b>Total Employee Benefits</b>		<b>18,120</b>	<b>18,664</b>	<b>19,224</b>	<b>19,800</b>	<b>20,394</b>
<b>Total Labour</b>		<b>115,920</b>	<b>119,398</b>	<b>122,980</b>	<b>126,669</b>	<b>130,469</b>
Instructional Supplies		1,000	1,010	1,020	1,030	1,041
Instructional Other Costs		0	0	0	0	0
Field Work		0	0	0	0	0
Membership & Dues		0	0	0	0	0
Professional Development		1,000	1,000	1,000	1,000	1,000
Travel/accommodation/meals		250	250	250	250	250
Promotion/Public relations		500	500	500	500	500
Maintenance- Equipment		0	0	0	0	0
Telecommunications		0	0	0	0	0
Software Costs		0	0	0	0	0
Office supplies/Other Expenses		500	500	500	500	500
Rental		0	0	0	0	0
<b>Total Other Expenditure</b>		<b>3,250</b>	<b>3,260</b>	<b>3,270</b>	<b>3,280</b>	<b>3,291</b>
<b>TOTAL DIRECT PROGRAM EXPENSES</b>		<b>119,170</b>	<b>122,658</b>	<b>126,250</b>	<b>129,949</b>	<b>133,760</b>
<b>TOTAL REVENUE FOR PROGRAM</b>		<b>80,550</b>	<b>145,635</b>	<b>210,720</b>	<b>228,173</b>	<b>241,705</b>
<b>Net Contribution \$</b>		<b>-38,620</b>	<b>22,977</b>	<b>84,470</b>	<b>98,223</b>	<b>107,945</b>
<b>Net Accumulated Contribution / (Deficit)</b>		<b>-38,620</b>	<b>-15,643</b>	<b>68,828</b>	<b>167,051</b>	<b>274,996</b>
<b>Net Contribution - % of Gross Revenue</b>		<b>-47.9%</b>	<b>15.8%</b>	<b>40.1%</b>	<b>43.0%</b>	<b>44.7%</b>
<b>TARGET Net Contribution</b>		<b>n/a</b>	<b>Breakeven</b>	<b>40.0%</b>	<b>40.0%</b>	<b>40.0%</b>
<b>Capital Requirement</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

## Submission for Board Approval: New Postsecondary Program

Ontario College Certificate in Construction & Hoisting Techniques					
MTCU Code:	Unique				
Funding Unit:	1.0 (Estimate)				
Weight:	1.6 (Estimate)				
Name of dean submitting the request:	Norm Fenton				
Proposed date of implementation:	September 2011				
Date of review by committee:	August 23, 2010				
Year 1 enrolment:	40				
Number of faculty required:	1 FT faculty member in the 1 <sup>st</sup> year of the program, as well as 1 or 2 PT faculty; increasing to 2 FT by the 3 <sup>rd</sup> year.				
Space requirements:	No additional requirements.				
Capital costs:	\$50,000 – Much of the equipment requirements already exist due to the crane apprenticeship program.				
Budget Projections					
Proposed Tuition	\$2,420				
Net Contribution - % of Gross Revenue	-33.9%	45.3%	45.9%	44.9%	43.9%
TARGET Net Contribution	n/a	Breakeven	40.0%	40.0%	40.0%

### 1.0 APPROVAL STAGES:

Check (√)	Approval Stage
√	New concept paper reviewed by Dean
√	Labour Market Assessed
√	Student Demand Assessed
√	New Program Proposal Document Reviewed by Manager, Program Development and Quality Initiatives and Dean
√	Budget reviewed by Manager, Planning and Reporting; Manager, Program Development and Quality Initiatives; and Dean
√	Budget approved by Vice President – Finance and Chief Financial Officer
√	Reviewed by Program Proposal Review Committee
√	Approved by Vice President - Academic
√	Approved by Credentials Validation Service
	Reviewed by President
	Approved by Board of Governors

## PROGRAM INFORMATION

### 2.0 Program Overview

#### Description

- This program is designed for those wishing to enter the construction industry and in particular the hoisting field. Students gain the knowledge and practical skills to work safely in a construction environment. Students learn the basics of safety, maintenance and operation of cranes and related equipment. Students will have the opportunity to gain hands-on skills on both a crane simulator as well as real machines on the job site.
- Graduates will be able to assist in performing basic maintenance on cranes and related equipment. They can enter the workforce with the knowledge, skills and safety awareness to be employed by general construction companies, crane and hoisting companies.
- Graduates will leave Durham 'field-ready' – a condition sought after by industry contacts.

#### Vocational Program Learning Outcomes:

The graduate has reliably demonstrated the ability to:

1. Communicate clearly and concisely in written, graphic and oral form using appropriate formal and informal vocabulary and formats relative to crane operation on a job site.
2. Identify and utilize appropriate materials and equipment using collected data, in accordance with standard formats and procedures.
3. Apply sound practices related to health, safety and the environment to enhance the quality of working life, conforming to related legislation, collective agreements and corporate practices.
4. Use proper safety procedures for lifting and hoisting with proper application of load charts. Inspect and maintain rigging and hoisting equipment. Work with overhead cranes employing proper hand and radio signals.
5. Properly use all types of hand and power tools associated with the installation and maintenance of machinery.
6. Select and use lubricants for a variety of applications.
7. Select and use correct fasteners for a variety of applications.
8. Appropriately select, utilize and care for the hand and machine tools required to perform hoisting and rigging functions.

### Admission Requirements

Ontario Secondary School Diploma, Academic and Career Entrance – College Prep Level or Mature Student Status plus:

- Senior level (Grade 11 or higher) subject credits, college preparation (C), university/college preparation (M), university preparation (U) or post-secondary (college or university);
- Grade 12 English;
- Grade 12 mathematics (technical mathematics recommended); and
- Two additional senior level credits.

### 3.0 PROGRAM OF STUDY:

Semester	Course Title (and brief course description)
1	<b>Technical Communication</b> This course focuses on practical writing situations, such as manuals, instructions and internal company communications. This hands-on course will give students an opportunity to practice reading and writing with a purpose. Throughout the course there will be several applications that will provide students with realistic situations as they apply to their field.
1	<b>Job Safety</b> This course provides students the opportunity to become familiar with the Occupational Health and Safety Act (OHSA) as well as the Workplace Hazardous Materials Information System (WHMIS). Further, students will learn to identify and respond to job specific dangers, both personal as well as those related to the materials encountered on the job site.
1	<b>Math I</b> Students will refresh and develop their skills in fundamental mathematics applying appropriate methods and formulas to their calculations. Their analytical ability to solve problems will be utilized to develop a clear understanding of the fundamentals of algebra, geometry, and trigonometry.
1	<b>Maintenance I</b> Students will be introduced to engines and electrical systems. Maintenance procedures, including lubrication, service and repair will be discussed. Students will gain hands-on practice in the maintenance of engines and electrical systems.
1	<b>Rigging Theory</b> This course provides students an introduction to wire rope and other rigging hardware. Students investigate types of wire rope, its installation and inspection techniques. Students also learn the basics of rigging techniques as well as the care and storage of wire rope and other rigging equipment.

1	<p><b>Tools I</b></p> <p>Successful completion of this course will allow students to select, safely use, and care for a wide variety of hand tools and non-powered equipment. Students will have the opportunity to apply safe work habits and good housekeeping in a workshop setting.</p>
2	<p><b>Introduction to Cranes</b></p> <p>This course provides students with an understanding of the evolution of crane technology. Students become familiar with the terminology associate with cranes and crane related equipment. Students also begin to understand the types and configurations of cranes and the science upon which cranes operate. Students will be given an opportunity to practice their crane operating skills on a crane simulator.</p>
2	<p><b>0-8 Ton</b></p> <p>Students learn the safety requirements, limits of approach, signals and equipment needs of 0-8 ton loads. This course provides students the opportunity to gain practice in the manipulation of 0-8 ton load from pre-op inspection to lift and release. Students become familiar with crane set up and operations as well as basic maintenance of the machinery.</p>
2	<p><b>Rigging Math</b></p> <p>This course will provide students the oportunity to understand formulas (and the visual references) for solving common rigging calculations. Formulas will help students calculate: load weights, equal length slings, unequal length slings, and centre of gravity. Students will also be able to determine the appropriate measures for lifting in water.</p>
2	<p><b>Forklift Safety</b></p> <p>In this course students are introduced to the types of forklifts as well as the legislation that pertains to forklift safety. Students gain an understanding of basic hydraulics and techniques to maintain stability and avoid tipping. Students also consider capacity and load charts as well as the necessary maintenance and record keeping associated with forklift operation.</p>
2	<p><b>Rigging Practical</b></p> <p>In this course, students gain hands-on, practical experience in rigging. This includes: rigging assessment, determining centre of gravity, identifying lifting points, snatch blocks, reeving and how to properly secure a load.</p>
2	<p><b>Tools II</b></p> <p>Upon completion of this course the learner will be able to safely operate and maintain common portable and stationary power tools utilized on lifting sites. This course covers the safe and efficient operation of the tools used. Students will be evaluated on safe practices and accuracy in the use of this equipment.</p>



#### 4.0 STRATEGIC ALIGNMENT:

##### Strategic Fit

- The program complements existing programs offered by the School of Skilled Trades, Apprenticeship & Renewable Technology.
- The five year enrolment projections data suggests a steady influx of applicants and enrollees. This program fits with the Durham College Strategic Plan 2010-2013 in that it offers students a quality program and the opportunity to develop skills in a field with solid employment opportunity.
- The School has the instructional expertise to develop and deliver the program.

##### Fit with Existing Programs

Programs that could feed into the proposed program	Program Name	Advanced programs which graduates of this program may consider
<ul style="list-style-type: none"> <li>▪ N/A</li> </ul>	<p><b>Other complementary programs within School</b></p> <ul style="list-style-type: none"> <li>▪ Energy Audit Techniques</li> <li>▪ Gas Technician 2</li> <li>▪ Heating, Ventilation &amp; Air Conditioning Techniques</li> <li>▪ Mechanical Techniques</li> </ul>	<ul style="list-style-type: none"> <li>▪ The program is not designed for this, although graduates may be able to enter more advanced construction management courses available at Durham or at other Ontario colleges.</li> </ul>

##### Benefits to be Stressed

- This program is the result of a request from the non-union hoisting sector to provide crane oriented graduates who can work safely in a construction environment, specifically where cranes are in use.
- Durham College does not do a lot of training for the construction sector at present. This program will provide an opportunity to gain experience in the provision of training in this sector.
- The theory portion of this program can be delivered online.

## 5.0 LABOUR DEMAND:

- The sector is largely dependent on construction, which has increased over the past five years and is expected to show continued growth going forward. In the long term, as the construction sector and economy rebound and resume growth, employment opportunities in this field should continue to improve.
- Ontario is expected to elicit the most growth of all the provinces to 2018. The province is thus viewed as an attractive centre for construction-based recruitment over the long term, according to the Construction Sector Council. Crane Operators, in particular, can expect minimal losses and potential recovery between 2010 and 2018.
- The Construction Sector Council explains that there is a higher-than-average age profile of current crane operators and shortages are expected post-2012.
- The development of this course comes on the heels of local industry request, suggesting a local need for Durham graduates.
- Please see *Appendix A* for the full labour market analysis.

## 6.0 STUDENT INTEREST:

- There is currently no program recognized within the Ministry of Training, Colleges and Universities for Construction & Hoisting Techniques. This will exist as a unique program at Durham College as a one-year Ontario college certificate offered in September each year.

## 7.0 ANALYSIS OF COMPETITION:

- There are no competitor colleges in the Ontario system.
- Based on analysis of the labour market data and the input from focus group meetings held with industry and community partners, Durham College is expected to be successful in attracting a sufficient applicant pool for this program.

## 8.0 TARGET MARKET:

- The target markets for this program include students directly out of high school as well as individuals currently working in industry that require specific training in hoisting techniques.

## 9.0 MONITORING AND EVALUATION DURING THE FIRST YEAR OF OPERATION:

Year 1	
Expected Enrolment:	40 students
KPI Student Satisfaction Rate:	Meets or exceeds the college average
Financial:	On budget

## **10.0 OPERATING REVENUE AND EXPENSES – 5-YEAR PROJECTION:**

- This proposed program is expected to surpass the college’s target net contribution ratio based on an initial enrolment of 40 first-year students.
- Please see *Appendix B* for the 5-year budget projection.

## Appendix A – Construction & Hoisting Techniques Labour Market Analysis

### **Status**

There is currently no program recognized within the Ministry of Training, Colleges and Universities for Construction & Hoisting Techniques. This will exist as a unique program at Durham College as a three-year Ontario college advanced diploma offered in September each year.

### **National Labour Outlook**

Crane and hoist operators operate many types of hoisting equipment to move, place and position items. Loads are raised, lowered and positioned in response to hand or audio signals from other crew members. Responsibilities can include ensuring breaking controls and switches are working. There are five types of operators in this trade including: boom-A, boom-B, hydraulics, conventional and overhead. Graduates may find work at construction and industrial sites, ports, factories, warehouses, dockyards or rail yards. Graduates can enter the workforce with the knowledge, skills and safety awareness to be employed by general construction companies, crane and hoisting companies.

There are many types of mobile cranes and there are a variety of attachments that might fall into this category. These include (but are not limited to): pile driving cranes, which drive stakes into the earth to provide support for buildings and other structures cranes with dredging attachments to dredge waterways and other areas gantry cranes, which load and unload a ship's cargo locomotive cranes, which move objects and materials at railway yards bridge or overhead cranes, which lift, move and place plant machinery and materials offshore oil rig cranes, which unload and reload supply vessels cranes mounted on boats or barges, which lift, move and place equipment and materials dragline cranes, which expose coal seams and ore deposits at open pit mines.

There is a dearth of labour market information available for the hoisting sector, which points to an underdeveloped and ill-researched market need. There are also very few college-level courses or programs available across Canada for construction and hoisting techniques. Durham College and the Northern Alberta Institute of Technology offer apprenticeship programs in this field, which focus on crane operation. College of the North Atlantic also offers a 26-week certificate program for Crane & Hoisting Equipment Operator that offers a range of self-study assignments. Many employers are demanding more involved training for crane operators so that they can complete work more efficiently and understand the preventative measures and precautions necessary to avoid accidents in the workplace.

Labour market conditions for this trade are directly related to activity in areas such as mining, manufacturing, and high-rise building. The sector is largely dependent on construction, which has increased over the past five years and is expected to show continued growth going forward. In the long term, as the construction sector and economy rebound and resume growth, employment opportunities in this field should continue to improve. The Construction Sector Council in Canada estimates that Ontario will continue to boast the strongest market for construction to 2018. A combination of commercial and institutional projects as well as a boost in immigration to central Ontario will spur growth in the construction market across the province. In 2015, a major electrical generation capacity is expected to be added in the Greater Toronto Area drawing a large number of civil, industrial and utility trades.

The overwhelming majority of workers in this field are male and most work on a full-time basis. This occupation is seasonal, however, and somewhat dependent upon major construction projects. As a result, workers need to be mobile as many may travel outside the province to obtain steadier or additional work. It is expected that demand for crane operators will grow in warehousing and storage but will be impacted for those employed in mining, manufacturing, construction and large establishments due to productivity increases created by highly automated systems. However, the federal fiscal stimulus incentive, which includes investment in infrastructure projects, may positively affect employment opportunities for crane operators.

Technology will moderate future demand and increase the skill requirements for crane operators. Operators will have to be able to read instructions and become more adaptable to using electronic controls versus mechanical operations. The advent of robotics and computer controls in these fields of work has increased--and will continue to increase--the skill requirements for crane operators. Graduates must be up-to-date with the latest technological advances in crane operation and keep abreast of the more recent hoisting techniques. Technological advances, on the other hand, will increase productivity and streamline processes and can be viewed as a limiter for potential employment in the future.

Employers within the industry expect another year before business levels return to pre-recession times. Many companies are diversifying their portfolios and are seeing gradual labour market improvements, as result. Dependent on major projects, moderate employment growth is expected starting in 2012 and will continue through to 2018 based on research conducted by the Construction Sector Council. While some jobs do not require employee certification, employers are increasingly looking for candidates who can safely and effectively operate a crane in any environment.

Given the nature of hoisting and crane operation, it is often considered one of the major causes of fatalities and serious incidents in the construction workplace. Crane and hoisting equipment operators work outdoors, often in noisy, dusty conditions. They work in all types of weather regardless of condition. Occupational hazards include injuries resulting from power line contact, crane overload, falls, weather conditions or manual lifting. Moreover, hoists are often used when materials are too heavy or bulky to be safely moved manually. Preventative measures and safety inspections are being increasingly promoted on the construction site to avoid potential injuries and even death. In 2005, there were 20.6 work-related fatalities per every 100,000 employees within the construction industry (or one out of 4,900 workers).

Young workers in Canada (aged 15 to 24) experience more injuries and deaths, cuts, lacerations, punctures, crushing and bruising than any other age group. Young Canadians perform more physically demanding work than adults, which increases their injury risk. A survey conducted in Ontario showed that younger workers encountered more unsafe work conditions than older workers. More than 39,000 young workers were injured on the job in Ontario in 2008, according to Live Safe Work Smart. Construction, manufacturing, retail, hospitality and warehousing are some of the more high-risk sectors for youth in the workforce and thus, the need for extensive safety training is paramount. Certification in crane safety has a significant and positive effect in reducing crane accidents. Within Canada, there are a number of mandated measures to protect crane and hoist operators. Mobile crane operator trade certification is compulsory in Quebec, Ontario, Manitoba and Alberta and available, but voluntary, in all other provinces, Nunavut and the Northwest Territories. Trade certification as a hoist operator (hydraulic crane) is also available, but voluntary, in Saskatchewan and British Columbia. Most job requirements within the field include some type of safety certification for potential candidates.

Many employers, however, look for hires who have a more stringent training background that goes beyond mandatory training measures.

The Canadian Crane Safety Network is a powerful initiative of the Canadian Crane Rental Association of Canada and its members, and is hosted by the University of Alberta. The goal is to eliminate workplace incidents and injuries by uniting industry workers and providing them the tools and technology required to report and be made aware of issues that have an impact on their safety and those around them. The Network has a large database of members who have exclusive privileges including the management of their certifications and training programs. The Network states: “Collaborative industry standards of practice are continually being contributed to, and evolve to meet emerging industry requirements, new regulations and legislation, changes in equipment and technology, as well as to address trends identified during data collection and analysis.”

One of the primary goals of college-level programs should be to teach students how to work safely in a construction environment. In an article by Crane & Hoist Canada, author Joe Harnest says, “crane operators should be trained to recognize hazardous situations, in order to avoid them before they become a calamity.” While technology has improved the speed, strength and capacity of cranes – making them lighter and easier for technicians to operate – they account for approximately 20% of all construction fatalities in the United States (craneaccidents.com). Construction accidents have been growing across the US, which has in turn increased pressure on employers in Canada to ensure all possible safety precautions are being met. Safety training is a vital component in assuring the safety and well-being of all those involved on a construction project.

### **Provincial and Regional Labour Outlook**

The construction sector in Ontario remained relatively unscathed post-recession and both the Greater Toronto Area (GTA) and Central Ontario regions expect strong expansion in both residential and non-residential trades and occupations. Ontario is expected to elicit the most growth of all the provinces to 2018. The province is thus viewed as an attractive centre for construction-based recruitment over the long term, according to the Construction Sector Council. Crane Operators, in particular, can expect minimal losses and potential recovery between 2010 and 2018.

A combination of commercial and institutional projects as well as a boost in immigration to central Ontario will spur growth in the construction market across the province. The Construction Sector Council explains that there is a higher-than-average age profile of current crane operators and shortages are expected post-2012. In addition, industrial and utilities-related projects are anticipated for 2013, which will also spur growth in the market. In 2015, a major electrical generation capacity is expected to be added in the Greater Toronto Area drawing a large number of civil, industrial and utility trades. The GTA is the largest construction market within Ontario, employing almost half of the entire labour force.

Although some effects of the recession are still lingering, the majority of firms have regained financial strength in 2010. In an annual survey of 1,000 industrial, commercial and institutional construction contractors across the province, the Ontario Construction Secretariat found that contractors anticipate the bulk of work in the commercial sector and are optimistic despite employment declines in 2009. Those located in the GTA are particularly optimistic, with 61% rating the amount of new business opportunities as good or very good in 2010.

Table 1 displays Ontario employment forecasts (2010 to 2018) for 4 occupations that are related to construction and hoisting techniques (Construction Sector Council, 2010).

Position	Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
Construction millwrights and industrial mechanics	Employment	3,027	3,054	3,290	3,527	3,570	3,624	3,681	3,925	4,214
	% Change	7.6%	0.9%	7.2%	6.7%	1.2%	1.5%	1.6%	6.2%	6.8%
Crane operators	Employment	1,928	1,890	1,922	2,005	2,016	2,061	2,116	2,218	2,333
	% Change	11.0%	-2.0%	1.7%	4.1%	0.6%	2.2%	2.6%	4.6%	4.9%
Heavy-duty equipment mechanics	Employment	1,277	1,219	1,208	1,254	1,232	1,261	1,295	1,349	1,410
	% Change	15.0%	-4.7%	-1.0%	3.7%	-1.8%	2.3%	2.6%	4.1%	4.3%
Trades helpers and labourers	Employment	48,229	49,478	49,928	52,020	53,679	56,205	59,056	62,421	65,032
	% Change	12.3%	2.5%	0.9%	4.0%	3.1%	4.5%	4.8%	5.4%	4.0%

Table 2 displays the related employment numbers based on Census 2006 data.

Table 2: Occupations in Construction & Hoisting Techniques Industry (2006 Census)			
Occupation (NOC Code)	Toronto CMA	Oshawa CMA	Total
H411 Construction millwrights and industrial mechanics (except textile)	7,645	1,060	8,705
H412 Heavy-duty equipment mechanics	1,440	210	1,650
H621 Crane operators	1,155	210	1,365
H821 Construction trades helpers and labourers	23,075	1,815	24,890
I131 Underground production and development miners	50	0	50
I141 Underground mine service and support workers	35	0	35
J216 Mechanical assemblers and inspectors	1,445	275	1,720

Table 3 displays employment growth comparing census data from 1996 and 2006.

Table 3: Occupational Growth in Construction & Hoisting Techniques Industry (1996 to 2006 Census)			
Occupation (NOC Code)	Toronto CMA	Oshawa CMA	Total
H411 Construction millwrights and industrial mechanics (except textile)	4.2%	-12.8%	1.8%
H412 Heavy-duty equipment mechanics	-22.6%	82.6%	-16.5%
H621 Crane operators	34.3%	20.0%	31.9%
H821 Construction trades helpers and labourers	76.6%	131.2%	79.7%
I131 Underground production and development miners	66.7%	n/a	66.7%
I141 Underground mine service and support workers	133.3%	n/a	133.3%
J216 Mechanical assemblers and inspectors	-43.6%	-50.9%	-44.9%

### Employment Projections

Job titles and descriptions relevant to Construction & Hoisting Techniques were culled from Durham College placement reports and various labour market reports. Based on the titles and descriptions, 7 key 4-digit NOCs were identified. Since the NOC provides a standardized framework for organizing the labour force in a coherent system, the occupations in 7311, 7312, 7371, 7611, 8231, 8411, and 9486 are across industries focusing on various occupations in the Construction & Hoisting Techniques sector.

These 7 codes are: 7311 (Construction Millwrights and Industrial Mechanics (Except Textile)), 7312 (Heavy-Duty Equipment Mechanics), 7371 (Crane Operators), 7611 (Construction Trades Helpers and Labourers), 8231 (Underground Production and Development Miners), 8411 (Underground Mine Service and Support Workers), and 9486 (Mechanical Assemblers and Inspectors).

Table 4 displays provincial wage and employment information for the above NOC codes along with National, Provincial and Local outlooks (where available). The general national outlook for this sector is expected to be “fair” or “limited” until year 2014, depending on the occupation. Data was not available for all of the NOC codes selected. The national-level projections take into account the rate of projected employment growth and how it compares to projected employment growth for all occupations in Canada, anticipated number of job opening until 2014 due to anticipated retirement and reports by employers on difficulties in finding qualified workers to fill vacant positions and/or employer recruiting activities outside Canada.

**Table 4: Wages, Employment Rate and Employment Outlook for 2009**

Occupation (NOC Code)	National Outlook					Outlook to 2014		
	Average Salary	Self-Employment	Males	Females	Part-Time	National	Provincial	Local
7311 Construction Millwrights and Industrial Mechanics (Except Textile)	\$29.80	4%	97%	3%	3%	Limited	Fair	Limited
7312 Heavy-Duty Equipment Mechanics	\$26.90	7%	99%	1%	3%	Fair	Fair	Fair
7371 Crane Operators	\$26.10	3%	95%	5%	1%	Fair	Fair	Fair
7611 Construction Trades Helpers and Labourers	\$17.70	1%	93%	7%	9%	N/A	N/A	Fair
8231 Underground Production and Development Miners	\$33.50	2%	99%	1%	2%	N/A	N/A	N/A
8411 Underground Mine Service and Support Workers	\$26.80	0%	90%	10%	3%	N/A	N/A	N/A
9486 Mechanical Assemblers and Inspectors	\$23.10	0%	82%	18%	1%	N/A	N/A	N/A



Table 5 provides a 10-year national level outlook for the same NOC codes. It presents estimated employment, anticipated growth rate and labour market imbalances for the 3-digit related NOC codes. Since the 3-digit NOC codes are at occupational-group level and encompass a wide range of jobs and skill levels, caution is urged when extrapolating any conclusions.

**Table 5: Ten Year (2006-2015) National Employment Outlook – 3-Digit NOC**

Occupation (3-Digit NOC Code)	Estimated Employment 2015 (000s)	Average Annual Growth Rate	Retirement Rate	NFLMS	Labour Market Imbalance
731 Machinery and transportation equipment mechanics (except motor vehicle)	188.3	0.9%	2.8%	1.4	41%
731 Machinery and transportation equipment mechanics (except motor vehicle)	188.3	0.9%	2.8%	1.4	41%
737 Crane operators, drillers and blasters	13.2	1.2%	3.5%	3.6	140%
761 Trades helpers and labourers	108.8	0.3%	1.2%	-4.8	-65%
823 Underground miners, oil and gas drillers and related workers	46.4	2.0%	1.4%	3.5	172%
841 Mine service workers and operators in oil and gas drilling	14.1	2.0%	1.0%	-1.0	-18%
948 Mechanical, electrical and electronics assemblers	119.5	1.3%	2.7%	-0.7	-12%

Source: Looking-Ahead: A 10-Year Outlook for the Canadian Labour Market (2006-2015). Human Resources and Social Development Canada. Original Source: HRSDC, Strategic Policy Research Directorate, 2006 Scenario Reference.

1. The employment forecast by industry is derived based on the projected GDP and labour productivity by industry.
2. Average Annual growth rate - All occupations = 1.1%
3. Average Annual Retirement Rate is expected to rise from 2.1% in 2005 to 2.6% in 2015. Average annual retirement rate is calculated as the number of retirements divided by the level of employment in a given year.
4. Normalized Future Labour Market Situation (NFLMS) is an indicator of excess demand (or supply if negative) normalized to the base year 2005.
5. Labour Market Imbalance reflects the increase (or decrease, if negative) in the number of school leavers and immigrants needed to restore the balance between expected supply and demand. A value of 100% means that the supply of workers must double in order to reach a balanced situation. A negative value indicates the percentage by which supply exceeds demand.

### **7311 Construction Millwrights and Industrial Mechanics (Except Textile)**

Construction Millwright	Millwright
Industrial Mechanic	Millwright Apprentice
Industrial Mechanic Apprentice	Plant Equipment Mechanic
Maintenance Millwright	Treatment Plant Maintenance Mechanic

### **7312 Heavy-Duty Equipment Mechanics**

Construction Equipment Mechanic	Heavy Mobile Mining Equipment Mechanic
Diesel Mechanic – Heavy Equipment	Heavy-Duty Equipment Mechanic Apprentice
Farm Equipment Mechanic	Heavy-Duty Equipment Technician
Heavy Equipment Mechanic	Locomotive Mechanic
Heavy Mobile Logging Equipment Mechanic	Tractor Mechanic

### **7371 Crane Operators**

Boom Truck Crane Operator  
Bridge Crane Operator  
Climbing Crane Operator  
Construction Crane Operator  
Crane Operator  
Dragline Crane Operator

Gantry Crane Operator  
Hoist Operator (Except Underground Mining)  
Mobile Crane Operator  
Tower Crane Operator  
Tractor Crane Operator

### **7611 Construction Trades Helpers and Labourers**

Asphalt Spreader  
Bricklayer Helper  
Carpenter Helper  
Concrete Mixer Helper  
Construction Helper  
Construction Labourer  
Demolition Worker  
Driller Helper – Surface Mining  
Drywall Sander

Flagman/Woman  
Glazier Helper  
Labourer, Concrete Paving  
Labourer, Excavation  
Pipeline Mandrel Operator  
Plumber Helper  
Roofer Helper  
Stabber – Pipeline Construction

### **8231 Underground Production and Development Miners**

Blaster – Underground Mining  
Chute Blaster  
Diamond Driller – Underground Mining  
Drift Miner  
Driller – Underground Mining  
Faceman/Woman – Coal Mine  
Hoist Operator – Underground Mining  
Jumbo Drill Operator

Miner  
Mining Machine Operator  
Mucking Machine Operator  
Raise Miner  
Roadheader Operator  
Scooptram Operator  
Shaft Inspector  
Shot Firer

### **8411 Underground Mine Service and Support Workers**

Backfiller  
Blaster Helper  
Cage Tender  
Conveyor Operator  
Crusher Operator  
Driller Helper – Underground Mining  
Haulageman/Woman  
Lamp Keeper  
Materialman/Woman  
Mine Construction Worker  
Orepass Tender  
Pipeworker – Underground Mining  
Raise Miner Helper

Skip Tender  
Timberman/Woman  
Trainman/Woman

## **9486 Mechanical Assemblers and Inspectors**

Automotive Engine Assembler  
Garden Machinery Assembler  
Gearbox Assembler  
Gearcase Assembler  
Hydraulic Hoist Assembler  
Mechanical Assembler  
Sewing Machine Assembler  
Snowmobile Assembler  
Tractor Assembler  
Transmission Assembler  
Truck Assembler  
Truck Assembly Inspector  
Truck Trailer Assembler  
Vending Machine Assembler

### **Relevant Associations**

Association of Canadian Engineering Companies ([www.acec.ca](http://www.acec.ca))  
Canadian Association of Equipment Distributors ([www.caed.org](http://www.caed.org))  
Canadian Construction Association ([www.cca-acc.com](http://www.cca-acc.com))  
Canadian Council of Technicians and Technologists ([www.cctt.ca](http://www.cctt.ca))  
Construction Sector Council ([www.csc-ca.org](http://www.csc-ca.org))  
Council of Ontario Construction Associations ([www.coca.on.ca](http://www.coca.on.ca))  
Crane & Hoist Canada Magazine ([www.craneandhoistcanada.com](http://www.craneandhoistcanada.com))  
Crane & Hoist Service Association ([www.chsa.com](http://www.chsa.com))  
Engineers Canada ([www.engineerscanada.ca](http://www.engineerscanada.ca))  
Interprovincial Standards “Red Seal” Program ([www.red-seal.ca](http://www.red-seal.ca))  
Ontario Association of Certified Engineering Technicians and Technologists ([www.oacett.org](http://www.oacett.org))  
Ontario Association of Professional Engineers (<http://www.ospe.on.ca/>)  
Ontario Construction Secretariat ([www.iciconstruction.com](http://www.iciconstruction.com))  
Ontario General Contractors Association ([www.ogca.ca](http://www.ogca.ca))  
Ontario Municipal Engineers Association ([www.municipalengineers.on.ca](http://www.municipalengineers.on.ca))  
Professional Engineers Ontario ([www.peo.on.ca](http://www.peo.on.ca))

## Appendix B – Construction & Hoisting Techniques 5-Year Budget Projection

DURHAM COLLEGE	MTCU Code: Unique	weight	1.6	F.U.	1.0	# Yrs
Projected Budget	Program: Construction Hoisting	Per Year	1.600	Grant / WFU	\$4,160	1
BUDGET YR 2011-2016						
		2011-12 Projection	2012-13 Projection	2013-14 Projection	2014-15 Projection	2015-16 Projection
<b>Student Enrolment - Nov. 1</b>						
	Year 1	40	40	40	40	40
	<b>Total</b>	40	40	40	40	40
<b>REVENUE</b>						
	Tuition Fees - per academic year	\$2,420	\$2,520	\$2,620	\$2,720	\$2,820
	Set-Aside Fee Removed	\$254	\$265	\$275	\$286	\$296
	Tuition Fee realized by college	\$2,166	\$2,255	\$2,345	\$2,434	\$2,524
	<b>Total Tuition Fees</b>	86,636	90,216	93,796	97,376	100,956
	Other Revenue - Contract Training	0	0	0	0	0
	<b>Total Other Revenue</b>	0	0	0	0	0
	Program Wtd Funding Unit (Wt X FU / Dur)	1.60	1.60	1.60	1.60	1.60
	Grant - MTCU Operating (assume \$4160/wfu)	\$0	\$133,120	\$266,240	\$266,240	\$266,240
<b>TOTAL REVENUE</b>		\$86,636	\$223,336	\$360,036	\$363,616	\$367,196
<b>EXPENDITURES</b>						
	Salaries - Faculty (FT)	70,000	72,100	144,263	148,591	153,049
	Salaries - Co-ordinator Allowance	2,150	2,215	2,281	2,349	2,420
	Salaries - PT Teaching	0	0	0	0	0
	Salaries - PL Teaching	0	0	0	0	0
	Salaries - Sessional Teaching	0	0	0	0	0
	Contract Teaching	16,000	16,480	4,000	4,120	4,244
	<b>Total Teaching Salaries</b>	88,150	90,795	150,544	155,060	159,712
	Salaries - Admin (\$100/st)	0	0	0	0	0
	Support Staff	0	0	0	0	0
	<b>Total Academic Support Costs</b>	0	0	0	0	0
	Benefits - Faculty - FT 20%	14,430	14,863	29,309	30,188	31,094
	Benefits - Faculty - PT 12.0%	1,920	1,978	480	494	509
	Benefits - Admin 21%	0	0	0	0	0
	Benefits - SS (FT) 25%	0	0	0	0	0
	<b>Total Employee Benefits</b>	16,350	16,841	29,789	30,682	31,603
	<b>Total Labour</b>	104,500	107,635	180,333	185,743	191,315
	Instructional Supplies	7,000	7,000	7,000	7,000	7,000
	Instructional Other Costs	0	0	0	0	0
	Field Work	0	0	0	0	0
	Membership & Dues	1,000	2,000	2,000	2,000	2,000
	Professional Development	1,000	2,000	2,000	2,000	2,000
	Travel/accommodation/meals	1,000	2,000	2,000	2,000	2,000
	Promotion/Public relations	0	0	0	0	0
	Maintenance- Equipment	1,000	1,000	1,000	1,000	1,000
	Telecommunications	0	0	0	0	0
	Software Costs	0	0	0	0	0
	Office supplies/Other Expenses	500	500	500	500	500
	Rental	0	0	0	0	0
	<b>Total Other Expenditure</b>	11,500	14,500	14,500	14,500	14,500
<b>TOTAL DIRECT PROGRAM EXPENSES</b>		116,000	122,135	194,833	200,243	205,815
<b>TOTAL REVENUE FOR PROGRAM</b>		86,636	223,336	360,036	363,616	367,196
<b>Net Contribution \$</b>		-29,364	101,201	165,203	163,373	161,381
<b>Net Accumulated Contribution / (Deficit)</b>		-29,364	71,837	237,040	400,414	561,795
<b>Net Contribution - % of Gross Revenue</b>		-33.9%	45.3%	45.9%	44.9%	43.9%
<b>TARGET Net Contribution</b>		n/a	Breakeven	40.0%	40.0%	40.0%
<b>Capital Requirement</b>		50,000	0	0	0	0

## Submission for Board Approval: New Postsecondary Program

Ontario College Diploma in Biofuels & Bioprocesses Technician					
MTCU Code:	Unique				
Funding Unit:	1.6 (Estimate)				
Weight:	1.4 (Estimate)				
Name of dean submitting the request:	Norm Fenton				
Proposed date of implementation:	September 2011				
Date of review by committee:	August 23, 2010				
Year 1 enrolment:	30				
Number of faculty required:	1 FT faculty member in the 1 <sup>st</sup> year of the program and an additional FT faculty member in the 2 <sup>nd</sup> year.				
Space requirements:	Space to be provided in phase 2 or 3 in Whitby. A rough lab for the biomass pelletter and some biomass storage will be required. The microbiology courses will be taught on the Oshawa campus and possibly the chemistry courses as well.				
Capital costs:	\$159,000 – for a bioreactor (approx \$100,000) and related equipment.				
<b>Budget Projections</b>					
Proposed Tuition	<b>\$2,420</b>				
Net Contribution - % of Gross Revenue	-120.4%	-35.6%	28.4%	40.4%	41.7%
TARGET Net Contribution	n/a	Breakeven	40.0%	40.0%	40.0%

### 1.0 APPROVAL STAGES:

Check (√)	Approval Stage
√	New concept paper reviewed by Dean
√	Labour Market Assessed
√	Student Demand Assessed
√	New Program Proposal Document Reviewed by Manager, Program Development and Quality Initiatives and Dean
√	Budget reviewed by Manager, Planning and Reporting; Manager, Program Development and Quality Initiatives; and Dean
√	Budget approved by Vice President – Finance and Chief Financial Officer
√	Reviewed by Program Proposal Review Committee
√	Approved by Vice President - Academic
√	Approved by Credentials Validation Service
	Reviewed by President
	Approved by Board of Governors

## PROGRAM INFORMATION

### 2.0 Program Overview

#### Description

- The Biofuels and Bioprocesses Technician program is intended to provide participants with theoretical and practical understanding of bioenergy and biofuels technologies and systems and their application in the rapidly evolving alternative energy sector.
- Participants will focus on bioenergy (ethanol from several different feedstocks, methane from anaerobic digesters and landfill, biodiesel and biomass) and their various uses and applications as mobile fuel, in electricity generation, heat production and as feedstock for bioproducts. The program encompasses a multidisciplinary approach in developing the concepts of bioenergy production and utilization. Students will benefit from a basic grounding in chemistry, microbiology, electrical, mechanical and biomass production aspects of the developing technologies of renewable and sustainable energy.
- Program graduates will enter their career with specialized knowledge that will position them to exploit a wide range of opportunities in a new and expanding sector. Graduates can expect to find positions in sales, consulting or technical support with ethanol, methane, biodiesel, biomass, syngas and bioproduct companies, with manufacturers of bioenergy equipment, dealers and installation and repair service providers.

#### Vocational Program Learning Outcomes:

The graduate has reliably demonstrated the ability to:

1. Analyze components and comprehend basic operational principles of renewable bioenergy engineering technologies including the fermentation of grain and cellulosic alcohol, municipal waste to alcohol; methane production from food wastes, industrial and agricultural wastes; biodiesel; energy from biomass; gasification; and fuels and biomass produced by algae.
2. Solve technical problems related to bioenergy systems and technologies through the application of basic chemical, microbiological, electrical and mechanical principles.
3. Apply biological and chemical principles to bioenergy systems and processes.
4. Apply practical skills to the production of bioenergy products.
5. Identify and apply knowledge of the components of various bioenergy systems to the installation of these systems and related equipment.
6. Use monitoring and maintenance procedures for bioenergy systems and equipment as they relate to general operations and quality control standards.

7. Access and apply the policies and regulations including applicable standard safety procedures that impact bioenergy operations.
8. Evaluate the potential environmental effects of bioenergy systems and processes.
9. Identify and select research and analytical tools to compare and contrast the relevant aspects of alternative energy sources.

### Admission Requirements

Ontario Secondary School Diploma, General Education Development, Academic and Career Entrance – College Prep Level or Mature Student Status plus:

- Senior level (Grade 11 or higher) subject credits, college preparation (C), university/college preparation (M), university preparation (U) or post-secondary (college or university);
- Grade 12 English;
- Grade 12 mathematics (technical mathematics recommended);
- Two additional senior level credits; and  
Physics and chemistry (recommended).

### **3.0 PROGRAM OF STUDY:**

<b>Semester</b>	<b>Course Title (and brief course description)</b>
<b>1</b>	<b>CHEMISTRY FOR BIOFUELS</b> This course includes both lecture and laboratory components. The lecture sessions deal with the practical aspects of chemical principles as they apply to renewable energy. The laboratory sessions relate to applications of chemistry and development of the hands-on basic techniques and skills necessary for analysis. Topics include matter, atomic structure, chemical bonding, nomenclature, chemical formulae, the mole, simple chemical reactions and solution chemistry. An emphasis is placed on developing problem solving skills.
<b>1</b>	<b>MICROBIOLOGY FOR RENEWABLE ENERGY I</b> This course provides the basic microbiological concepts that pertain to the bioenergy industry. It introduces students to different types of micro-organisms including bacteria, yeast and algae found and utilized in bioprocesses. Topics include the morphology, identification, function, reproduction and enumeration of microbes. Practical laboratory exercises provide students with the methodologies currently used by laboratories to comply with the current standards and practices used in the industry.
<b>1</b>	<b>BIOENERGY POLICIES AND REGULATIONS</b> This course provides a review of the content, context and impact of federal and provincial legislation and regulations. The significant impact that climate change has on policy development

	will be studied through an examination of the Green Energy Act, Ontario Energy Board Act, the Electricity Act, the Energy Efficiency Act, the Ontario Environmental Protection Act, the Nutrient Management Act and their key regulations. Specific applications related to bioenergy, bioproducts and wastes will be emphasized. Current federal and provincial energy policies and incentive programs will be examined and strategies to keep current with these programs will be explored.
<b>1</b>	<b>MATHEMATICS FOR BIOENERGY LAB</b> This course is one semester and designed for the student to demonstrate their math proficiency. The general intent is to write an assessment test, and, if the math skills are satisfactory, a credit and an exemption from this course will be issued. If the math skills are inadequate, an individual custom remedial plan will be created for the student. After the student completes the remedial work, they are then eligible to retry the assessment test again. This course is linked to MATHEMATICS FOR ENERGY as a co requisite and offered as a one hour per week math lab, conducted in a computer lab. The grade attained from this course will be a Pass (P) / Fail (F), and the only evaluation criterion is the computerized assessment test; no homework assignments, no quizzes, no exam. Students will refresh and develop their skills in fundamental mathematics using their analytical ability to solve problems.
<b>1</b>	<b>MATHEMATICS FOR BIOENERGY</b> Students will refresh and develop their skills in fundamental mathematics applying appropriate methods and formulas to their calculations. Their analytical ability to solve problems will be utilized to develop a clear understanding of the fundamentals of algebra, geometry, trigonometry and vector calculation as it relates to their field of study. This course is a co requisite of MATHEMATICS FOR BIOENERGY LAB.
<b>1</b>	<b>ELECTRICITY I</b> This course gives students a background in basic electric circuit theory and applications. The topics include electrical units, resistance, energy, power, series/parallel, inductance and capacitance. These components are analyzed under both direct and alternating current conditions. In labs, students practice their electrical measurement and analytical skills, and verify principles covered in lectures. Students learn the basic laws of electricity and to solve problems involving various circuit components. Students will get an introduction to battery systems, rectifiers and other associated technology.
<b>2</b>	<b>ORGANIC AND BIOCHEMISTRY FOR BIOFUELS</b> This course introduces students to the basic concepts of organic and biochemistry. Students learn about organic chemical structures, functional groups, nomenclature and the basic



	properties of organic compounds. Emphasis is placed the biochemical processes employed by micro-organisms in the bioenergy sectors. The general properties of carbohydrates, amino acids, lipids, nucleic acids and enzymatics will be highlighted.
<b>2</b>	<b>ELECTRICITY II</b> This course builds on the concepts developed in Electricity I by examining the principles and methods of metering of energy use in buildings. New metering systems, programmable controllers, and metering of the sale to the grid of excess building-produced electricity will be studied. The course will provide a basic understanding of the electrical distribution grid in Ontario. This course covers the fundamental laws governing the behaviour of alternating-current circuits.
<b>2</b>	<b>MICROBIOLOGY FOR RENEWABLE ENERGY II</b> This course introduces students to the significance and specific roles of various micro-organisms in bioenergy processes. Students study how specific anaerobic and aerobic organisms are pivotal to the success of bioprocesses. Students are also introduced to the environmental conditions in which renewable energy microbes grow and the methods used to stimulate their growth. Practical laboratory exercises provide students with the methodologies currently used by laboratories to comply with current standards and practices used in the industry.
<b>2</b>	<b>PRODUCTION AND PROCESSING OF FUEL BIOMASS</b> Topics including biomass sourced from forestry and agricultural byproducts, such as limb wood, straw, hay, corn cobs, corn stover, saw dust and shavings, biomass from fast growing species such as willow, switch grass and Miscanthus and biomass from the organic component of municipal, industrial, commercial and institutional solid waste will be considered as fuel sources for buildings, greenhouses and electrical generating facilities. The economics of biomass utilization will be studied including production, processing and logistical costs. The laboratory component will involve variables and equipment involved in grinding, pelleting and combustion of biomass.
<b>2</b>	<b>*BUSINESS MANAGEMENT</b> Students will be introduced to business fundamentals and will explore the different aspects and issues that entrepreneurs and corporate leaders face on an ongoing basis. Students will reflect on both the opportunities and challenges found in today's business world; economic, business management and operations, marketing and financial. Through case studies and research students will examine these aspects and apply them accordingly. Students who have knowledge and understanding of these businesses and opportunities will become our entrepreneurs of tomorrow. Knowledge of business fundamentals will provide

	students a better appreciation of the workings of the Canadian business system. This knowledge will make students more valuable as future employees.
<b>3</b>	<p><b>BIOCHEMICAL BIOENERGY PROCESSES</b></p> <p>The biochemistry of ethanol fermentation will be discussed. The main methods of facilitating fermentation of both grains, cellulose and waste materials will be presented, as well as, the fundamentals of batch and continuous process modes. The basic principles of distillation of solutions of mixed composition, the relationships between pressure, temperature and boiling point and the construction of a basic distillation column are topics to be studied. The increasing use of molecular sieves or selective membranes will be examined. The use of fermentation processes in the production of citric acid, dextrose and succinic acid will be covered. The fundamentals of the microbiological and biochemical process involved in methane production in anaerobic environments will be studied also. Methane production from food wastes, animal wastes and biomass feedstock and landfill sources will be discussed. Also covered, will be topics including types of bioreactors, the effects of factors such as temperature, chemical enhancers and rates of input of feedstock. Equipment for the combustion of methane and the generation of electricity and the use of methane or intermediate metabolites such as organic acids as a feedstock for the production of new bioproducts will be discussed. The laboratory sessions will involve the fermentation, distillation, purification and analysis of the ethanol produced and the variables affecting methane production in bioreactors and gas purification.</p>
<b>3</b>	<p><b>STATISTICS</b></p> <p>This course deals with basic statistics for technical personnel and some of the topics in statistical process control (SPC). Students will learn to describe data graphically and numerically; how probability applies to statistics and quality control; normal binomial and Poisson probability distributions. They will also study linear regression and correlation. Students will then learn how to apply statistics to process control, including how to use and interpret various control charts for variables and attributes.</p>
<b>3</b>	<p><b>INTRODUCTION TO BOILERS AND COMBUSTION</b></p> <p>Students study about boiler design and construction methods, control and safety devices, routine boiler operation and maintenance, how to start and shut down a boiler system, associated heating systems and fuel system management. The principle of heat transfer and steam thermodynamic are introduced so that students have a basic understanding of the mechanism of water heating and steam generation by boilers and other heating systems. The basic concepts of combustion are also presented.</p>

3	<p><b>COMPUTER APPLICATIONS IN BIOENERGY</b></p> <p>This course briefly refreshes the knowledge of students of diverse backgrounds with basic computer operations and expands into computer applications for analyzing the energy performance of bioenergy systems. Various software products will be examined with particular emphasis on those favoured by Natural Resources Canada and Major consulting companies. Data obtained from the aforementioned software systems are necessary for energy systems simulation and are required for successful application for government permits or financial stimulus programs from government renewable energy programs.</p>
3	<p><b>BIOENERGY OPTIONS EVALUATION</b></p> <p>Students will conduct targeted financial analyses of various bioenergy options ranging from costs of ethanol production in comparison to petrochemical products, to various biomass energy possibilities for combined heat and power applications in comparison to natural gas and to on-farm costs of creating a methane-fuelled electrical generator. Capital costs, operational costs, financing, time for capital pay back, return on investment and other important financial considerations will be analyzed in a similar format that would be undertaken by a company pondering investments in new energy management options.</p>
3	<p><b>*LAW &amp; ETHICS</b></p> <p>This course will introduce students to the fundamental legal principles applicable to businesses in Canada. Students will gain an understanding of the Canadian legal system, dispute resolution, contract law, business torts, property law, employment law, intellectual property law, as well as the key distinctions between civil and criminal law. Students will apply legal theory in a practical manner through case scenarios and case analyses.</p>
4	<p><b>INSTRUMENTATION AND CONTROL</b></p> <p>This course will cover basic control of industrial machinery and processes through the use of electronic circuits and systems. In both the lectures and labs students will study the use and troubleshooting of industrial control systems used to measure flow rate, pressure, temperature and level. Also, this course examines the fundamental concepts of hydraulics and pneumatics. It provides students with the opportunity to learn about hydraulic pumps, motors and cylinders and pneumatic components and circuits.</p>
4	<p><b>THERMOCHEMICAL, GASIFICATION AND BIODIESEL SYSTEMS</b></p> <p>Students will be introduced to the fundamental thermochemical processes involved in the preparation of various feedstocks in the production of cellulosic ethanol and other bioproducts. This is a dynamic and evolving field of science. Similarly, the basic thermochemical principles of both low and high temperature</p>

	<p>gasification will be presented. The growing use of gasification facilities in combined heat and power installations and for mobile fuel production will be presented. Also, the fundamentals of the biodiesel process will be studied with consideration of various feedstock options including recycled vegetable and animal oils and fats. The course will include a review of biodiesel chemistry, process engineering, feedstock preparation, post reaction processing and fuel specification and properties. The laboratory component will augment the material presented in the lectures to the limit of affordable laboratory applications.</p>
<b>4</b>	<p><b>PROJECT MANAGEMENT AND INSTALLATION APPLICATIONS</b>  This course provides the background for students to plan, organize, and manage resources to enable the successful completion of a specific project. Bringing a project in on schedule, on budget and up to design standards are key components of the course. The involvement of the project management process and its basic functions in relation to the early procurement procedures of a potential client company in a request for proposal (RFP) will be examined in some detail. Modest sized projects will be the focus of the lab component of the course, such as, planning &amp; costing out on-farm methane production facilities; planning a biomass burner and sourcing the fuel feedstock and other related applications. Where feasible, students will be encouraged to observe and, if possible, participate in the planning and installation of equipment within a reasonably accessible distance of Durham College.</p>
<b>4</b>	<p><b>*GENERAL EDUCATION ELECTIVE</b>  Students will choose a general education / elective course from a pool of college-approved courses, deemed to be outside of their vocational field of study.</p>
<b>4</b>	<p><b>COMMUNICATIONS FOR ENERGY</b>  This course is designed to reinforce and expand on the writing skills students require in the technical workplace. Students will learn to select and use appropriate research, language, layout and graphics for technical documents. Emphasis will be placed on: the process of completing any on-the-job writing assignment, the specific formats most often used, and related communication tasks such as oral presentations. To help reach these goals, the course will focus on the elements of clear writing, and the necessary critical thinking that must precede good writing.</p>

#### 4.0 STRATEGIC ALIGNMENT:

##### Strategic Fit

- The program complements existing programs offered by the School of Skilled Trades, Apprenticeship & Renewable Technology.
- This program adds to the energy cluster which exists at Durham College. Further, the program complements the strategic enrolment plans of the College.
- The School has the instructional expertise to develop and deliver the program.

##### Fit with Existing Programs

Programs that could feed into the proposed program	Program Name	Advanced programs which graduates of this program may consider
<ul style="list-style-type: none"> <li>▪ Energy Audit Techniques</li> </ul>	<p><b>Other complementary programs within School</b></p> <ul style="list-style-type: none"> <li>▪ Renewable Energy Technician</li> <li>▪ Water Quality Technician</li> <li>▪ Horticulture Technician (proposed)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Energy Management &amp; Sustainable Building Technology</li> <li>▪ Articulation agreements will be investigated with universities offering degree level programs in appropriate disciplines.</li> </ul>

##### Benefits to be Stressed

- This program is unique across the system and thereby situates Durham on the vanguard of Biofuels & Bioprocesses education in the province.
- The program adds to the 'green' cluster of programs at Durham College which currently includes Environmental Technology, Water Quality Technician, Chemical Engineering Technology, Energy Audit Techniques, the proposed Horticulture Technician and Renewable Energy Technician programs.
- Graduates will have a unique skill set in an emerging industry.

#### 5.0 LABOUR DEMAND:

- Canada is increasingly becoming an environment in which renewable energies are at the forefront of economic planning and policy development. At the forefront of these changes is the growing use of alternative energies such as biomass, coal, petroleum, alcohol, sunlight, and wind. The use of biofuels, including bioethanol and biodiesel, is also rapidly expanding,

driven by rising oil prices and a widespread concern over greenhouse gas emissions caused by fossil fuels.

- Centering itself as a leader in green power and sustainability in 2010, the Ontario government announced projects totalling 2,500 megawatts (MW) of new renewable energy for a total of \$8 billion over the next 5 years. Ontario’s green opportunity lies primarily in its abundance of sources of renewable energy. Ontario has 65,000 megawatts available from wind, solar and hydro resources combined.
- Known as 'Ontario's Energy Capital,' Durham Region produces 30 per cent of Ontario's energy generation needs (two nuclear power stations). Durham is home to numerous companies that produce and distribute power; develop new and renewable energy technologies, alternative fuels, manufacturing components and systems; and provide service support to the industry. The full spectrum of the energy cycle is represented here.
- Please see *Appendix A* for the full labour market analysis.

**6.0 STUDENT INTEREST:**

- This program is unique in that there is no biofuels & bioprocesses technician program currently offered in the system, yet job opportunities are expected in the workforce.

**7.0 ANALYSIS OF COMPETITION:**

- There are no competitor colleges in the Ontario system.
- Based on analysis of the labour market data and the input from the two focus group meetings held with industry and community partners, Durham College is expected to be successful in attracting a sufficient applicant pool for this program.

**8.0 TARGET MARKET:**

- The target markets for this program include students directly out of high school and graduates of Durham’s Energy Audit Techniques program as well as working professionals looking to develop new skills or improve existing ones.

**9.0 MONITORING AND EVALUATION DURING THE FIRST YEAR OF OPERATION:**

<i>Year 1</i>	
Expected Enrolment:	30 students
KPI Student Satisfaction Rate:	Meets or exceeds the college average
Financial:	On budget

## 10.0 OPERATING REVENUE AND EXPENSES – 5-YEAR PROJECTION:

- This proposed program is expected to meet or surpass the college’s target net contribution ratio based on an initial enrolment of 30 first-year students and growing to 35 first-year students by the third year of operation; during the second and third years of operation, the program is under target but within an acceptable range.
- Please see *Appendix B* for the 5-year budget projection.

## Appendix A – Biofuels & Bioprocesses Technician Labour Market Analysis

### **Status**

There is currently no program recognized within the Ministry of Training, Colleges and Universities for Biofuels & Bioprocesses Technician. This will exist as a unique program at Durham College as a two-year Ontario college diploma offered in September each year.

### **National Labour Outlook**

To improve the standard of life and quality of living for Canadians, Canada is increasingly becoming an environment in which renewable energies are at the forefront of economic planning and policy development. Government and industry will continue to execute initiatives to increase renewable energy output in order to uphold the creation of an infrastructure that aims to maximize the benefits for all Canadians. As the country moves rapidly toward environmental sustainability and renewable energy, the existing labour market will continue to be transformed. In recent years, over 2.3 million green jobs focused on renewable energy have been created across the world.

At the forefront of these changes is the growing use of alternative energies such as biomass, coal, petroleum, alcohol, sunlight, and wind. The use of biofuels, including bioethanol and biodiesel, is also rapidly expanding, driven by rising oil prices and a widespread concern over greenhouse gas emissions caused by fossil fuels. The Canadian government is continuously re-shifting its plans toward a sustainable, low-carbon economy with legislation in many areas mandating the use of bioenergy to inhibit greenhouse gas emissions. Biofuels are rapidly developing as energy security becomes increasingly important, emerging to the forefront of government initiatives.

Such initiatives are aimed at developing new methods and technologies to convert second-generation manufacture such as farm waste, wood chips, switch grass, municipal waste and other cellulosic materials into biofuel and overcome many of the limitations of first-generation biofuels. (e.g. starch, sugar, vegetable oil or animal fats). Second-generation processes have emerged to increase sustainability, mitigate the effects on the global climate and help cease the displacement of many food crops. While second-generation have not yet been produced commercially, the International Energy Agency predicts high demand for these biofuels going forward driven by governmental policy and optimistic public perception of sustainable energy projects.

Canada is a nation that is rich in fossil fuel resources, particularly oil, gas, coal/peat, hydro, biomass/waste and wind/solar/geothermal energies. Its forestry is also well-developed – 41% of Canada's land area is forested (402 million ha), according to Climate Change Solutions. Canada also has a huge supply of biomass resources which can be used to develop a major biofuel industry across the country. Compared to other developed nations, however, progress in this area has been notably slower. For example, according to Biocap Canada, ethanol production was less than 2% compared to the amount produced in the United States in 2004. As a result, the federal government introduced policy in 2006 to increase the production of ethanol. In 2007, the federal government laid out an action plan to reduce energy by 150 million tonnes by 2020 and set up a greenhouse gas reporting system for large industrial emitters.

To help boost ethanol production in Quebec, the government will also invest \$79.75 million in 2010, to expand GreenField Ethanol Inc.'s Varennes facility, according to an Ecosed report. This initiative will



create and sustain local jobs and boost economic opportunities while promoting healthy living. Similarly, Western Economic Diversification Canada provided a \$330,000 marketing boost to the western Canadian biodiesel industry in 2008 to increase public and business awareness by showcasing its environmental benefits and to drive demand for biodiesel in Canada. Finally, legislation was passed in 2008 to require ethanol and biodiesel blends for transportation fuels, which created new markets and jobs for Canadian canola growers as well as revitalizing rural communities across Canada, according to BioFuel Canada News.

In 2008, BioTalent Canada commissioned a national study focused on the bioenergy, biofuels and industrial biotechnology sectors. They conducted interviews with 30 individuals within the industry to determine the human resource needs across the entire field. They found that research and development and manufacturing will be some of the short-term requirements of graduates over the next few years. Commercialization skills and knowledge of the industry will also be highly sought after – many of those interviewed expressed a need for engineers and technologists with previous experience within the various sub-sectors. In terms of soft skills, employers want individuals that can network, lead a group or team and communicate.

The report further states that “public perception will help drive young people toward biotechnology careers, building up the country’s skilled, qualified talent base.” Moreover, “policies encouraging the use of bioenergy and biofuels are driven by the need to reduce greenhouse gas (GHG) emissions in the automotive sector, increase energy security and create jobs within Canada’s rural and agricultural sector.” Because of the shortage of skilled workers within the industry, there is a tendency to outsource skills and tasks, which has short-term cost savings. Employers are primarily looking for on-the-job experience, which BioTalent suggests can be alleviated by more directed, focused skill development. Limited access to financial capital is also expected to be a labour market barrier, particularly given the relatively small size of many biotechnology companies. It will be difficult for some to garner the funds to execute often costly bioenergy plans.

Analysis by the Pembina Institute indicates that the "employment created from low-impact renewable electricity would be comparable to or greater than that created by an equivalent capacity of fossil-fuel based generation." Many of these jobs would be local or regional and small-scale. There is employment potential in rural and remote locations, including First Nation communities. Biomass energy, for example, gives farmers another form of income by allowing them to add an energy crop. ECO Canada states that most environmental organizations are predicting growth over the next five years, particularly consulting, architecture, engineering and service industries. Energy prices, technological advancements, the ability of companies to attract qualified talent and public perception will be some of the primary drivers of this market going forward.

Industry Canada states that “Canada's potential in the renewable energy sector could create 13,000 jobs by the year 2012 and produce \$10 billion in revenue.” Employment in the Canadian wind energy industry is estimated to grow from less than 1,000 in 2004 to 13,000 by 2012. In the short term, while most of the hardware is being imported, employment opportunities will be concentrated in the service industry. Installation and service technicians will be in high demand. In addition, the demand for wind and solar energy specialists will remain high as sustainable power industries experience high growth over the next ten years.

Continued federal investment as well as a growing public demand for renewable fuels and sustainable initiatives will drive employment within the industry going forward. As measures are increased to

stimulate growth within the industry such as growth targets, tax credits, capital grants, guaranteed prices, consumer rebates, excise tax exemptions, and a wide variety of subsidies for research and production, the market will continue to thrive. With the unlimited stock of biomass resources and 998 hectares of land in Canada (42% forested), the development possibilities are endless for the bioenergy and biofuels sectors nationally.

### **National Organizations and Affiliations**

The Canadian Renewable Fuels Association, a non-profit organization with a mission to promote the use of renewable fuels for transportation through consumer awareness and government liaison activities, released a report prepared by the Doyletech Corporation in May 2010, which focused on the economic impacts of biofuel plants in Canada. Doyletech looked at 28 renewable fuel plants in commercial operation across Canada to understand total economic impact as well as implications for Canada's trade in oil and refined products. They found that the industry is now able to supply most of the plant and equipment needed to operate renewable fuel plants. They anticipate 31,340 full-time jobs will be created over the next 30 years.

The Green Budget Coalition is a national organization that invests in creating a Green future for Canadians and future generations. Focused on biodiversity and sustainability, the Coalition works closely with the Federal government to define actionable recommendations for creating and maintaining a sustainable economy. In their budget recommendations for 2010, the Coalition identified three key areas for government focus: protecting ecosystems and biodiversity, investing in Canada's freshwater future and creating more jobs within that support renewable power.

With planned investments of \$551 million/year (on average) for 4 years, and \$100 million/year (average) for the subsequent 6 years, the Green Budget Coalition projects 8,000 new jobs in manufacturing, installation and maintenance. 2010 is also an important time for Canada to attract investment given the government's ongoing target of 90% non-emitting electricity by 2020 and to keep pace with other OECD countries including the US.

### **Provincial Labour Outlook**

Centering itself as a leader in green power and sustainability in 2010, the Ontario government announced projects totalling 2,500 megawatts (MW) of new renewable energy for a total of \$8 billion over the next 5 years. Ontario's green opportunity lies primarily in its abundance of sources of renewable energy. Ontario has 65,000 megawatts available from wind, solar and hydro resources combined.

According to the Canadian Wind Energy Association, Ontario has an estimated 55,000 megawatts of wind capacity that could potentially create 52,000 high-quality, full-time jobs – even in very rural communities. Currently 26% of Ontario's Electricity is supplied by renewable sources and 57% by nuclear Power. Within the next 20 years, nearly 80% of the Province's existing generating capacity will need to be replaced, including nuclear Facilities. This will create a variety of different jobs including building and construction, engineering, design, development and support.

Beyond these projections, actual data is available from countries that have succeeded in becoming world leaders in generating renewable energy and developing an infrastructure for job creation:

- Denmark, with a population less than New York City, produces half of the world's wind turbines and employs 20,000 people.

- Germany, with 31,000 megawatt of installed capacity has produced 240,000 jobs in the green energy sector.

### **Sustainability Initiatives in Ontario**

Ontario is quickly becoming a centre for biofuels research and production given its abundance of biomass, diverse and competitive agricultural sector, growing forestry industry, and large amount of municipal and industrial waste. According to Ontario Exports, the province crease close to 50 million tonnes of biomass each and year and has the potential to product 70 terawatt-hours of energy on an annual basis. There is an increasing demand for highly educated workers who are experienced in international alternative energy regulations. The Centre for Research and Innovation in the Bio-Economy (CRIBE) in Thunder Bay, which opened in 2008, supports research and development for new and innovative uses for forest biomaterials. The Institute for Chemicals and Fuels from Alternative Resources opened at the University of Western in late 2009, putting the province at the forefront of global biofuel research. Moreover, since 2003, the Government of Ontario has invested more than \$600 million in research projects and companies working on green technologies and initiatives.

The Ontario Sustainable Energy Association (OSEA) is a province-wide, member-based, non-profit organization representing more than 1500 individuals including private citizens, cooperatives, farmers, First Nations, businesses, institutions and municipalities. OSEA members are engaged in or supporting Community Power projects and renewable energy.

OSEA developed the Green Energy Act in April 2009 and continues to establish directives to transition Ontario to 100% sustainable energy. To further establish Ontario as a firm leader in sustainable initiatives, in addition to the Green Energy Act, the Association successfully campaigned for the adoption of the Green Energy and Green Economy Act as well as the Feed-in-Tariff program (which replaced Renewable Energy Standard Offer Program or RESOP), both in 2009.

Ontario's Green Energy Act (GEA), and related amendments to other legislation, received Royal Assent on May 14, 2009. Regulations and other tools needed to fully implement the legislation were introduced through the month of September 2009, as part of a ten step plan to bring the GEA to life. The landmark Green Energy Act will boost investment in renewable energy projects and increase conservation, creating green jobs and economic growth to Ontario. This legislation is part of Ontario's plan to become a leading green economy in North America. GEA will :

- Spark growth in clean and renewable sources of energy such as wind, solar, hydro, biomass and biogas in Ontario.
- Create the potential for savings and better managed household energy expenditures through a series of conservation measures.
- Create 50,000 jobs for Ontarians in its first three years

With plans to eliminate coal as a source of power and to expedite the growth of clean, renewable sources of energy, like wind, solar, hydro, biomass and biogas, the landmark GEA will aim to develop sustainable green employment for Ontarians. In 2009, Bill 150, Green Energy and Green Economy Act, was passed to fill some of the gaps in the growth of renewable energy projects and remove any barriers to promoting a green economy.

“To propel Ontario into a leadership position in renewable energy, to reduce our pollution and greenhouse gas emissions, to create meaningful jobs for Ontarians and to enhance community economic development for rural, remote and First Nations communities,” the Green Energy Act Alliance was launched in Ontario. The mission of the Alliance is to:

- Reinforce the commitment to conservation and renewable energy
- Establish a ‘roadmap’ to conservation and green energy and address gaps in the present plans including removing barriers to ensure renewables get on line
- Take advantage of the clean slate that is Ontario's electricity system, which requires an estimated \$60 billion to reinforce and bring on new generation
- Identify our opportunities and copy best practices to capitalize on them, just as we did with the RESOP

Replacing the Renewable Energy Standard Offer Program (RESOP) in October 2009, Ontario's feed-in tariff or FIT Program is North America's first comprehensive guaranteed pricing structure for renewable electricity production. It offers stable prices under long-term contracts for energy generated from renewable sources, including biomass, biogas, landfill gas, on-shore and off-shore wind, solar photovoltaic (PV) and waterpower.

Finally, the proposed *Water Opportunities and Water Conservation Act* (March 2010) is poised to make Ontario a leader in water conservation across the country. Recommendations include some of the following:

- Implement water efficiency standards;
- Launch an efficiency labelling program for water fixtures;
- Transform Ontario government facilities into model water conservation and efficiency buildings;
- Link water conservation to infrastructure grants;
- Appoint a Chief Water Conservation Officer;
- Require water conservation plans for all Permit to Take Water holders; and,
- Engage Ontarians with a message of water conservation.

Employees in this field will, thus, need to understand water technology and its relationship with other sustainable initiatives.

### **Local Labour Outlook**

Known as 'Ontario's Energy Capital,' Durham Region produces 30 per cent of Ontario's energy generation needs (two nuclear power stations). Durham is home to numerous companies that produce and distribute power; develop new and renewable energy technologies, alternative fuels, manufacturing components and systems; and provide service support to the industry. The full spectrum of the energy cycle is represented here. With a skilled labour force, transmission capacity and infrastructure, research and development opportunities, and training and educational facilities such as Durham College and the University of Ontario Institute of Technology (UOIT), Durham Region is truly one of the major energy clusters in North America today.

Durham Region is pursuing its strategic advantage in the energy sector by declaring itself as an Energy Cluster and formalizing the Durham Strategic Energy Association (DSEA) as its championing body. It is hoped that by “clustering”, the region will be able to facilitate commercialization of alternative energy

and demand-management related opportunities. The clustering allows aggregation of a critical mass of locally available skills and suppliers to make commercialization an easier process. This has significant implications for Durham College, as a source of steady supply of skilled professionals and trades.

The establishment of UOIT in 2003 and its focus on environmental friendly energy systems has provided a pivotal element to the energy sector in Durham Region. Provincial governments have provided the primary impetus for the energy sector’s growth through government-owned utilities. DSEA has lobbied on behalf of the region, submitted background papers to Ontario Power Authority (OPA) and marketed Durham as an energy center.

Ontario Power Authority is mandated to develop a 20-year integrated plan for Ontario and is committed to new renewable energy generation that will account for a minimum of 5 per cent — or 1350 megawatts of province’s capacity — by 2007, and 2700 megawatts by 2010. It has also recommended that by 2025, 37% of the new power supply mix be generated by renewable sources of energy. However, despite the fact that OPA has entered into 18 renewable energy supply offer contracts (RESO) representing 1,320 megawatts (MW) of renewable energy generated by wind, hydroelectric, biomass and landfill gas, any major RESO project has yet to be commissioned in the Durham Region. Most of the projects are located in western or northern Ontario, or west or north of the GTA.

Though at present there are no government funded renewable energy projects in the Durham Region, there are a number of sustainable energy-related companies in the region including Solera Sustainable Energies, Lawrcon, Areva, and Atomic Energy of Canada Ltd. The energy transmission and distribution and other related companies also have a major presence in the region, including Canadian Hydrogen Energy Co., Hydro One, Veridian, Enbridge, Olco Petroleum, Zicatec, Black & McDonald.

Table 1 displays the related employment numbers based on Census 2006 data.

<b>Table 1: Occupations in Bioenergy Industry (2006 Census)</b>			
<b>Occupation (NOC Code)</b>	<b>Toronto CMA</b>	<b>Oshawa CMA</b>	<b>Total</b>
A121 Engineering, science and architecture managers	5,160	300	5,460
C013 Geologists, geochemists and geophysicists	680	0	680
C021 Biologists and related scientists	1,945	65	2,010
C022 Forestry professionals	105	10	115
C023 Agricultural representatives, consultants and specialists	130	20	150
C031 Civil engineers	7,625	285	7,910
C053 Urban and land use planners	1,790	65	1,855
C121 Biological technologists and technicians	760	35	795
C131 Civil engineering technologists and technicians and construction estimators	3,375	275	3,650
C163 Inspectors in public and environmental health and occupational health and safety	2,260	355	2,615

Table 2 displays employment growth comparing census data from 1996 and 2006.

<b>Table 2: Occupational Growth in Bioenergy Industry (1996 to 2006 Census)</b>			
<b>Occupation (NOC Code)</b>	<b>Toronto CMA</b>	<b>Oshawa CMA</b>	<b>Total</b>
A121 Engineering, science and architecture managers	15.7%	39.5%	16.8%
C013 Geologists, geochemists and geophysicists	81.3%	n/a	81.3%
C021 Biologists and related scientists	58.8%	160.0%	60.8%
C022 Forestry professionals	200.0%	n/a	228.6%
C023 Agricultural representatives, consultants and specialists	52.9%	n/a	76.5%
C031 Civil engineers	40.4%	46.2%	40.6%
C053 Urban and land use planners	47.9%	8.3%	46.1%
C121 Biological technologists and technicians	23.6%	16.7%	23.3%
C131 Civil engineering technologists and technicians and construction estimators	36.9%	37.5%	37.0%
C163 Inspectors in public and environmental health and occupational health and safety	78.7%	121.9%	83.5%

### **Employment Projections**

BioTalent Canada is in the process of developing additional strategies to provide skill profiles, required competencies for success in the bioenergy, biofuels and biotechnology space, and more comprehensive labour market information reports to job seekers across the industry. These address the underrepresentation of bio-economy occupations in the National Occupational Classifications (NOCs), which directly impact access to human resource tools and support systems. The employment projections within this report, however, are based on the current information available and focus on job potential and growth rates for a variety of at least somewhat related occupations.

Job titles and descriptions relevant to Bioenergy & Biofuels Technologist were culled from Durham College placement reports and various labour market reports. Based on the titles and descriptions, 10 key 4-digit NOCs were identified. Since the NOC provides a standardized framework for organizing the labour force in a coherent system, the occupations in 0212, 2113, 2121, 2122, 2123, 2131, 2153, 2221, 2231, and 2263 are across industries focusing on various occupations in the Bioenergy & Biofuels Technologist sector.

These 10 codes are: 212 (Architecture and Science Managers), 2113 (Geologists, Geochemists and Geophysicists), 2121 (Biologists and Related Scientists), 2122 (Forestry Professionals), 2123 (Agricultural Representatives, Consultants and Specialists), 2131 (Civil Engineers), 2153 (Urban and Land Use Planners), 2221 (Biological Technologists and Technicians), 2231 (Civil Engineering Technologists and Technicians), and 2263 (Inspectors in Public and Environmental Health and Occupational Health and Safety).

Table 3 displays provincial wage and employment information for the above NOC codes along with National, Provincial and Local outlooks (where available). The general provincial outlook for this sector is expected to be “good” or “fair” until year 2009 (with the exception of a few limited projections), depending on the occupation. The provincial projections take into account the rate of projected employment growth and how it compares to projected employment growth for all occupations in Ontario, anticipated number of job opening until 2009 due to anticipated retirement and reports by employers on difficulties in finding qualified workers to fill vacant positions and/or employer recruiting activities outside Canada.

Table 4 provides a 10-year national level outlook for the same NOC codes. It presents estimated employment, anticipated growth rate and labour market imbalances for the 3-digit related NOC codes. Since the 3-digit NOC codes are at occupational-group level and encompass a wide range of jobs and skill levels, caution is urged when extrapolating any conclusions.

### **212 Architecture and Science Managers**

Architectural Manager	Director, Agricultural Chemistry Branch
Chief Actuary	Landscape Architecture Manager
Director Of Architecture	Manager, Life Sciences Program
Director Of Research – Forestry	Manager, Petroleum Geology Department
Director Of Research – Manufacturing	Scientific Research Department Manager
Director Of Research – Mining	Statistical Service Manager

### **2113 Geologists, Geochemists and Geophysicists**

Development Geologist	Mine Geologist
Environmental Geologist	Mineralogist
Exploration Geologist	Oceanographer
Geochemist	Paleontologist
Geologist	Petroleum Geologist
Geophysicist	Petrologist
Glaciologist	Sedimentologist
Groundwater Geologist	Seismologist
Hydrogeologist	Stratigrapher
Hydrologist	

### **2121 Biologists and Related Scientists**

Anatomist	Marine Biologist
Bacteriologist	Microbiologist
Bioinformatician	Molecular Biologist
Biologist	Parasitologist
Botanist	Pharmacologist
Cell Biologist	Physiologist
Ecologist	Protozoologist
Embryologist	Toxicologist
Geneticist	Virologist
Histologist	Zoologist
Immunologist	

### **2122 Forestry Professionals**

Appraisal Forester	Forestry Superintendent
Consulting Forester	Professional Forester
District Forester	Regional Inventory Officer – Forestry
Forest Engineer	Registered Professional Forester (Rpf)
Forester	



### **2123 Agricultural Representatives, Consultants and Specialists**

Agricultural Consultant	Agronomist
Agricultural Extension Supervisor	Consulting Agrologist
Agricultural Livestock Specialist	Crop Specialist
Agricultural Representative	Farm Management Consultant
Agricultural Soil And Crop Specialist	Field Service Agent
Agriculturist	Grower'S Advisor
Agrologist	Professional Agrologist (P.Ag.)

### **2131 Civil Engineers**

Bridge Engineer	Project Engineer, Construction
Civil Engineer	Public Works Engineer
Construction Engineer	Sanitation Engineer
Environmental Engineer	Structural Engineer
Geodetic Engineer	Surveying Engineer
Geomatics Engineer	Traffic Engineer
Highway Engineer	Transportation Engineer
Hydraulics Engineer	Water Management Engineer
Municipal Engineer	

### **2153 Urban and Land Use Planners**

City Planner	Park Planner
Community And Urban Planner	Planner
Environmental Planner	Planning Analyst
Land Use Planner	Recreation Planner
Long-Range Planner	Regional Planner
Municipal Planner	Urban Planner

### **2221 Biological Technologists and Technicians**

Agricultural Technician	Fisheries Technician
Agricultural Technologist	Food Bacteriological Technician
Agrology Technician	Microbiology Quality Control Technologist
Aquaculture Technician	Microbiology Technologist (Except Medical)
Bacteriological Technician	Plant Breeding Technician
Biological Laboratory Technologist	Seed Technologist
Botanical Technician	Wildlife Biology Technician
Fish Hatchery Technician	

### **2231 Civil Engineering Technologists and Technicians**

Bridge Design Technician	Highway Technician
Building Materials Technician	Municipal Engineering Assistant
Civil Engineering Technician	Soil Technologist – Civil Engineering
Civil Engineering Technologist	Specifications Writer, Construction
Construction Technologist	Structural Design Technologist
Foundation Technologist	Structural Investigator



**2263 Inspectors in Public and Environmental Health and Occupational Health and Safety**

Environmental Health Officer  
Hazardous Waste Inspector  
Health And Safety Officer  
Health Standards Inspector  
Occupational Health And Safety Officer  
Pollution Control Inspector  
Public Health Inspector  
Restaurant Inspector  
Rodent Control Inspector  
Supervisor, Public Health Inspectors  
Water Inspector

**Table 3: Wages, Employment Rate and Employment Outlook for 2009**

Occupation (NOC Code)	Provincial Level - Ontario			Outlook		
	Average Salary	Unemployment	Self-Employment	National	Provincial	Local
0212 Architecture and Science Managers	N/A	N/A	N/A	Good	N/A	N/A
2113 Geologists, Geochemists and Geophysicists	\$84,765	3%	23%	N/A	Limited	N/A
2121 Biologists and Related Scientists	\$65,125	3%	6%	N/A	Fair	Fair
2131 Civil Engineers	\$77,554	3%	15%	Good	Good	Good
2153 Urban and Land Use Planners	\$69,185	2%	9%	N/A	Fair	Fair
2221 Biological Technologists and Technicians	\$50,323	7%	4%	N/A	Fair	N/A
2231 Civil Engineering Technologists and Technicians	\$56,112	4%	4%	Fair	Fair	N/A
2263 Inspectors in Public and Environmental Health and Occupational Health and Safety	\$65,106	3%	0%	Good	Fair	N/A

**Table 4: Ten Year (2006-2015) National Employment Outlook – 3-Digit NOC**

Occupation (3-Digit NOC Code)	Estimated Employment 2015 (000s)	Average Annual Growth Rate	Retirement Rate	NFLMS	Labour Market Imbalance
021 Managers in engineering, architecture, science and information systems	66.2	1.3%	2.3%	1.2	30%
211 Physical science professionals	31.0	1.1%	2.5%	-4.1	-45%
212 Life science professionals	26.3	1.6%	2.1%	-6.6	-55%
213 Civil, mechanical, electrical and chemical engineers	143.8	2.2%	2.1%	-2.4	-29%
215 Architects, urban planners and land surveyors	34.0	0.9%	2.4%	-2.5	-36%
222 Technical occupations in life sciences	45.0	1.5%	2.2%	-6.3	-53%
223 Technical occupations in civil, mechanical and industrial engineering	78.7	2.1%	1.9%	0.4	9%

Source: Looking-Ahead: A 10-Year Outlook for the Canadian Labour Market (2006-2015). Human Resources and Social Development Canada. Original Source: HRSDC, Strategic Policy Research Directorate, 2006 Scenario Reference.

1. The employment forecast by industry is derived based on the projected GDP and labour productivity by industry.
2. Average Annual growth rate - All occupations = 1.1%
3. Average Annual Retirement Rate is expected to rise from 2.1% in 2005 to 2.6% in 2015. Average annual retirement rate is calculated as the number of retirements divided by the level of employment in a given year.
4. Normalized Future Labour Market Situation (NFLMS) is an indicator of excess demand (or supply if negative) normalized to the base year 2005.
5. Labour Market Imbalance reflects the increase (or decrease, if negative) in the number of school leavers and immigrants needed to restore the balance between expected supply and demand. A value of 100% means that the supply of workers must double in order to reach a balanced situation. A negative value indicates the percentage by which supply exceeds demand.

Canadian Ethanol Plants, 2010

2010 Ethanol Plants (CRFA)	Location	Capacity (ML per Year)
IGPC Ethanol	Aylmer, Ontario	162
Commercial Alcohols	Chatham, Ontario	162
Collingwood Ethanol	Collingwood, Ontario	50
Kawartha Ethanol	Havelock, Ontario	80
GreenField Ethanol	Johnstown, Ontario	225
Ottawa Ethanol	Ottawa, Ontario (R&D facility)	4
Suncor – St. Clair	St. Clair, (Sarnia) Ontario	225
Suncor – St. Clair	St. Clair, Ontario (expansion)	225
Commercial Alcohols	Varennes, Quebec	132
Mohawk Oil	Minnedosa, Manitoba	130
Terra Grain Fuels	Belle Plaine, Saskatchewan	150
Pound-Maker Agventures	Lanigan, Saskatchewan	12.5
Husky Energy	Lloydminster, Saskatchewan	130
Unity Ethanol	Unity, Saskatchewan	25
NorAmara Bio Energy	Weyburn, Saskatchewan	25
API Grain Processing	Red Deer, Alberta	40

**Relevant Associations**

Association of Canadian Engineering Companies ([www.acec.ca](http://www.acec.ca))  
 Biocap Canada ([www.biocap.ca](http://www.biocap.ca))  
 Bioenergy Trade ([www.bioenergytrade.ca](http://www.bioenergytrade.ca))  
 BioenergySite ([www.thebioenergysite.com](http://www.thebioenergysite.com))  
 Biofuel Canada Limited ([www.biofuelcanada.ca](http://www.biofuelcanada.ca))  
 Biotalent Canada ([www.biotalent.ca](http://www.biotalent.ca))  
 Canadian Agri-Food Research Council ([www.carc-crac.ca](http://www.carc-crac.ca))  
 Canadian Bioenergy Association ([www.canbio.ca](http://www.canbio.ca))  
 Canadian Council of Technicians and Technologists ([www.cctt.ca](http://www.cctt.ca))  
 Canadian Renewable Fuels Association ([www.greenfuels.org](http://www.greenfuels.org))  
 Canadian Technology Human Resources Board ([www.cthrb.ca](http://www.cthrb.ca))  
 ECO Canada ([www.eco.ca](http://www.eco.ca))  
 Ecoseed ([www.ecoseed.org](http://www.ecoseed.org))  
 Electrical Power Research Institute (<http://my.epri.com>)  
 Engineers Canada ([www.engineerscanada.ca](http://www.engineerscanada.ca))  
 Ministry of Agriculture, Food and Foreign Affairs ([www.omafra.gov.on.ca](http://www.omafra.gov.on.ca))  
 Ontario Association of Certified Engineering Technicians and Technologists ([www.oacett.org](http://www.oacett.org))  
 Ontario Association of Professional Engineers (<http://www.ospe.on.ca/>)  
 Ontario Municipal Engineers Association ([www.municipalengineers.on.ca](http://www.municipalengineers.on.ca))  
 Professional Engineers Ontario ([www.peo.on.ca](http://www.peo.on.ca))

## Appendix B – Biofuels & Bioprocesses Technician 5-Year Budget Projection

DURHAM COLLEGE	MTCU Code:	weight	1.4	F.U.	1.6	# Yrs
Projected Budget	Program: Biofuels Technician	Per Year	1.120	Grant / WFU	\$4,160	2
BUDGET YRS 2010-15						
		2011-12 Projection	2012-13 Projection	2013-14 Projection	2014-15 Projection	2015-16 Projection
<b>Student Enrolment - Nov. 1</b>						
	Year 1	30	30	35	35	35
	Year 2	0	25	25	27	27
	<b>Total</b>	<b>29</b>	<b>54</b>	<b>59</b>	<b>61</b>	<b>61</b>
<b>REVENUE</b>						
	Tuition Fees - per academic year	\$2,420	\$2,520	\$2,620	\$2,720	\$2,820
	Set-Aside Fee Removed	\$254	\$265	\$275	\$286	\$296
	Tuition Fee realized by college	\$2,166	\$2,255	\$2,345	\$2,434	\$2,524
	<b>Total Tuition Fees</b>	<b>63,353</b>	<b>122,355</b>	<b>138,642</b>	<b>148,803</b>	<b>154,273</b>
	Other Revenue - Contract Training	0	0	0	0	0
	<b>Total Other Revenue</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
	Program Wtd Funding Unit (Wt X FU / Dur)	1.12	1.12	1.12	1.12	1.12
	Grant - MTCU Operating (assume \$4160/wfu)	\$0	\$68,141	\$194,522	\$264,118	\$280,134
<b>TOTAL REVENUE</b>		<b>\$63,353</b>	<b>\$190,496</b>	<b>\$333,164</b>	<b>\$412,921</b>	<b>\$434,408</b>
<b>EXPENDITURES</b>						
	Salaries - Faculty (FT)	80,000	162,400	167,272	172,290	177,459
	Salaries - Co-ordinator Allowance	3,300	3,399	3,501	3,606	3,714
	Salaries - PT Teaching	0	0	0	0	0
	Salaries - PL Teaching	0	0	0	0	0
	Salaries - Sessional Teaching	0	0	0	0	0
	Contract Teaching	22,000	37,000	14,000	14,420	14,853
	<b>Total Teaching Salaries</b>	<b>105,300</b>	<b>202,799</b>	<b>184,773</b>	<b>190,316</b>	<b>196,026</b>
	Salaries - Admin (\$100/st)	0	0	0	0	0
	Support Staff	0	0	0	0	0
	<b>Total Academic Support Costs</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
	Benefits - Faculty - FT 20%	16,660	33,160	34,155	35,179	36,235
	Benefits - Faculty - PT 12.0%	2,640	4,440	1,680	1,730	1,782
	Benefits - Admin 21%	0	0	0	0	0
	Benefits - SS (FT) 25%	0	0	0	0	0
	<b>Total Employee Benefits</b>	<b>19,300</b>	<b>37,600</b>	<b>35,835</b>	<b>36,910</b>	<b>38,017</b>
	<b>Total Labour</b>	<b>124,600</b>	<b>240,399</b>	<b>220,608</b>	<b>227,226</b>	<b>234,043</b>
	Instructional Supplies	10,000	10,000	10,000	10,000	10,000
	Instructional Other Costs	0	0	0	0	0
	Field Work	0	0	0	0	0
	Membership & Dues	1,000	2,000	2,000	2,000	2,000
	Professional Development	1,000	2,000	2,000	2,000	2,000
	Travel/accommodation/meals	1,000	2,000	2,000	2,000	2,000
	Promotion/Public relations	0	0	0	0	0
	Maintenance- Equipment	0	0	0	0	0
	Telecommunications	0	0	0	0	0
	Software Costs	0	0	0	0	0
	Office supplies/Other Expenses	2,000	2,000	2,000	3,000	3,000
	Rental	0	0	0	0	0
	<b>Total Other Expenditure</b>	<b>15,000</b>	<b>18,000</b>	<b>18,000</b>	<b>19,000</b>	<b>19,000</b>
<b>TOTAL DIRECT PROGRAM EXPENSES</b>		<b>139,600</b>	<b>258,399</b>	<b>238,608</b>	<b>246,226</b>	<b>253,043</b>
<b>TOTAL REVENUE FOR PROGRAM</b>		<b>63,353</b>	<b>190,496</b>	<b>333,164</b>	<b>412,921</b>	<b>434,408</b>
<b>Net Contribution \$</b>		<b>-76,247</b>	<b>-67,903</b>	<b>94,556</b>	<b>166,695</b>	<b>181,365</b>
<b>Net Accumulated Contribution / (Deficit)</b>		<b>-76,247</b>	<b>-144,150</b>	<b>-49,594</b>	<b>117,102</b>	<b>298,467</b>
<b>Net Contribution - % of Gross Revenue</b>		<b>-120.4%</b>	<b>-35.6%</b>	<b>28.4%</b>	<b>40.4%</b>	<b>41.7%</b>
<b>TARGET Net Contribution</b>		<b>n/a</b>	<b>Breakeven</b>	<b>40.0%</b>	<b>40.0%</b>	<b>40.0%</b>
<b>Capital Requirement</b>		<b>159,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

## Submission for Board Approval: New Post-Secondary Program

Ontario College Advanced Diploma in Fine Arts – Advanced					
Proposed credential:	Ontario College Advanced Diploma				
MTCU Code:	61800				
Funding Unit:	3.30				
Weight:	1.10				
Name of dean submitting the request:	Greg Murphy				
Proposed date of implementation:	September 2011				
Date of review by committee:	September 16, 2010				
Year 1 enrolment:	25				
Number of faculty required:	1 FT in the second year of the program				
Space requirements:	2 new studios - One studio - a duplication of the drawing room in A Building; and the other - a multi-purpose fabrication studio. The following list is approximate and while the objects may change as the program develops, the costs will not rise.				
Capital costs:	\$120,000 - 1. Rapid prototype modeler with scanner and software- \$30K full kit 2. Table Saw -\$3000 3. Compound Mitre Saw -\$500 4. Band Saw - \$1000 5. Dust Collector and air cleaner - \$2000 6. Planer/jointer -\$500 7. Hand Tools - \$2000 8. Small Spray Booth - \$4000 9. Eight Rolling (lockable) Working Surfaces - \$8,000 10. Wood Lathe - \$1000 11. Drill Press - \$500 11. Four Panasonic HVX Camera Kits - \$30K 12. Twenty-Five Digital Mini-cams - \$18,750 13. Twenty-Five DSLR's - \$18,750.				
*Note: All capital costs can be deferred to the 2 <sup>nd</sup> year of the program.					
Budget Projections					
Proposed Tuition*	\$2,420				
Net Contribution - % of Gross Revenue	-130.2%	-26.7%	19.3%	43.4%	48.5%
TARGET Net Contribution	n/a	Breakeven	40.0%	40.0%	40.0%

\*\*Students will be required to purchase a laptop and a recommended software suite for this program. It is expected that this will total approx. \$700 - \$800.

### 1.0 APPROVAL STAGES:

Check (√)	Approval Stage
√	New concept paper reviewed by Dean
√	Labour Market Assessed
√	Student Demand Assessed

√	New Program Proposal Document Reviewed by Manager, Program Development and Quality Initiatives and Dean
√	Budget reviewed by Manager, Planning and Reporting; Manager, Program Development and Quality Initiatives; and Dean
√	Budget approved by Vice President – Finance and Chief Financial Officer
√	Reviewed by Program Proposal Review Committee
√	Approved by Vice President - Academic
√	Approved by Credentials Validation Service
	Reviewed by President
	Approved by Board of Governors

### **PROGRAM INFORMATION**

#### **2.0 PROGRAM OVERVIEW:**

Description:

- The Advanced Fine Art Diploma Program offers a broad base of experience and knowledge in the visual arts through a range of ideas, media, materials and techniques. Fundamental courses in art, craft, and design introduce students to historic precedents, practical skills, and the critical thinking inherent in visual culture and its professional disciplines. Students will explore drawing, painting, sculpture, photography, video, sound and multi-media.
- In addition to the media, materials and techniques common to the fine arts, students in this program will learn to use their skills and talents as artists to make a difference in their community. Using a range of media, including photography, video and web technologies, students will collaborate with community groups and not-for-profit organizations and make a significant contribution to the culture and economy of this region.
- Students will benefit from experienced faculty and close proximity to galleries, museums and studios in Oshawa, Whitby and Toronto. This program will appeal to students looking to combine professional studio practice with the entrepreneurial skills needed to build a successful career in Ontario’s vibrant culture sector. Program curriculum includes training in the latest computer software; courses in the history of art and design; aspects of industrial design; and business courses in professional practice and arts marketing, giving graduates a broad skill set that makes them more marketable to potential employers.
- Successful graduates of this program will find employment opportunities in many areas of the culture sector including artist representative, gallery or gift shop retail assistant, graphic artist or photographer's assistant. Culture sector workers are often self-employed, and this program will help prepare graduates to open their own studios or businesses.

### Program Goals:

1. Produce a portfolio of work including a comprehensive artist's statement that reflects an advanced and sophisticated ability to communicate visually.
2. Solve complex problems related to the conceptual process involving project specifications, deadlines, budgetary restrictions and potential client directives.
3. Express artistic concepts and personal vision through the manipulation of a variety of media.
4. Enhance visual, written and verbal communication in the practice and promotion of personal artwork through the use of technology.
5. Communicate effectively in visual, verbal and written forms appropriate to the presentation and promotion of one's work.
6. Evaluate contemporary developments and issues in visual and creative arts, as well as current trends in the market, in order to make informed decisions about one's career in the arts. Observe guidelines and regulations with respect to health and safety applicable to the use of art materials and methodology.
7. Evaluate historical and contemporary works of art from a critical perspective.
8. Conduct research for visual, written and oral presentation that directs problem solving, informs the creative process and reflects the influence of artistic styles and individuals from periods of history.
9. Create a career plan that reflects professional business practices and a knowledge of organizations and institutions that support the arts, for purposes of self-promotion and other art-related activities.
10. Prepare for exhibition of one's work in public galleries, displays and shows, including the documentation of work through the effective use of photography.
11. Collaborate effectively with faculty and peers.

### Program Critical Performance:

- By the end of the program, graduates will have demonstrated the ability to formulate a personal vision and sense of individual artistic capability within the historical, contemporary and entrepreneurial contexts of visual and creative arts and design.

### Admission Requirements:

- OSSD or equivalent or mature student status. No portfolio required.

### 3.0 PROGRAM OF STUDY:

Semester	Course Title (and brief course description)
1	<p><b>Observational Drawing</b></p> <p>The main focus of the course is on detailed observation and development of skills through the study of objects, materials, textures and pictorial systems.</p> <p>This course introduces fundamental skills of representation in drawing through the study of proportion, perspective; line quality, contour, positive and negative shapes, value and volume. Observational drawing exercises reveal these historical and contemporary drawing processes, and stress the development of perceptual and technical skills. Conceptually based assignments will emphasize the development of ideas and research. With subjects as diverse as the human figure, object studies, architectural spaces, and the imagination, students will learn to see and evaluate the visual world and translate visual impressions into two-dimensional images using a wide range of media. Students will benefit from both group and individual instruction.</p>
1	<p><b>Studio Practice I (2D Art and Design)</b></p> <p>This course develops the students' critical thinking and problem solving skills through an understanding of design theory and application on a two-dimensional or flat surface. It is intended to introduce the student to colour theory as well as the organizing principles and creative processes common to art, craft and design.</p> <p>This course introduces students to the historical and contemporary fundamentals of art making by studying the interdependency of colour and composition across a broad range of media, from painting and drawing to digital media, including video and photography.</p>
1	<p><b>Digital Resources for Art and Design</b></p> <p>In this course, the integration and translation of traditional two- and three-dimensional art media are explored in the digital environment through lectures, demonstrations, and tutorials. Students will learn to use the Apple operating system and design software such as Adobe PhotoShop, and Illustrator, but the emphasis is on digital imaging as a medium for artistic expression. Students will also learn the various digital and information technology (IT) resources available to them at the College; video and DSLR sign out; colour printing; as well as MyCampus and the College's Learning Management System (LMS) WebCT.</p>
1	<p><b>Ideas and Images for Art and Design</b></p> <p>This course encourages students to develop ideas by engaging the world: through preparation, conscious attention, curiosity,</p>



	<p>effort, and sometimes luck. Students will learn to pay attention to the world around us – through the media or direct experience, and be willing to take risks with ideas and make connections between unrelated things or events. This class provides a foundation in critical theory and the relationship between theory and studio practice. Students will explore critical issues related to art and design, including process, representation, reproduction, originality, distribution, gender, identity, culture and politics. We will frame these issues in relationship to specific images drawn from a range of media in art and design.</p>
<b>1</b>	<p><b>The Art of Photography</b>  This course introduces basic image capture and manipulation skills and the historic and contemporary issues of photography. Students are introduced to the techniques of photography through a series of projects designed to increase their perceptual skills. This course follows a series of weekly assignments and critiques on landscape, portrait and constructed images to explore the basic elements of photography. Emphasis is on exploring the world with a camera, expanding and refining technical control of the medium and developing the ability to discuss and critique each other's work.</p>
<b>1</b>	<p><b>*General Education / Elective</b>  Students will choose a general education / elective course from a pool of college-approved courses, deemed to be outside of their vocational field of study.</p>
<b>2</b>	<p><b>Fundamentals of Figurative Drawing</b>  This course will explore current and historic issues of representation of the human figure. Students will use a variety of media in a sequence of exercises to develop insight into the form, structure and gesture of the human body from a life model. This course also introduces anatomical terminology. Students will benefit from both group and individual instruction.</p>
<b>2</b>	<p><b>Studio Practice II (3D Art and Design)</b>  Students develop a three-dimensional visual language by exploring the relationships of mass, volume and surface. The course introduces students to the conceptual elements, organizing principles, and creative processes used in the development of form. The material, structural and visual qualities of found and fabricated objects will be explored in assignment-based projects. Using a variety of materials and processes, students examine the meanings and associations of form, space, material, and process. This course explores contemporary art practice, and helps students produce meaningful forms in three dimensions.</p>
<b>2</b>	<p><b>Digital Drawing</b>  This course introduces drawing in a digital environment and the preparation of assets for use in a variety of creative projects,</p>

	including self-portraits, posters, illustrations, graphic design, 3-D objects, animations, etc. A student's success in this course will be affected by their attendance, participation and motivation in developing an approach to learning the fine detail and nuanced skills that they will need to express their creative ideas. With the exception of some in-class exercises and/or quizzes the work in the course will be project based.
<b>2</b>	<b>Fundamentals of Digital Video Production</b> This course will teach students digital video production and cinematography through experimentation, demonstrations, lectures, discussions and projects. Students will learn through technical exercises; critical review of experimental, documentary and narrative video works; and the introduction of historical and theoretical issues. This course will introduce the collaborative nature of video production as well as its value in documentation and storytelling. Students will benefit from both group and individual instruction.
<b>2</b>	<b>Communication for Design</b> This course provides students with the communication skills essential in the design field. This course emphasizes skills needed to meet performance levels demanded by assignments in other design subjects and eventual career employment.
<b>2</b>	<b>Presentation and Portfolio Techniques</b> This course will provide critical direction in the chosen area of specialization, providing students mentorship with their projects on an individual basis. Students will also refine their portfolios, presentation materials and exhibition strategies. They will take the work and skills learned throughout the Program, and distill them for presentation to potential clients, employers or funding agencies and will be introduced to the practical operations of public art galleries. Students will target their portfolios for various objectives, such as visual industries, education, gallery or commissioned work or for the development of a freelance business. Students will learn to integrate their art portfolios, resumes and cover letters, including original works, physical media and online formats. They will also practice public presentation (such as a pitch or lecture on their work) and interviewing. Upon completion of this course, students will have the knowledge and ability to develop a career in visual culture and/or industry.
<b>3</b>	<b>Historic Concepts and Methods of Figurative Drawing</b> In this course, students explore the psychological and emotional implications of drawings that express ideas about the human condition. We have many traditions of representing the human body - among them portraiture and narrative; monuments and relics; pornography and freak shows; anatomical and medical illustration; and the family album. These modes of representation

	<p>are affected by what is represented; how it is represented (context); and the material or method of representation. Students explore the interpretation and depiction of the human body through historical and contemporary developments in technical and expressive approaches to figurative representation. Building upon essential drawing techniques and anatomical studies, technical instruction is provided using a variety of drawing media on a range of supports.</p>
<b>3</b>	<p><b>Painting I</b>  This course introduces technical and aesthetic issues in painting, with an emphasis on various modes of representation and pictorial organization. It establishes a foundation of critical ideas, vocabulary and strategies for the study and practice of painting. Students will learn colour mixing and the proper use of the tools and media of painting. They will explore historic and contemporary approaches to self-portraiture, the figure, still life and landscape. Students will benefit from both group and individual instruction.</p>
<b>3</b>	<p><b>Fabrication Studio I</b>  This course provides an introduction to additive and subtractive sculpture processes through demonstrations, studio assignments and discussion of relevant historical and contemporary work. Building on the insights and information learned in 3D Art and Design, students will explore aesthetic issues of form and space using traditional and contemporary sculpture materials and technical processes. Goals include acquiring technical skills, understanding the physical and expressive possibilities of materials, and learning safe, appropriate use of tools and materials.</p>
<b>3</b>	<p><b>Documentary Studio</b>  Students will follow an intense, experiential, collaborative syllabus and learn the fundamental techniques of journalism to research and develop relevant, thought provoking stories through fieldwork and guided discussions of relevant work. This course introduces students to the methods and techniques of collaborative art making in a variety of media including writing, photography, video and radio. The course explores dramatic, documentary and experimental approaches to audio/visual media production through direct experiences with technical and practical processes, from pitch to production. Students will create a series of non-fiction studio projects while surveying international and Canadian docudrama, first person and expanded portraiture, and cinema direct. They will be required to collaborate in small groups to produce a public service announcement or web profile for a local non-profit agency or community group.</p>

3	<p><b>Audio Capture</b></p> <p>This course introduces the principles of sound and sound recording, including basic audio physics, aesthetics of sound, and digital audio theory through a series of projects that focus primarily on the analysis of film and television soundtracks. Students will use various microphones such as boom mics, lavalier mics and wireless mic systems to learn techniques used for dialogue, sound effects, and music in audio storytelling for radio, television, film and the internet. This is a hands-on course with students actively recording and editing for use in their own projects.</p>
3	<p><b>Art of the 19th Century</b></p> <p>This course provides a chronological overview of artists, art works and art movements from the 19th century. This course introduces the student to the major historical images, monuments and movements of world art with an emphasis on form, style, expression and cultural meaning. The course also introduces the student to art historical vocabulary and various methods of art historical research.</p>
4	<p><b>Contemporary Drawing Studio</b></p> <p>In this course, drawing is introduced as a tool for conceiving and developing ideas within a design process. Students learn how various disciplines (furniture, ceramics, illustration and architecture, etc) use drawing to propose ideas for discussion and development. They will learn to present ideas using simple conventions of description and representation, exploring the conceits of drawing used to depict form, space, weight, reflection, heat, proximity, etc. This course also introduces site-specific drawing and installation, and explores ways in which varying a context shifts the meaning and reading of an image and how artwork can transform a space.</p>
4	<p><b>Painting II</b></p> <p>This course explores the practice of painting as a social, cultural and personal medium of reflection and expression. Individual and group projects engage students in research, development and production of art that exhibits awareness of historic and contemporary issues. The formal structure and technical methods of painting are also addressed through workshops, lectures and assignments. Students will benefit from both group and individual instruction.</p>
4	<p><b>Fabrication Studio II</b></p> <p>This course explores the practices of sculpture and installation within a social, cultural, and personal context. Pedestals, frames and galleries are the traditional or conventional structures for viewing art. Site-specific work and artistic intervention have challenged these structures by exploring how context and situation can expand the audience for art and change the role of</p>

	the viewer. This studio course will address questions of context in contemporary sculpture and installation-based practices through a combination of projects and discussions.
<b>4</b>	<p><b>Web Development</b></p> <p>This course introduces the basics of web page creation, user-centered design principles, web authoring and editing, and design techniques for interactivity. Students gain an understanding of terminology, develop competencies in web software and apply principles of design, colour and composition. Students examine the organization and architecture of web sites to enhance user navigation. Through lectures, demonstrations, in-class assignments and individual projects, students will become proficient with web-based software. Students will plan, design and develop their own Web site.</p>
<b>4</b>	<p><b>*Using Social Media</b></p> <p>In a few short years, social media has profoundly changed the global communication landscape. With the advent of social media tools such Facebook, YouTube, Wikipedia, and Twitter, more and more people are connecting and collaborating online, and creating and distributing content in ways we have never seen before. This course will provide a summary of the major developments in social media and will examine how social media is changing media, business, government, the economy, development, and education in fundamental ways. Students will be introduced to a variety of social media environments and will gain hands-on experience with many of the leading social media applications. This course requires active participation of students and a willingness to immerse in social media practices.</p>
<b>4</b>	<p><b>Art of the 20th Century</b></p> <p>This course provides a chronological overview of artists, art works and art movements from the 20th century. This course introduces the student to the major historical images, monuments and movements of world art with an emphasis on form, style, expression and cultural meaning. The course also introduces the student to art historical vocabulary and various methods of art historical research.</p>
<b>5</b>	<p><b>Studio Thesis I (Research)</b></p> <p>This course provides a critical discussion to assist graduating students as they define their own studio work. Through group conversations, in-process critiques and workshops, students will identify and pursue meaningful subjects and position their practice in the context of history, society, and culture outside of the art world. Students will learn strategies for studio research and production through an increasingly self-directed practice. Students will initiate a preliminary body of work and present it through the semester for review and discussion. This is a six-hour course that continues in the winter semester, resulting in a</p>

	coherent body of finished work supported by an artist's statement and an oral presentation.
5	<p><b>Design and Fabrication in Wood</b></p> <p>This is a skill-building course in the technical processes and visual issues essential to the development of sculptural skills in wood. In this course, students will learn to identify material resources, develop technical production skills and gain a critical awareness of visual and structural integrity. Students develop productive work habits in the development of a distinct body of work and learn how to use tools and materials in a safe and appropriate manner. Students will benefit from both group and individual instruction.</p>
5	<p><b>Contemporary Studio Practice in the Global Context</b></p> <p>This lecture course is a critical exploration of issue-based approaches to art and design studio practice from a thematic and global perspective. Students examine the visual representation of ideas such as spirituality, colonialism, the body, race, gender, industrialization, mass reproduction and technology. Studio Practice in the Global Context manifests a growing concern with the destructive and alienating consequences of globalism itself: ecological deterioration, the widening gap between rich and poor, and the constant state of war. The artists deploying these methods often form collectives that mirror the structures of corporate and political organizations, combining aesthetic methods and media with political activism in defense of human agency, and against corrupt economic, political and military systems.</p>
5	<p><b>Community Collaborations- Service Learning I</b></p> <p>This course continues through two semesters. It prepares students as problem-solvers able to address the complex challenges of the 21st century; promotes citizenship by educating students not only for careers and jobs but also for their roles as active and engaged community members; and creates opportunities for students to practice the rewarding work of citizenship. Students will collaborate in small teams with not-for-profit organizations, public schools, or small businesses. Course projects will help community groups achieve their goals and help students understand how classroom learning can be applied in real-life contexts and assist in the development of the economy and culture of this region. This course will challenge students to explore critical social and community issues such as sustainability, marginalization, poverty, and gender politics. Community Collaborations will add value to our community, prepare youth leaders, promote social and environmental justice, and connect students to the natural and social systems that sustain us all.</p>

5	<p><b>Pop Culture, Film &amp; Society</b>  Have you ever wondered why one film captures audience attention over another? Why was that film “special”? What social factors contribute to its success? These questions and many more will be investigated in the analysis of how “pop” culture, film and society are intertwined and interrelated.</p>
6	<p><b>Studio Thesis II (Presentation)</b>  Building on research pursued in the first semester, students produce a cohesive body of visual work refined through a rigorous critique process. Students learn to discuss their artwork in a broader cultural and historical context. This course concludes with the exhibition of an original body of studio work by each student, based on a project proposal submitted in the Fall Semester (Studio Thesis I –Research). Final evaluation is based on the completion of the studio project, oral presentation and public exhibition.</p>
6	<p><b>Conventional Models and Rapid Prototyping</b>  This course provides craftspeople, artists and designers with ways to translate ideas into material forms through drawing and/or the construction of models. In this course, students learn the safe and appropriate use of 3D modeling tools and techniques, and how these tools can be integrated with various prototyping tools.</p>
6	<p><b>Entrepreneurship and Professional Practice</b>  Through lectures, workshops and presentations by professional artists and practical assignments, students will learn the basics of entrepreneurship. They will be mentored in the creation of a personal entrepreneurial plan for their own careers. The objective of the course is to provide students with a concrete plan for creating a job for themselves and covers relevant topics such as business financing, risk &amp; return in the creative industry, international opportunities, and professional ethics. Students will learn how to register and operate a small image production business including bookkeeping, business protocols; the pricing, estimating and invoicing of assignments; and how to protect their copyright. Students will also learn how to design a portfolio for various markets.</p>
6	<p><b>Community Collaborations- Service Learning II</b>  Community Collaborations - Service Learning builds partnerships between young people and the broader community and affect myriad businesses, community organizations, social service agencies, and other groups that share the project's goals. By bringing people together in collaboration, these partnerships can bridge intergenerational, ethnic, and cultural gaps; provide young people with strong role models; and strengthen the economy and culture of our community. This course concludes with a reflection on what has been accomplished and what needs to be done in</p>

	order to sustain the community benefits and personal growth initiated in service learning during this academic year. As the projects are completed, students and community partners will discuss what they think and how they feel about the experience and how to best channel this new understanding into continuing action. This is the second part of a two-semester course. Community Collaborations I – Service Learning is the pre-requisite for this course.
<b>6</b>	<b>Field Trips &amp; Visiting Lecturers</b> This course explores the current trends and issues in studio Practice from technical, creative, and business points-of-view. Students are introduced to existing and emerging opportunities through guest lecturers, field trips, and independent research. Students will learn how to discuss and write about images and artists from a variety of critical perspectives. Students use their knowledge of visual communications, elements of composition and design, and fabrication techniques to critique images in verbal and written format.

#### 4.0 STRATEGIC ALIGNMENT:

##### Strategic Fit

- The program complements existing programs offered by the School of Media, Art & Design.
- It contributes to the School by providing a smooth academic pathway for graduates of the Foundations in Art and Design program. The program complements the strategic enrolment plans of the College.
- The School has the instructional expertise to develop and deliver the program.

##### Fit with Existing Programs

<b>Programs that could feed into the proposed program</b> <ul style="list-style-type: none"> <li>▪ Foundations in Art &amp; Design</li> <li>▪ Pre-Media</li> <li>▪ Digital Photography</li> <li>▪ Digital Video Production</li> </ul>	<b>Program Name</b>	<b>Advanced programs which graduates of this program may consider</b> <ul style="list-style-type: none"> <li>▪ Articulation agreements are being negotiated with schools that offer degree and graduate certificate programs in applicable disciplines.</li> </ul>
	<b>Other complementary programs within School</b> <ul style="list-style-type: none"> <li>▪ Advertising</li> <li>▪ Graphic Design</li> <li>▪ Multimedia Design</li> </ul>	



### Benefits to be Stressed

- This program will share a common first year with the Foundations in Art & Design (FAD) college certificate program, thereby allowing students who complete the FAD program to continue into the second year of Fine Arts – Advanced.
- The program is responsive to community needs and initiatives. Each graduating student will complete a community-based, service-learning project.
- In the third year of the Program, students will develop an independent studio practice culminating in an exhibition or an alternative publication of their work as approved by the faculty.

### **5.0 LABOUR DEMAND:**

- Employment prospects for fine arts graduates will be average. Talented and creative artists who have specialized in certain artistic techniques or mastered a certain set of skills will have the best employment opportunities.
- Graduates with knowledge of computer design software such as website design and animation will be highly sought after. Those who are adept with computers and are technologically-savvy will enjoy the most fruitful prospects.
- Artist salaries are low compared to national averages. Individuals who pursue a career in art are usually passionate about their craft and continue to challenge the myth of the “starving artist.”
- Please see *Appendix A* for the full labour market analysis.

### **6.0 STUDENT INTEREST:**

- There has been steady year-over-year growth since 2005, in both applications and confirmations in like programs across the system.
- Foundations in Art & Design graduates have expressed interest in continuing in their arts education at Durham College.
- There are currently no studio-based opportunities to study Fine Art in a post secondary institution east of Scarborough and west of Kingston. Currently there are twelve high schools in local boards offering excellent art programs. Graduates of these programs are leaving the area to study post-secondary fine art.
- Please see *Appendix B* for the OCAS report.

## 7.0 ANALYSIS OF COMPETITION:

- The following colleges currently have approval to offer this program:

College
Cambrian – 2 Programs
Fanshawe
Georgian
Sheridan – 4 Programs
St. Lawrence

- Based on analysis of the applicant data for these colleges, Durham College is expected to be successful in attracting a sufficient applicant pool for this program.

## 8.0 TARGET MARKET:

- The target markets for this program include students directly out of high school as well as graduates of Durham's Pre-Media or Foundations in Art & Design programs.

## 9.0 MONITORING AND EVALUATION DURING THE FIRST YEAR OF OPERATION:

Year 1		
	Expected Enrolment:	25 students
	KPI Student Satisfaction Rate:	Meets or exceeds the college average
	Financial:	On budget

\*\*Since this program shares a common first year with FAD, which has a target first year enrolment of 50 students in 2011, a total of 75 students in the first years of the two programs will ensure capacity and provide a larger pool of students for possible second year study in Fine Arts.

## 10.0 OPERATING REVENUE AND EXPENSES – 5-YEAR PROJECTION:

- This proposed program is expected to surpass the college's target net contribution ratio based on an initial enrolment of 25 first-year students and growing to 40 first-year students by the second year of operation. During the third year of operation, the program is significantly under target, however by the fourth and fifth year of operation, the program exceeds the contribution target.
- Please see *Appendix C* for the detailed 5-year budget projections.

## Appendix A – Advanced Fine Arts Labour Market Analysis

### Introduction

Artists typically fall into one of four categories. Art Directors define visual concepts and present various approaches to visual communication. Craft Artists create and sell handmade, practical objects such as ceramics or jewellery. Fine Artists, which include painters, sculptors, and illustrators, create original pieces of artwork using a variety of different techniques and media. Finally, multimedia artists and animators create animation, special or visual effects, in film, video, computers and other electronic media.

Fine arts encompass a wide range of career types including graphic design, professional artistry, animation, theatre, television, multimedia and gallery/museum work. While approximately 90% of artists are self-employed or engage in freelance work, many find employment with museums, galleries, schools, advertising agencies, magazines, newspapers, and movie studios. Competition is generally high in art and design fields, but the outlook tends to be more favourable for multimedia artists and animators given the increasing demand for special effects in movies, television and video games. Despite strong competition, employers and individual clients are always open to hiring a talented and creative artist.

Thinking about fine artists more specifically, those who work in the field often display their work in museums, commercial art galleries, corporate collections and private homes. Some work may be done at the request of clients (if the artist is self-employed), but the majority of work will be sold to private art galleries or art dealers. As a result, the nature of the job is often precarious – some artists can earn high wages, but many earn salaries that are below the national average. Some even have secondary jobs in order to support their careers in art. Only very successful artists can support their cost of living through their sales.

Most that enter the profession, however, are passionate about one or two different art forms such as painting, illustrating, sketching, sculpting, printmaking, and restoring. Many work from home or find low-cost and/or shared studios to create and exhibit their work. Many will endure long hours and minimum wages to achieve success in the market. The myth of the “starving artist” continues to be challenged as more and more visual artists persevere in the field and follow their passion. Creativity is always in demand and with a variety of professional development resources available to artists, this stereotype is viewed as less and less relevant within the field.

According to Statistics Canada (2006), the average earnings of artists are \$22,700, compared with an average of \$36,300 for all Canadian workers. The gap between artists’ average earnings and overall labour force earnings is 37%. For artists, median earnings are only \$12,900. A typical artist in Canada earns less than half the typical earnings of all Canadian workers (median earnings of \$26,900). At \$3.2 billion, the total earnings of artists account for one-half of one percent of total earnings in the overall Canadian labour force (0.48%). Average earnings, however, differ among the various occupation types within the fine arts industry. Below, Table 1 summarizes 2006 census data for average earnings of artists in Canada.

**Table 1: Number of artists and average earnings by occupation in Canada, 2006 census**

Occupation	Number of artists	% of artists	Average earnings	Earnings gap
Actors and comedians	11,740	8%	\$17,866	51%
Artisans and craftspersons	17,350	12%	\$15,187	58%
Authors and writers	24,545	18%	\$32,045	12%
Conductors, composers and arrangers	2,320	2%	\$27,488	24%
Dancers	7,330	5%	\$13,167	64%
Musicians and singers	33,635	24%	\$14,439	60%
Other performers	3,630	3%	\$16,250	55%
Producers, directors, choreographers and related occupations	22,370	16%	\$43,776	-21%
Visual artists	17,115	12%	\$13,976	61%
<b>All 9 arts occupations</b>	<b>140,040</b>	<b>100%</b>	<b>\$22,731</b>	<b>37%</b>
<b>Overall labour force</b>	<b>18,201,270</b>	<b>N/A</b>	<b>\$36,301</b>	<b>0%</b>

*Source: Analysis by Hill Strategies Research based on a 2006 census custom data request. All earnings figures captured in the 2006 census relate to the 2005 calendar year (Canadian Council for the Arts).*

## Culture Sector

Cultural occupations include careers in the arts such as professional artists, studio assistants, curatorial workers, freelance consultants and designers. Data compiled by Canada’s Cultural Sector Labour Force show that the three most prominent traits of the labour force are a high level of education, a high rate of self-employment, and relatively low earnings particularly for those artists who are self-employed. Average income, however, varies significantly between cultural sector occupations. Artistic jobs, for example, earn significantly less (\$23,500 on average) and are a source of concern for the entire sector.

Representing nearly half of the entire industry, female cultural workers earn 29% less than their male counterparts, on average. Aboriginal and visible cultural workers also experience lower wages, which mirrors the employment situation for these groups in the overall Canadian labour force. The sector boasts a lower-than-average unemployment rate of 6% (compared to 8% nationally). Reflecting the nature of the industry, part-time work and self-employment were also higher than national averages in 2002, 23% versus 19% and 25% versus 16%, respectively.

According to a report conducted by Statistics Canada, growth has been steady within the culture sector, increasing 15% between 1996 and 2002 and expanding more rapidly than the overall labour force. Primary contributors to this sector are written media, broadcasting and the film industry. The culture sector is an important contributor to overall job creation across Canada – 3.8% of all jobs created in Canada each year derive from the culture sector. Despite these trends, however, earnings remain low compared to the overall labour force.

Quebec (33%) and Ontario (18%) reported the highest growth in culture employment between 1996 and 2002, while Nova Scotia (-4%) and New Brunswick (-6%) were the only provinces that experienced employment declines over the same period. Ontario and Quebec also have higher proportions of their workers working within the culture sector, when compared to other provinces.

Focusing more specifically on Ontario, GDP from the culture sector increased by 34% between 1996 and 2001, accounting for nearly half of Canadian culture GDP and 4% of total GDP in Ontario in 2001. Employment within the sector grew by 18%, compared to 15% total provincial employment rates. Low unemployment and high self-employment are consistent characteristics of the Ontarian culture sector with an emphasis on project-based work, which can be seen primarily in the film industry. Finally, public sector employment is much lower within the culture industry, representing 7% of the sector compared to 17% of total workers.

### **Industry Trends**

Technology has altered the employment landscape for graphic and commercial artists. Employers such as advertisers, publishers and computer design firms look for individuals who have experience in marketing, business management and who are very creative. Graduates with knowledge of computer design software such as website design and animation will have the best job opportunities.

In addition, as the video entertainment market continues to expand, demand for graphic arts professionals will simultaneously grow. Graduates who have website design, animation experience and have undertaken projects using video games will be highly sought after within the industry. Higher education will also set individuals apart, particularly those with advanced diplomas or bachelor degrees.

### **National Labour Outlook**

According to Working in Canada, job prospects for graduates in the fine arts will be average. Employment is expected to grow modestly between 2009 and 2018, driven by expanding demand for digital and multimedia artistry. Graduates with strong computer knowledge will also be in high demand as many employers are moving toward using more detailed imagery and graphical techniques in their website designs, video games, movies (e.g. 3D animation) and television special effects.

Talented and creative artists who have specialized in certain artistic techniques or mastered a certain set of skills will have the best employment opportunities. Although multimedia artists will have the most fruitful job prospects, there will be high competition within all of the fields in this sector. Advancements in computer graphics and computer animation are putting a premium on a combination of creative and scientific and engineering skills. The emergence of multimedia is also increasing the demand for individuals with multi-disciplinary skills.

## Canadian Council for the Arts

Supporting Canadian creativity, the Canadian Council for the Arts is a national arms-length, art funding agency in Canada. It was created by an act of parliament in 1967 to foster and promote the study, enjoyment and production of works in the arts, and operate independently of government. In response to increasing cultural and racial diversity, fast-growing population of Aboriginal people, expanding urbanization, and the aging of the Canadian population, the Council is continuously evolving and aiming to reflect ongoing social and demographic trends. Its main directives are:

- *Grants*: they provide funding to individual professional artists and arts organizations through a peer assessment process.
- *Endowments and Prizes*: each year they award fellowships and prizes to some 200 artists and scholars.
- *Research, communications and arts promotion*: activities also further our mandate to support, promote and celebrate the arts.

The Council identifies a number of changes within the arts community, which will be important for graduates to be cognizant of when exploring job possibilities:

- The increasing diversity of professional arts practices in Canada.
- Continuous growth in the numbers of artists, the size of the arts labour force, the emergence of new Canadian arts groups and projects.
- The dramatic impact of new technologies on how the arts are created, produced and disseminated.
- Increasing inter- and multi-disciplinarity as traditional boundaries between disciplines, genres and practices are blurring.
- Increasing interest among artists, especially young artists, in working collaboratively with communities and with sectors outside the arts (environment, health, justice, human rights, etc.).
- Artists increasingly “piecing together” their working lives through frequent cross-overs between not-for-profit, for-profit and community arts practices.
- Arts organizations experiencing increased financial pressures and the need to generate more earned and private sector revenues, develop and diversify their audiences, and find fresh ways of engaging with the public.
- Greater incentives for private sector contributions to not-for-profit arts organizations due to changes in tax laws and matching programs, and increasing potential for growth in the number of charitable foundations in Canada.
- For organizations coming recently to government funding, difficulties in accessing operating grants or sufficient monies to create or expand organizations.
- By choice or necessity, many artists choosing to make and produce work outside institutions or in ad hoc groups.
- Generational tensions within arts organizations between the baby boom generation of leaders and younger artists and administrators about work-life balance, working conditions, remuneration, consumer attitudes and the application of technology.

- With senior artists and arts leaders close to retirement age, the need to train and attract new talent from the younger generation, manage succession in arts organizations and preserve artistic legacies.
- Increasing recognition of the need for leaders in the arts who are visionary and can build meaningful connections to the broader public.

### Local Labour Outlook

Table 2 displays the related employment numbers based on Census 2006 data.

Table 2: Occupations in Fine Arts (2006 Census)			
Occupation (NOC Code)	Toronto CMA	Oshawa CMA	Total
F012 Conservators and curators	325	0	325
F036 Painters, sculptors and other visual artists	3,310	60	3,370
F123 Graphic arts technicians	540	35	575
F141 Graphic designers and illustrating artists	14,445	635	15,080
F144 Artisans and craftspersons	2,350	140	2,490

Table 3 displays employment growth comparing census data from 1996 and 2006.

Table 3: Occupational Growth in Fine Arts (1996 to 2006)			
Occupation (NOC Code)	Toronto CMA	Oshawa CMA	Total
F012 Conservators and curators	32.7%	-100.0%	27.5%
F036 Painters, sculptors and other visual artists	43.9%	-7.7%	42.5%
F123 Graphic arts technicians	-44.0%	-41.7%	-43.9%
F141 Graphic designers and illustrating artists	44.0%	126.8%	46.3%
F144 Artisans and craftspersons	12.2%	-3.4%	11.2%

### Employment Projections

Job titles and descriptions relevant to Advanced Fine Arts were culled from Durham College placement reports and various labour market reports. Based on the titles and descriptions, five key 4-digit National Occupation Classifications (NOC) were identified. Since the NOC provides a standardized framework for organizing the labour force in a coherent system, the occupations in codes 5112, 5136, 5223, 5241 and 5244 are across industries focusing on occupations in Advanced Fine Arts.

These five codes are: 5112 (Conservators and Curators), 5136 (Painters, Sculptors and Other Visual Artists), 5223 (Graphic Arts Technicians), 5241 (Graphic Designers and Illustrators), and 5244 (Artisans and Craftspersons).

Examples of job titles for each of these five NOC codes are provided below:

**5112 Conservators and Curators**

Assistant Curator  
Conservator

Conservator – Art Objects  
Curator

**5136 Painters, Sculptors and Other Visual Artists**

Art Teacher (Except Primary, Secondary and  
Post-Secondary Education)  
Artist  
Artistic Painter

Portrait Painter  
Sculptor  
Silkscreen Artist  
Watercolourist

**5223 Graphic Arts Technicians**

Animated Cartoon Technician  
Animation Painter  
Computer Graphics Technician

Graphics Technician  
Multimedia Graphic Design Technician

**5241 Graphic Designers and Illustrators**

Advertising Designer  
Animator – Animated Films  
Cartoonist  
Commercial Artist  
Cybergraphic Designer  
Graphic Artist  
Graphic Designer  
Graphic Designer – Multimedia

Graphic Designer – Multimedia, Interactive  
or New Media  
Illustrator  
Layout Designer  
Medical Illustrator  
Multimedia Illustrator  
Scientific Illustrator

**5244 Artisans and Craftspersons**

Artisan  
Artistic Floral Arranger  
Carver  
Craft Instructor (Except Education)  
Craftsperson  
Glass Blower  
Leather Worker

Metal Arts Worker  
Potter  
Silversmith  
Stained Glass Artist  
Stringed Instrument Maker  
Totem Pole Carver  
Weaver – Arts and Crafts



Tables 4 and 5 display projected job openings (arising from expansion demand and replacement demand) and projected job seekers (arising from school leavers, immigration and mobility) for the 3-digit code 513 (Creative and Performing Artists). This includes the following 4-digit NOCs: 5131 (Producers, Directors, Choreographers and Related Occupations), 5132 (Conductors, Composers and Arrangers), 5133 (Musicians and Singers), 5134 (Dancers), 5135 (Actors and Comedians), and 5136 (Painters, Sculptors and Other Visual Artists). In this occupational group, job openings are projected to slightly outweigh the number of job seekers between 2009 and 2018). Retirements are expected to create the majority of job openings (~60%) while school leavers will represent the bulk of job seekers (~80%).

Table 4: Projected Job Openings (2009-2018)		
Expansion Demand	10,615	30%
Retirements	20,735	58%
Other Replacement Demand	3,139	9%
Emigration	1,370	4%
Projected Job Openings	35,858	100%

Table 5: Projected Job Seekers (2009-2018)		
School Leavers	23,641	81%
Immigration	5,429	18%
Net Mobility	294	1%
Projected Job Seekers	29,365	100%

Table 6 displays wage and employment information for the above NOC codes along with National, Provincial and Local outlooks (where available). The general provincial outlook for this sector is expected to be “Fair” until year 2009. The provincial projections take into account the rate of projected employment growth and how it compares to projected employment growth for all occupations in Ontario, anticipated number of job openings until 2009 due to anticipated retirement and reports by employers on difficulties in finding qualified workers to fill vacant positions and/or employer recruiting activities outside Canada.

Table 6: Wages, Employment Rate and Employment Outlook for 2009								
Occupation (NOC Code)	Average Wages /Hour	Self-Employment	Males	Females	Part-Time	National Outlook to 2018	Provincial Outlook to 2013	Local Outlook to 2018
5112 Conservators and Curators	\$22.50	0%	25%	75%	9%	N/A	N/A	N/A
5136 Painters, Sculptors and Other Visual Artists	\$10.10	89%	45%	55%	39%	N/A	N/A	N/A
5223 Graphic Arts Technicians	\$16.30	12%	50%	50%	4%	N/A	Fair	N/A
5241 Graphic Designers and Illustrators	\$18.60	41%	58%	42%	9%	Fair	Fair	Fair
5244 Artisans and Craftpersons	\$8.90	62%	38%	62%	28%	N/A	N/A	N/A

Table 7 provides a 10-year national level outlook for the same NOC codes. It presents estimated employment, anticipated growth rate and labour market imbalances for the 3-digit related NOC codes. Since the 3-digit NOC codes are at occupational-group level and encompass a wide range of jobs and skill levels, caution is urged when extrapolating any conclusions.

<b>Table 7: Ten Year (2006-2015) National Employment Outlook – 3-Digit NOC</b>					
<b>Occupation (NOC Code)</b>	<b>Estimated Employment 2015 (000s)<sub>1</sub></b>	<b>Average Annual Growth Rate<sub>2</sub></b>	<b>Retirement Rate<sub>3</sub></b>	<b>NFLMS<sub>4</sub></b>	<b>Labour Market Imbalance<sub>5</sub></b>
511 Librarians, archivists, conservators and curators	13.5	0.5%	4.8%	-0.4	-6%
513 Creative and performing artists	96.1	0.6%	2.2%	-2.0	-32%
522 Photographers, graphic arts technicians and technical occupations	48.0	1.7%	1.5%	-1.9	-29%
524 Creative designers and craftspersons	104.6	1.8%	1.8%	-3.1	-38%

Source: Looking-Ahead: A 10-Year Outlook for the Canadian Labour Market (2006-2015). Human Resources and Social Development Canada. Original Source: HRSDC, Strategic Policy Research Directorate, 2006 Scenario Reference.

1. The employment forecast by industry is derived based on the projected GDP and labour productivity by industry.
2. Average Annual growth rate - All occupations = 1.1%
3. Average Annual Retirement Rate is expected to rise from 2.1% in 2005 to 2.6% in 2015. Average annual retirement rate is calculated as the number of retirements divided by the level of employment in a given year.
4. Normalized Future Labour Market Situation (NFLMS) is an indicator of excess demand (or supply if negative) normalized to the base year 2005.
5. Labour Market Imbalance reflects the increase (or decrease, if negative) in the number of school leavers and immigrants needed to restore the balance between expected supply and demand. A value of 100% means that the supply of workers must double in order to reach a balanced situation. A negative value indicates the percentage by which supply exceeds demand.

## Relevant Associations

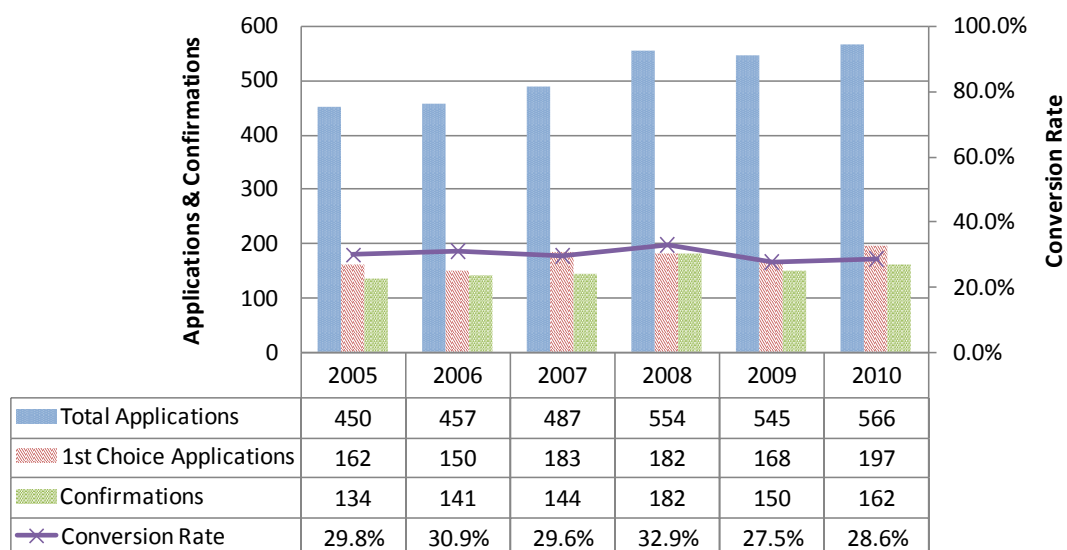
Association for Native Development in the Performing & Visual Arts ([www.andpva.com](http://www.andpva.com))  
Canadian Artists Representation Ontario ([www.carfaontario.ca](http://www.carfaontario.ca))  
Canadian Conference of the Arts ([www.ccarts.ca](http://www.ccarts.ca))  
Canadian Council for the Arts ([www.canadacouncil.ca](http://www.canadacouncil.ca))  
Central Ontario Art Association ([www.coaart.com](http://www.coaart.com))  
Community Arts Ontario ([www.communityartsontario.ca](http://www.communityartsontario.ca))  
East Central Ontario Art Association ([www.ecoaa.ca](http://www.ecoaa.ca))  
Humber Digital Imagining Training Centre ([www.digital.humber.ca](http://www.digital.humber.ca))  
Native Women in the Arts ([www.nativewomeninthearts.com](http://www.nativewomeninthearts.com))  
Northern Ontario Arts Association ([www.noaa.ca](http://www.noaa.ca))  
Ontario Association of Art Galleries ([www.aaag.org](http://www.aaag.org))  
Ontario College of Art and Design ([www.ocad.ca](http://www.ocad.ca))  
Ontario Museums Association ([www.museumontario.com](http://www.museumontario.com))  
Ontario Society of Artists ([www.ontariosocietyofartists.org](http://www.ontariosocietyofartists.org))  
Oshawa Arts Association ([www.oshawaartassociation.com](http://www.oshawaartassociation.com))  
Society of Graphic Designers of Canada ([www.gdc.net](http://www.gdc.net))  
The Association of Registered Graphic Designers of Ontario ([www.rgdontario.com](http://www.rgdontario.com))  
Universities Art Association of Canada ([www.uaac-auc.com](http://www.uaac-auc.com))  
Uxbridge Arts Association ([www.uxbridgearts.ca](http://www.uxbridgearts.ca))  
Visual Arts Ontario ([www.vao.org](http://www.vao.org))  
Women's Art Association of Canada ([www.womensartofcanada.ca](http://www.womensartofcanada.ca))

## Appendix B – Fine Arts - Advanced OCAS Report

The following Ontario colleges are approved to offer Advanced Fine Arts (61800):

College	Approval Date
Cambrian – 2 programs	1992-04-01
Fanshawe	Unknown
Georgian	Unknown
Sheridan – 4 programs	Unknown
St. Lawrence	Unknown

**Advanced Fine Arts: Applications, Confirmations and Conversion Rate**



Applications		First Choice Applications		Confirmations	
Cumulative Growth (2005 to 2010)	Average Year over Year Growth (2005 to 2010)	Cumulative Growth (2005 to 2010)	Average Year over Year Growth (2005 to 2010)	Cumulative Growth (2005 to 2010)	Average Year over Year Growth (2005 to 2010)
<b>+26%</b>	<b>+5%</b>	<b>+22%</b>	<b>+5%</b>	<b>+21%</b>	<b>+5%</b>

2010 data as of September 9th, 2010

## Appendix C – Fine Arts - Advanced 5-Year Budget Projection

DURHAM COLLEGE	MTCU Code: 61800	weight	1.1	F.U.	3.3	# Yrs
Projected Budget	Program: Fine Arts	Per Year	1.210	Grant / WFU	\$4,160	3
BUDGET YR 2011-16						
		2011-12 Projection	2012-13 Projection	2013-14 Projection	2014-15 Projection	2015-16 Projection
<b>Student Enrolment - Nov. 1</b>						
	Year 1	25	40	40	40	40
	Year 2	0	50	50	50	50
	Year 3	0	0	40	40	40
	<b>Total</b>	<b>25</b>	<b>90</b>	<b>130</b>	<b>130</b>	<b>130</b>
<b>REVENUE</b>						
	Tuition Fees - per academic year	\$2,420	\$2,520	\$2,620	\$2,720	\$2,820
	Set-Aside Fee Removed	\$254	\$265	\$275	\$286	\$296
	Tuition Fee realized by college	\$2,166	\$2,255	\$2,345	\$2,434	\$2,524
	<b>Total Tuition Fees</b>	<b>54,148</b>	<b>202,986</b>	<b>304,837</b>	<b>316,472</b>	<b>328,107</b>
	Other Revenue - Contract Training	0	0	0	0	0
	Total Other Revenue	0	0	0	0	0
	Program Wtd Funding Unit (Wt X FU / Dur)	1.21	1.21	1.21	1.21	1.21
	Grant - MTCU Operating (assume \$4160/wfu)	\$0	\$62,920	\$289,432	\$553,696	\$654,368
<b>TOTAL REVENUE</b>		<b>\$54,148</b>	<b>\$265,906</b>	<b>\$594,269</b>	<b>\$870,168</b>	<b>\$982,475</b>
<b>EXPENDITURES</b>						
	Salaries - Faculty (FT)	0	160,000	244,800	252,144	259,708
	Salaries - Co-ordinator Allowance	2,150	2,215	2,281	2,349	2,420
	Salaries - PT Teaching	0	0	0	0	0
	Salaries - PL Teaching	0	0	0	0	0
	Salaries - Sessional Teaching	70,000	0	0	0	0
	Contract Teaching	19,000	88,000	125,000	128,750	132,613
	<b>Total Teaching Salaries</b>	<b>91,150</b>	<b>250,215</b>	<b>372,081</b>	<b>383,243</b>	<b>394,741</b>
	Salaries - Admin (\$100/st)	0	0	0	0	0
	Support Staff	0	0	0	0	0
	<b>Total Academic Support Costs</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
	Benefits - Faculty - FT 20%	430	32,443	49,416	50,899	52,426
	Benefits - Faculty - PT 12.0%	10,680	10,560	15,000	15,450	15,914
	Benefits - Admin 21%	0	0	0	0	0
	Benefits - SS (FT) 25%	0	0	0	0	0
	<b>Total Employee Benefits</b>	<b>11,110</b>	<b>43,003</b>	<b>64,416</b>	<b>66,349</b>	<b>68,339</b>
	<b>Total Labour</b>	<b>102,260</b>	<b>293,217</b>	<b>436,497</b>	<b>449,592</b>	<b>463,080</b>
	Instructional Supplies	7,000	14,000	14,000	14,000	14,000
	Instructional Other Costs	2,400	4,800	4,800	4,800	4,800
	Field Work	0	0	0	0	0
	Membership & Dues	1,000	2,000	2,000	2,000	2,000
	Professional Development	1,000	2,000	2,000	2,000	2,000
	Travel/accommodation/meals	1,000	2,000	2,000	2,000	2,000
	Promotion/Public relations	1,000	1,000	0	0	0
	Maintenance- Equipment	0	0	0	0	0
	Telecommunications	0	0	0	0	0
	Software Costs	0	0	0	0	0
	Office supplies/Other Expenses	9,000	18,000	18,000	18,000	18,000
	Rental	0	0	0	0	0
	<b>Total Other Expenditure</b>	<b>22,400</b>	<b>43,800</b>	<b>42,800</b>	<b>42,800</b>	<b>42,800</b>
<b>TOTAL DIRECT PROGRAM EXPENSES</b>		<b>124,660</b>	<b>337,017</b>	<b>479,297</b>	<b>492,392</b>	<b>505,880</b>
<b>TOTAL REVENUE FOR PROGRAM</b>		<b>54,148</b>	<b>265,906</b>	<b>594,269</b>	<b>870,168</b>	<b>982,475</b>
<b>Net Contribution \$</b>		<b>-70,513</b>	<b>-71,111</b>	<b>114,972</b>	<b>377,776</b>	<b>476,595</b>
<b>Net Accumulated Contribution / (Deficit)</b>		<b>-70,513</b>	<b>-141,624</b>	<b>-26,652</b>	<b>351,124</b>	<b>827,719</b>
<b>Net Contribution - % of Gross Revenue</b>		<b>-130.2%</b>	<b>-26.7%</b>	<b>19.3%</b>	<b>43.4%</b>	<b>48.5%</b>
<b>TARGET Net Contribution</b>		<b>n/a</b>	<b>Breakeven</b>	<b>40.0%</b>	<b>40.0%</b>	<b>40.0%</b>
<b>Capital Requirement</b>		<b>120,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>



## BOARD REPORT/EXECUTIVE SUMMARY

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**Public:**   
**In-Committee:**

**Action Required:**  
**Discussion**   
**Decision**

**DATE:** November 10, 2010

**FROM:** Don Lovisa, President

**SUBJECT: Program Advisory Committee Minutes**

**A. Purpose**

A report to inform the Board of Governors of the activities of the various Program Advisory Committee meetings of Durham College.

**B. Background**

Section 3.5 of By-law No. 2, being a By-law regarding Advisory Committees for Programs of Instruction, sets out in part that "...The Board of Governors will acknowledge receipt of minutes for resolution."

**C. Discussion/Options**

Attached are the Program Advisory Committee minutes.

**D. Financial/Human Resource Implications**

N/A

**E. Implications for UOIT (if applicable)**

N/A

**F. Recommendation(s)**

That the Durham College Board of Governors receive the Program Advisory Committee minutes for information.



**SCHOOL OF SCIENCE AND ENGINEERING TECHNOLOGY**

**ADVISORY COMMITTEE MEETING**

**COMMITTEE:** Non-destructive Evaluation

**DATE OF MEETING:** March 31, 2010

**MEMBERS PRESENT:** Bhamini Chiekrie, Acuren Group Inc.  
Linda Dillon, Durham College  
Mike Dudley, Aerocom Inspection Services Ltd.  
June MacDonald-Jenkins, Durham College  
Michael MacDonald, Ontario Power Generation  
Dave Mennie, Bruce Power  
Claire Sigus, Intech International Inc.  
Steve Simpson, Babcock & Wilcox Canada  
Sue Todd, Durham College  
Mike Trelinski, Ontario Power Generation  
Katy Zaidman, Durham College  
John Zirnhelt, Durham College

**SPECIFIC ACTION ITEMS AND DEADLINE**

**RESPONSIBILITY**

- |  |                              |
|--|------------------------------|
| a) Advisory members may provide feedback to the National Technology Benchmarks committee at <a href="http://www.ntbdb.cctt.ca">www.ntbdb.cctt.ca</a> , (May 31, 2011).   | Advisory Members             |
| b) Co-op – Place this item on the September 30 <sup>th</sup> agenda (ASAP).<br>Send out information to advisory members on co-op opportunities that exist now and future co-op opportunities (to include people who have hired co-op students in the past (Before Sept. 30). | Linda Dillon<br>Katy Zaidman |
| c) One Year Certificate Program/Fast Track – Include on September 30 <sup>th</sup> agenda (ASAP).  | Linda Dillon                 |
| d) Investigate creating a co-op database including ticket information one year after graduation and obtain Information on the number of Non-destructive employment rates (ASAP).   | Katy Zaidman                 |

**NON-ACTION ITEMS OF SIGNIFICANT INTEREST**

Bhamini Chiekrie agreed to be the new Chair of the Non-destructive Advisory Committee.

**REPORT PREPARED BY:** Linda Dillon

**DATE:** Sept. 10, 2010





School of Science and Engineering Technology

Non-destructive Evaluation

Advisory Committee Meeting

Minutes - March 31, 2010

Present: B. Chiekrie, L. Dillon, M. Dudley, J. MacDonald-Jenkins, M. MacDonald, D. Mennie, C. Sigus, S. Simpson, S. Todd, M. Trelinski, K. Zaidman, J. Zirnheld

Regrets: A. Iorgu, L. Stewart

ITEM	ACTION BY
<b>1. WELCOME AND OPENING REMARKS</b>	
Susan Todd, dean welcomed everyone to the meeting. Members gave a brief introduction of themselves and the company they represented.	
<b>2. ACCEPTANCE OF AGENDA</b>	
Accepted.	
<b>3. PREVIOUS MINUTES</b>	
Moved by D. Mennie Seconded by K. Zaidman that the minutes of February 17, 2009 be approved. Carried.	
<b>4. NEW BUSINESS – FOR DISCUSSION</b>	
<b>4.1 National Technology Benchmarks</b>	
A letter from the Canadian Council of Technicians and Technologists (CCTT) had previously been distributed to advisory members. It was noted that on January 5, 2010, the Canadian Council of Technicians and Technologists (CCTT), in partnership with the National Council of Deans of Technology (NCDOT) released the latest version of the National Technology Benchmarks (NTB). The Benchmarks constitutes a series of outcome-based criteria against which private and public educational agencies across Canada will be evaluated for accreditation. The NTB is looking for skill sets and capabilities expected from graduates of applied science and/or engineering technology programs. The committee is looking for feedback from advisory committees on the following questions:	
<ol style="list-style-type: none"><li>1. Is the current National Technology Benchmarks criteria relevant to you as an employer?</li><li>2. Are any important criteria missing?</li><li>3. Would members be interested in assisting the National Technology Benchmarks Committee to help promote the viability of the National Technology Benchmarks to employer groups?</li></ol>	
Sue Todd, dean mentioned that every program goes through program standards. The Non-destructive program standards are approximately 8 years old. The 10-12 outcomes are very broad and that it is good to get a national sense of outcomes to provide a more diverse graduate. It was noted that the Non-destructive program falls under the Mechanical Technician program.	
Advisory members may provide feedback by May 31, 2011 to <a href="http://www.ntbdb.cctt.ca">www.ntbdb.cctt.ca</a> , Stakeholder Consultation section.	
<u>Action:</u> Advisory members may provide feedback to the National Technology Benchmarks (as above).	

**ITEM**

**ACTION BY**

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**4. NEW BUSINESS – FOR DISCUSSION**

**4.2 Options to Improve Program/Graduate Success**

**General Education Requirements**

The program is broken into 3 areas for curriculum:

- Vocational skills
- Essential employability skills
- General Education skills

Durham College must have 3 General Education courses in any 2 or 3 year program. This is mandated by the Ministry and helps to improve the program and graduate success.

The 3 General Education courses that have been added into the Non-destructive Program of Studies curriculum are:

Semester 1 – General Education elective

Semester 2 – Environmental Protection and Global Wellness

Semester 4 – Law and Ethics

Michael MacDonald noted that Ontario Power Generation has developed a new competency model where items such as time management, interpersonal relationships, integration are covered.

Mike Dudley also mentioned that Law and Ethics is a good fit in the program because when a person goes to the Canadian General Standards Board (CGSB) you have to sign relating to Ethics.

Katy Zaidman noted that in the curriculum that 1 hour was dropped in the Applied Mechanics subject. It was noted that students do have the option of writing the Ontario Association of Certified Engineering Technicians and Technologists (OACETT) exam.

**Co-op Update**

Katy Zaidman, program coordinator provided the following update and noted some recent challenges with getting students co-op positions. A lengthy discussion followed on the co-op topic.

- Katy noted that spring/summer 2009 was more challenging for co-op positions due to the union fulfilling and their rights and obligations. The winter 2010 co-op was very successful with the majority of the second year class being placed. At the moment, Katy noted that she has 40 students in her class and had had zero employers show an interest in taking a co-op student.
- In the past, Ontario Power Generation took many students with the relationship that was built between Durham College and OPG, but we cannot rely on 1 employer anymore to take a bulk of co-op students. Sue Todd noted that 20-24 students are needed in the final year to merit costs.
- John Zirnhelt felt that co-op should not be discontinued as graduates are getting good jobs and there is no problem with employment. He also felt that the co-op model should not be changed.
- Dave Mennie noted that employers want CGSB certificates as industry does not demand diplomas.
- Katy noted that summer 2010 will be the last year for co-op offerings due to less co-op positions being available for students and no co-op office being available to assist students to try and get co-op placements.
- Sue Todd advised that she has hired a Field Placement support person for fall 2010 as a pilot to build relationships with industry. Sue also noted that the Program of Studies has been modified to reflect no co-op term starting in September 2010 and mentioned that no spring or summer courses will be offered as in the past. Employers will not be able to hire students for 4 month co-op positions.

**ITEM**

**ACTION BY**

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**4. NEW BUSINESS – FOR DISCUSSION**

**Co-op (Cont'd)**

- The relevance of co-op will be discussed again in the September 30<sup>th</sup> meeting.
- Katy Zaidman will send Information to advisory members on co-op opportunities that exist now and future co-op opportunities which include people who have hired co-op students in the past.

It was noted that co-op is not mandatory for students.

Action: Katy Zaidman to send out information on co-op opportunities.

**One Year Certificate Program/Fast Track**

There was discussion on a one year certificate program or a Fast Track program. Steve Simpson noted that in Alberta there is a 12 week program and the 40 hour level is back to back in North Alberta.

The following ideas were also noted:

- A 1 year graduate certificate to include Non-destructive specialized subjects (without foundational subjects). This could be run through the Continuing Education office and advertised as the new type of Non-destructive specialist.
- A Fast track option with a pre-requisite of Grade Point Average for a graduate certificate
- Exit as a technician pathway or a technologist pathway with Fast Track with a pathway for the University of Ontario Institute of Technology (UOIT).

The above item will be put on the September 30<sup>th</sup> agenda and discussed further.

Members requested the Non-destructive employment rates. These will be sent out with the agenda and minutes for the September 30<sup>th</sup> meeting.

It was suggested that a database be kept with the number of graduates and tickets one year after students graduate.

Action: Katy Zaidman to obtain the NDE employment rates and investigate the co-op database possibility.

**Addition of Third Year to the Non-destructive Program**

John Zirnhelt felt that industry needed a third year added to the program.

**4.3 Colleges Ontario Network for Industry Innovation (CONII)**

June MacDonald-Jenkins from the Applied Research office gave an overview of CONII. She noted that it is a consortium of colleges dedicated to helping business and industry become more competitive in the global economy. A key research area for the college under CONNI is energy. One goal is for economic development for small enterprises for research and development as an economic development strategy. June noted that funds are available to small and medium sized companies, but a project must meet all 3 partners – CONII, National Science and Engineering Research Council (NSERC), and faculty research. Benefits to students are that it can provide learning in the classroom, students can work as research assistants and opportunities can be provided in the areas of placements, internships and co-op. June noted that at the moment, 20 colleges are involved in CONII.

**4.4. Hired Career Services**

Information on internship and the graduate placement report was distributed to members.

School of Science and Engineering Technology

Non-destructive Evaluation

Advisory Committee Meeting

Minutes - March 31, 2010

**ITEM**

**ACTION BY**

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**NEW BUSINESS - FOR DISCUSSION**

**5. ELECTION OF CHAIR**

Katy Zaidman nominated Bhamini Chiekrie as the new Chair of the committee.

This nomination was seconded by David Mennie. This nomination was accepted by Bhamini Chiekrie as new Chair.

**6. NEXT MEETING**

Thursday, September 30, 2010

2:00-4:00 p.m.

Room H101, Technology Boardroom

**7. ADJOURNMENT**

5:40 p.m.



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Chair



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Date



**SCHOOL OF SCIENCE AND ENGINEERING TECHNOLOGY**  
**ADVISORY COMMITTEE MEETING**

**COMMITTEE:** Biotechnology Advisory Committee

**DATE OF MEETING:** June 15, 2010

**MEMBERS PRESENT:** Mikeisha Boyd, Virox Technologies Inc.  
Maureen Calhoun, Durham College  
Lindsey Darnley, Vet Link  
Nicolle Lainsbury, Pro-Lab Diagnostics Inc.  
Rebecca Massimi, Durham College  
Sarah McBride, Luminex Molecular Diagnostics  
Joyce Myers, Durham College  
Crystal Richardson, Durham College  
Susan Todd, Durham College  
Bruce Trieselmann, Durham College  
Nadia Trieselmann, Durham College

**SPECIFIC ACTION ITEMS AND DEADLINE**

**RESPONSIBILITY**

- |  |             |
|--|-------------|
| a) Computer Skills – Review curriculum to ensure necessary components of computer skill development are incorporated within other courses now that Computer Applications has been removed from the program of studies. Use of formulae, creation of spread-sheets and graphs, data manipulation, macros and pivot tables should be applied in other courses. | All Faculty |
| b) 2 year Laboratory Technician Program – Feedback from discussions to be forwarded to Dean – School of Science and Engineering Technology.  | M. Calhoun  |
| c) Feedback regarding communication fundamentals to be forwarded to Dean – School of Science and Engineering Technology.   | M. Calhoun  |
| d) Annual Curriculum Review:<br>Biotechnology: additional molecular biology and longer cell biology labs   | All Faculty |
| e) Communicate dates of alumni night and career night for fall/winter semesters.   | M. Calhoun  |

**NON-ACTION ITEMS OF SIGNIFICANT INTEREST**

**REPORT PREPARED BY:** Maureen Calhoun

**DATE:** September 8, 2010



**School of Science and Engineering Technology**

**Biotechnology Technologist Advisory Committee Meeting**

**Minutes**

**June 15, 2010**

**PRESENT:** Mikeisha Boyd, Maureen Calhoun, Lindsey Darnley, Nicolle Lainsbury, Crystal Richardson, Rebecca Massimi, Sarah McBride, Joyce Myers, Crystal Richardson, Susan Todd, Bruce Trieselmann, Nadia Trieselmann

**REGRETS:** Geeta Bhat, Christi Bristow, Julia Green-Johnson, Graham Henderson, Dimitrios Melegos, Martin Skulnick, Noorjahan Begum, David Wicks

**1. WELCOME AND OPENING REMARKS:**

Susan Todd, dean welcomed everyone to the meeting. Sue provided an overview of the purpose of advisory councils and introduced faculty. A copy of the terms of reference was included in each package and reviewed by Sue with all attendees.

**2. ACCEPTANCE OF AGENDA AND APPROVAL OF MINUTES:**

No new business was added to the agenda

A motion was made to accept the agenda

Moved by: Susan Todd

Seconded by: Maureen Calhoun

**CARRIED**

**3. PREVIOUS MINUTES**

No previous minutes were distributed as all councils were newly restructured with new direction.

**4. NEW BUSINESS – FOR DISCUSSION**

**4.1 Colleges Ontario Network for Industry Innovation (CONII) –**

A representative from the Applied Research Office gave a brief power point presentation on CONII, a consortium of colleges dedicated to helping business and industry become more competitive in the global economy. A key research area for the college under CONII is energy. Contact information was left for distribution.

**4.2 Hired Career Services**

Sue Todd briefly introduced Hired Career Services for the college. A pamphlet was included in the packages for each member should the opportunity to post job opportunities within their respective companies become available.

**School of Science and Engineering Technology**  
**Biotechnology Technologist Advisory Committee Meeting**

**Minutes**

**June 15, 2010**

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**4. NEW BUSINESS – FOR DISCUSSION (Cont'd)**

**4.3 Key Performance Indicators (KPIs)**

Sue Todd gave an overview on Key Performance Indicators (KPIs) as well as curriculum review and program health matrix. This introduced program measurables to the council members. A draft of the current Annual Curriculum Review (ACR) and Key Performance Indicators (KPI) information was copied to each member within the packages provided.

**4.4 Program of Studies**

Maureen Calhoun introduced the program of studies indicating there had been three changes to the science cluster program curriculum.

- Biology had been moved to semester one from semester two as a result of curriculum review and the need for this course to be a prerequisite rather than a co requisite to support other courses.
- Environmental Science had been moved to semester one from semester two to allow students the ability to do outside laboratories in the fall weather where the winter did not allow for this opportunity.
- Computer Applications had been removed from all 3 year programs due to curriculum review and student feedback.

**Changes to Program of Studies**

Feedback was as follows:

- Word and Excel are used in industry. Some of our alumni have had to take additional Excel training to learn to create spreadsheets, enter formulas, and create graphs. Pivot tables are also used. Need to manipulate data, create graphs, and create pivot tables.
- Recent graduates are more computer savvy than older colleagues. The alumni at the meeting generally agreed with removing the computer course.
- Employees are trained to use other (e.g. application-specific) software packages.
- The computer course at DC was business-oriented, not scientific.
- It was suggested that Excel be incorporated into the labs or in Statistics.

This was a follow up discussion item for each of the four councils during the breakout sessions.

Maureen Calhoun also introduced new program ideas as point of discussion at a focus group level. The two year laboratory technician program was introduced as a follow up to initial discussions during the June 2009 council meeting. A combined science/technology certificate concept was introduced and lastly a water technology certificate concept. All these were points of discussion for the four councils during the breakout sessions.

Time was then allotted for a meet and greet between all council members. At this point, each of the four groups moved to a different location to discuss various agenda items at a specific program level.

**School of Science and Engineering Technology**  
**Biotechnology Technologist Advisory Committee Meeting**

**Minutes**

**June 15, 2010**

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**4. NEW BUSINESS – FOR DISCUSSION (Cont'd)**

**4.5 New 2-year Lab Tech Program**

- The Program Advisory Committee did not feel that there would be jobs for graduates from this program.
- Pay would not be good.

**4.6 New Certificate Idea – “Technology/Science” Certificate**

- The Program Advisory Committee felt that this was a good idea.
- New certificate concept: water tech. Due to time constraints, this did not get discussed.

**4.7 Key Skills in Hiring a Graduate**

- Have confidence in what you are doing and understand what you are doing
- Be able to pick up things quickly and independently.
- How a working lab (in industry) is run (managed).
- An understanding of the politics of small companies/corporations (an understanding of hierarchical structure and inter-level communications).
- Interpersonal and presentation skills. How to present yourself/material.

**4.8 Quality Standards**

- Members were aware of ISO standards within company but were not directly involved in implementing them.
- Use GLPs and Biosafety Guidelines on a daily basis in labs.

**Additional Comments**

- Members commented that they would have benefitted from more Molecular Biology and longer Cell Biology labs.
- Skills - confident public speaking, interviewing, respect for others.

**5. OTHER BUSINESS:**

- Student alumni night is being planned for sometime in October. The suggested focus will be for 3<sup>rd</sup> year students (1<sup>st</sup> and 2<sup>nd</sup> year are also welcome) with graduates discussing interview skills, job hunting skills, “what I had to do to find my job”, how I found my job etc. We will be looking for graduates from all programs.
- A career night is being planned for late January where employer representatives can present information regarding career paths to our 1<sup>st</sup> and 2<sup>nd</sup> year students (3<sup>rd</sup> year students are also welcome). The focus here will be to assist students with an understanding as to where their programs of choice can lead them.



**School of Science and Engineering Technology**  
**Biotechnology Technologist Advisory Committee Meeting**

**Minutes**

**June 15, 2010**

**6. ACTION ITEMS:**

**ACTION:**

**ACTION BY:**

Computer Skills – Review curriculum to ensure necessary components of computer skill development are incorporated within other courses now that Computer Applications has been removed from the program of studies. Use of formulae, creation of spreadsheets and graphs, data manipulation, macros and pivot tables should be applied in other courses.	All faculty
2 year Laboratory Technician Program – Feedback from discussions to be forwarded to Dean – School of Science and Engineering Technology.	M. Calhoun
Feedback regarding communication fundamentals to be forwarded to Dean – School of Science and Engineering Technology.	M. Calhoun
Annual Curriculum Review: Biotechnology: additional molecular biology and longer cell biology labs.	All faculty
Communicate dates of alumni night and career night for the fall/winter semesters.	M. Calhoun

**7. NEXT MEETING:**

January 19, 2011  
 Location/Time TBA

  
 \_\_\_\_\_

Chair  
 Bruce Trusek

  
 \_\_\_\_\_

Date



**SCHOOL OF SCIENCE AND ENGINEERING TECHNOLOGY**

**ADVISORY COMMITTEE MEETING**

**COMMITTEE:** Environmental Technology

**DATE OF MEETING:** June 15, 2010

**MEMBERS PRESENT:** Ronald Bell, Retiree, Ontario Ministry of Environment  
 Fran Bolton, Durham Region  
 Melanie Brooks, Durham College  
 Maureen Calhoun, Durham College  
 Adam Cochrane, Ontario Power Generation  
 Tammy Chung, Central Lake Ontario Conservation  
 Lorelei Hepburn, The Environmental Factor Inc.  
 Mike Kopansky, Miller Compost Ontario  
 Rebecca Peters, Cameco Corporation  
 Ross Stevenson, Durham College  
 Sandra Thomas, Ontario Ministry of Environment  
 Sue Todd, Durham College  
 John White, Durham College  
 Katherine Wilson, Durham College

**SPECIFIC ACTION ITEMS AND DEADLINE**

**RESPONSIBILITY**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>a) Computer Skills – Review curriculum to ensure necessary components of computer skill development are incorporated within other courses now that Computer Applications has been removed from the program of studies. Use of formulae, creation of spread-sheets and graphs, data manipulation, macros and pivot tables should be applied in other courses.</li> <li>b) 2 year Laboratory Technician Program – Feedback from discussions to be forwarded to Dean – School of Science and Engineering Technology</li> <li>c) Feedback regarding communication fundamentals to be forwarded to Dean – School of Science and Engineering Technology</li> <li>d) Annual Curriculum Review:<br/>         Environmental Department to review and ensure suggestions brought forth Regarding key skills be incorporated into the Environmental program. Addition of Ecology course to program of studies to be reviewed.</li> <li>e) Communicate dates of alumni night and career night for fall/winter Semesters</li> </ul> | <p>All Faculty</p> <p>M. Calhoun</p> <p>M. Calhoun</p> <p>All Faculty</p> <p>M. Calhoun</p> |
|---|---|

**NON-ACTION ITEMS OF SIGNIFICANT INTEREST**

**REPORT PREPARED BY:** Maureen Calhoun

**DATE:** September 8, 2010



School of Science and Engineering Technology

Environmental Technology

Advisory Committee Meeting

Minutes

June 15, 2010

PRESENT: Ronald Bell, Fran Bolton, Melanie Brooks, Adam Cochrane, Tammy Chung, Lorelei Hepburn, Mike Kopansky, Rebecca Peters, Ross Steveson, Sandra Thomas, Sue Todd, John White, Katherine White

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**1. WELCOME AND OPENING REMARKS**

Susan Todd welcomed everyone to the meeting, gave an overview of the purpose of advisory councils and introduced faculty. A copy of the terms of reference was included in each package and reviewed by Sue with all attendees.

**2. ACCEPTANCE OF AGENDA AND APPROVAL OF MINUTES**

No new business was added to the agenda.

A motion was made to accept the agenda

Moved by: Susan Todd

Seconded by: Maureen Calhoun

**CARRIED**

**3. PREVIOUS MINUTES**

No previous minutes were distributed as all councils were newly restructured with new direction.

**4. NEW BUSINESS – FOR DISCUSSION**

**4.1 Colleges Ontario Network for Industry Innovation (CONII)**

A representative from the Applied Research office gave a brief power point presentation on CONII, a consortium of colleges dedicated to helping business and industry become more competitive in the global economy. A key research area for the college under CONNI is energy. Contact information was left for distribution.

**4.2 Hired Career Services**

Sue Todd briefly introduced Hired Career Services for the college. A pamphlet was included in the packages for each member should the opportunity to post job opportunities within their respective companies become available.

**4.3 Key Performance Indicators (KPIs)**

Sue Todd discussed Key Performance Indicators (KPIs) as well as curriculum review and program health matrix. This introduced program measurables to the council members. A draft of the current Annual Curriculum Review (ACR) and Key Performance Indicators information was copied to each member within the packages provided.

#### **4. NEW BUSINESS – FOR DISCUSSION (Cont'd)**

##### **4.4 Program of Studies**

Maureen Calhoun introduced the program of studies indicating there had been three changes to the curriculum in the science clusters as follows:

- Biology had been moved to semester one from semester two as a result of curriculum review and the need for this course to be a prerequisite rather than a co requisite to support other courses.
- Environmental Science had been moved to semester one from semester two to allow students the ability to do outside laboratories in the fall weather where the winter did not allow for this opportunity.
- Introduction to computers had been removed from all 3 year programs due to curriculum review and student feedback.

This was a follow up discussion item for each of the four councils during the breakout sessions.

##### **Changes to Program of Studies**

- A discussion about the relevance of the Computer Applications course took place with members questioning the need for a low level computer applications course. The general feeling was that the course was of limited value and the skills taught in the course could easily be embedded in other courses where the practical uses of programs such as excel would seem more relevant to the students.
- In general, the removal of the introductory computer course was supported.

Maureen Calhoun also introduced new program ideas as point of discussion at a focus group level. The two year laboratory technician program was introduced as a follow up to initial discussions during the June 2009 council meeting. A combined science/technology certificate concept was introduced and lastly a water technology certificate concept. All these were points of discussion for the four councils during the breakout sessions.

Time was then allotted for a meet and greet between all council members. At this point, each of the four groups moved to a different location to discuss various agenda items at a specific program level.

##### **4.5 New Two Year Lab Tech program**

- This item was not specifically discussed.

##### **4.6 New Certificate Idea – “Technology/Science” Certificate**

- This item was not specifically discussed.

##### **4.7 New Certificate Concept: Water Tech**

- This item was not specifically discussed.

##### **4.8 Key Skills in Hiring a Durham College Graduate**

- A wide range of discussion took place about the skills that an Environmental Technology graduate needs to have to be an effective member of the environmental work force. A list of skills was developed as follows:

- a) Good lab practices including precision, accuracy and good housekeeping
- b) Ability to collaborate with others is an essential skill. Students should be taught to work with others in a multifaceted, open minded fashion
- c) Accountability - Need to be responsible for the actions in a workplace
- d) Project management skills. Define the deliverables and timelines of a project and assume individual responsibility for assigned projects
- e) Field work, sampling procedures and data collection
- f) General research skills
- g) Good report writing skills. There was concern about graduate ability to write effective, concise work related reports
- h) A clear understanding of the environmental regulatory process in Ontario and across Canada

**4. NEW BUSINESS – FOR DISCUSSION (Cont’d)**

**4.9 Quality Standards**

- Due to time constraints, this item was not specifically discussed

**Additional Comments**

- Placement – There was a general discussion about student placement and the problems associated with the logistics of current practices. There is no easy fix and nothing and this will be discussed further.  
 - Ecology Course - Faculty asked for input into the advisability of incorporating a new ecology course into the program of studies. The addition of this course would require the removal of a current course from the program of studies in order to maintain compliance with the maximum number of contact hours per week for student timetables.

**5. OTHER BUSINESS**

- Student alumni night is being planned for sometime in October. The suggested focus will be for 3<sup>rd</sup> year students (1<sup>st</sup> and 2<sup>nd</sup> year are also welcome) with graduates discussing interview skills, job hunting skills, “what I had to do to find my job”, how I found my job etc. We will be looking for graduates from all programs.  
 - A career night is being planned for late January where employer representatives can present information regarding career paths to our 1<sup>st</sup> and 2<sup>nd</sup> year students (3<sup>rd</sup> year students are also welcome). The focus here will be to assist students with an understanding as to where their programs of choice can lead them.

**6. ACTION ITEMS**

**ACTION:**

**ACTION BY:**

Computer Skills – Review curriculum to ensure necessary components of computer skill development are incorporated within other courses now that Computer Applications has been removed from the program of studies. Use of formulae, creation of spreadsheets and graphs, data manipulation, macros and pivot tables should be applied in other courses.	All faculty
2 year Laboratory Technician Program – Feedback from discussions to be forwarded to Dean – School of Science and Engineering Technology.	M. Calhoun
Feedback regarding communication fundamentals to be forwarded to Dean – School of Science and Engineering Technology.	M. Calhoun
Annual Curriculum Review – Environmental Department to review and ensure suggestions brought forth regarding key skills be incorporated into the Environmental program. Addition of Ecology course to program of studies to be reviewed.	All faculty
Communicate dates of alumni night and career night for the fall/winter semesters.	M. Calhoun

**7. NEXT MEETING**

January 19, 2011  
 Time/Location TBA

Loislei Hepburn/ou  
 Chair *L. Della*

October 4, 2010  
 Date