

Fanshawe College

FIRST: Fanshawe Innovation, Research, Scholarship, Teaching

Documentation (Approvals etc...)

Computer Programmer Analyst

2011

CPA2 Curriculum Modification for 2012-13

Fanshawe College

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PROGRAM/CURRICULUM "RATIONALE FOR CHANGES"

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REGISTRAR

All requests for changes to programs of instruction must be submitted to the Registrar's Office by December 1st each year to be implemented for the following September intake. All changes require the approval of the Dean and possibly the VPA's Office, if significant.

REMINDER: We need to ensure that changes are made properly and in a timely manner to: maximize student success; optimize employment preparation; meet all quality and integrity responsibilities to MTCU, PQAPA and our Board of Governors; and meet community expectations.

- The **Program/Curriculum "Rationale for Changes"** should be completed using this template and all areas must be completed. An electronic copy of this document should be submitted to the Registrar's Office.
- The Dean/Chair responsible for the program should consult with other affected schools and obtain the appropriate sign-offs on a paper copy of this document. Once all consultations and sign-offs have occurred, the paper copy should be submitted to the RO
- Course Request Forms must also be submitted electronically to Strategy and Planning for all new courses. These will be forwarded to Scheduling following approval of the changes by the Dean and possibly the VPA's Office.

1.0 Program Requiring Changes

Program Title:	Computer Programmer Analyst	
Program Alpha & Number:	CPA2	
Effective Catalog Year:	2012-2013	

Please answer each of the questions below, if applicable. Missing or incomplete information may delay approval and/or implementation of the proposed changes.

2.0 Rationale for Changes

2.01 Provide a brief description of the reasons for the proposed changes.

The first change was made to substitute our new "Business at the Speed of Light" mandatory Gen-Ed course for the existing BUSI-1005 because we believe this is a better course for I.T. students. This new course will be offered for all undergrad IT programs.

All other changes are a result of recommendations made by the industry program review advisory group. See attached the final report from the CPA program review. Specifically recommendations #1, #2, #3, #4, #6, #8 and #15 from the external focus group were addressed with the DA changes. Also addressed were recommendations #2, #7, and #8. These changes were initiated through the program review process and validated through conversation with employers and graduates. Furthermore, the changes permitted more abstract names for courses that should limit the amount of changes in the near to mid-term. It is felt that the changes proposed will make a more robust program and better prepare the graduates for the industry. The changes to when courses are offered will also assist our students to be competitive in the co-op marketplace while at the same time work to ladder them in the program in an effort to increase graduation rates.

2.02 Students

- Are changes a response to student feedback? Or our Programs Data Report - Weak Factors? (summarize how changes address this issue)
- How will changes affect student learning and success? (describe evidence to support this)

Since the change recommendations came from industry representatives, there would be reason to believe the changes will enhance student success in the job market

- How will changes affect cost of the program for students? (e.g., materials fees; equipment fees - laptop program; OSAP implications)
- How will changes affect the flow of the program?

Many of the changes resulted in the movement of course content within the program to strengthen student co-op effectiveness which should result in an improved program flow

2.03 Relationship of Program to Industry

- How do changes reflect trends in the field or in industry? (Provide data regarding industry and/or professional trends.)

Changes were requested by an external focus group of industry representatives and as such represent the current needs of the market within the London area

2.04 Program Learning Outcomes

- How do the changes align with Ministry outcomes? (Provide a copy of the completed program map indicating gaps/overlaps that are being corrected)

Changes align with the Ministry program learning outcomes

2.05 Relationships with Other Fanshawe College Programs

- Is this course in a laddered program or part of any other Fanshawe College program?

No impact on other programs.

2.06 Relations with Other Post-Secondary Programs

- How will the changes affect transfer agreements with other post-secondary institutions?
- What discussions have been initiated with these institutions regarding the changes?

Currently having discussions with universities where we have transfer agreements

2.07 Changes on Fit of Program with general College Requirements for Programs

- How do changes affect the fit of the program with the College's strategic plan, program mix, general education requirements, marketing?

Improve the position of the program. Course names are more reflective of what is being covered and will be recognizable to industry and prospective students.

- Are changes consistent with Colleges policies/practices? (Identify specific areas where policies/practices need to be altered if program changes approved.)

Yes

3.0 Consultation Regarding Proposed Changes

3.01 Consultation With Program Advisory Committee

- Indicate feedback from the program advisory committee regarding the changes.

Changes are supported by the program review advisory committee.

3.02 Consultation With Other Programs/Schools/Services

- What programs/schools/services have been consulted?
- What feedback and suggestions have been offered through consultation?

LLS was consulted on the proposal of the new mandatory gen ed business focused course. They were supportive of the idea and helped us flush out the CIS.

4.0 Resource Implications of Proposed Changes

4.01 Staffing

- Outline all staffing consequences, both for the program and related areas.
N/A

4.02 Services

- Outline all consequences on other areas.
N/A

4.03 Space or Technology Requirements

- Outline how changes affect space and/or technology requirements.
N/A

4.04 Budgetary Implications

- Outline budgetary implications (include consequences on other schools such as increase/decrease in teaching hours required)
- Outline changes to materials fees.
N/A

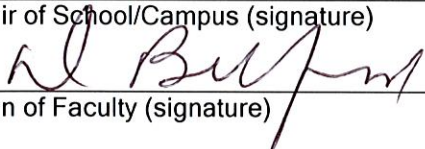
Approvals: Chair of School and Dean of Faculty; possibly VPA's Office, if significant

Approved

Not Approved / Requires Changes


Chair of School/Campus (signature)

Dec 1/11
Date


Dean of Faculty (signature)

Dec 1/11
Date

Chair of Servicing School, if required (signature)

Date

Vice-President, Academic, if required (signature)

Date



FANSHAWE COLLEGE OF APPLIED ARTS AND TECHNOLOGY PROGRAM REVIEW REPORT SUMMARY

GENERAL INFORMATION

Program Title: **Computer Programmer Analyst**

Review by: External Focus Group and Internal Program Review Committee

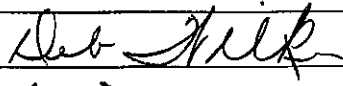
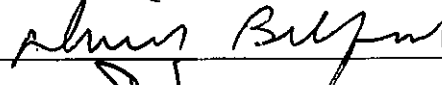
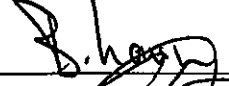
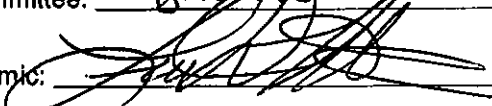
School/Campus: School of Information Technology/London

Date of Last Formal Evaluation: 2005

Date of Motion of CAC Approval:

Chair, Program Review Committee: Deb Wilkin

SIGNATURES

- 1) Deb Wilkin, Chair, Program Review Committee:  Date: May 10, 2011
 - 2) David Belford, Dean, Faculty of Business:  Date: May 24, 2011
 - 3) Barney Lawn, Chair, College Advisory Committee:  Date: May 26/11
 - 4) Lane Trotter, Senior Vice-President Academic:  Date: May 30/11
-


- 5) Approval by Office of the President:  Date: May 31/11
-

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Appendix A – Summary of External Focus Group Recommendations

Appendix B – Summary of Internal Recommendations

1. ABSTRACT

1.1 PROCESS USED:

- 1.1.1. Program identified for review process, 2009
- 1.1.2. Chair of Program Review Committee assigned by the Centre for Academic Excellence (CAE), January 2011
- 1.1.3. Program Mapping completed February 2011
- 1.1.4. External Focus Group Members recruited January 2011
- 1.1.5. Binders prepared by the school and sent to the External Focus Group Panel one week prior to meeting held February 16, 2011 at Fanshawe College
- 1.1.6. Internal Assessment Report completed by the school April 29, 2011
- 1.1.7. Final Program Review Committee met May 5, 2011 to review final recommendations and determine action steps

1.2 SUMMARY OF RECOMMENDATIONS

- 1.2.1 Summary of Review Findings – External Focus Group
See Appendix A
- 1.2.2 Summary of Review Findings – Internal Assessment
See Appendix B

2. EXTERNAL FOCUS GROUP

2.1 NAMES AND CAPACITIES OF MEMBERS

Amber Bird, Career Centre Leader, Software Developers, London Life Insurance Company
Todd Crowe, Project Manager, Farms.com Ltd
John Hay, Project Manager, DRN Commerce
David Millar, Developer/Analyst, rTraction Canada
Steve Rowland, Senior IT Manager, TDCT Technology Solutions, TD Financial Group
Adam Blain, Recent Graduate – December 2009, IT Solutions Developer, TD Financial Group
Jim Freeman, President & CEO, Step Networks
James McInnes, CEO, Cyborg Trading Inc.
Brian O'Neill, Chief Technical Architect, TGT Solutions
Gord Worall, Manager, Information System Services, Fanshawe College

2.2 NAMES AND CAPACITIES OF RESOURCE PERSONS ATTENDING MEETING

Deb Wilkin, PRC Chair, Centre for Academic Excellence
David Belford, Dean, Faculty of Business
Kevin Weaver, Chair, School of Information Technology
Jim Cooper, Coordinator, Computer Programmer Analyst Program
Amy Morris, Co-operative Education Coordinator
Otte Rosenkrantz, Team Leader, Centre for Academic Excellence
Tara Green, Program Review Coordinator, Centre for Academic Excellence (recording secretary)

2.3 NAMES AND CAPACITIES OF PERSONS CONSULTED OR SUBMITTING BRIEFS

None

2.4 SOURCE DOCUMENTS USED BY EXTERNAL FOCUS GROUP

- 2.4.1 Current Program Information Sheet
- 2.4.2 Program Review Data Report, prepared by Strategy & Planning
- 2.4.3 MTCU code: 60503, Computer Programmer Analyst Program Standard
- 2.4.4 MTCU Essential Employability Skills
- 2.4.5 Program Mapping Matrices

3. INTERNAL ASSESSMENT & PROGRAM REVIEW COMMITTEE

3.1 NAMES AND CAPACITIES OF MEMBERS

Kevin Weaver, Chair, School of Information Technology
Jim Cooper, Coordinator, Computer Programmer Analyst Program
Brian Turford, Faculty Member
Michael Feeney, Faculty Member
Garth Santor, Faculty Member
Darryl Bedford, Faculty Member
Tony Haworth, Faculty Member
Lianne Wong, Faculty Member
Evan Lauersen, Faculty Member
Bill Pulling, Faculty Member
Cheri Aart, Faculty Member

3.2 NAMES AND CAPACITIES OF RESOURCE PERSONS CONSULTED

None

3.3 SOURCE DOCUMENTS USED BY INTERNAL PROGRAM REVIEW COMMITTEE

- 3.3.1 Program Review Data Report, prepared by Strategy and Planning
- 3.3.2 External Focus Group Minutes and Recommendations
- 3.3.3 MTCU Code: 60503 Program Standards
- 3.3.4 Completed Program Mapping Matrices
- 3.3.5 Current List of Transfer and Articulation Agreements

4. COMMENDATIONS AND AFFIRMATIONS

- Strong program which is considered a flagship program in the School of Information Technology
- High industry satisfaction with graduates (Healthy KPI results)
- Typically very high placement rate for co-op, and majority of co-op students are hired by their employer upon graduation

Summary of EXTERNAL Recommendations
PROGRAM REVIEW of Computer Programmer Analyst

Program Review Committee Chair: Deb Wilkin

External Focus Group Meeting Date: February 16, 2011

Key Issues	Recommendations	Implications	Faculty Comment	College Comment	Action Plan
Skills required for graduates	<p>1. More project and process evaluation – an understanding of the importance of time management and time tracking. Could be done in iterations.</p> <p>a. Introduce and use PMLC and some other SDLC earlier in the program, leading to the later course on patterns.</p> <p>b. Introduce team development projects that would include the opportunity to build new projects based on already completed projects. (version control)</p>	Curriculum changes	<p>Agreed.</p> <p>We will investigate adding more hours to existing project course or additional project course and cover PMLC and SDLC more comprehensively.</p> <p>Pending the addition of a second patterns course, which needs more discussion, we could build projects from one level to another</p> <p>Client/Server courses</p>	<p>Agreed.</p> <p>More project based learning with the incorporation of PMLC and SDLC practices would be beneficial.</p>	<p>Members of the team have agreed to consider both alternatives for adding more project work (additional hours in level 6 or additional course in level 5) and then choose one of the options for implementation.</p>

Key Issues	Recommendations	Implications	Faculty Comment	College Comment	Action Plan
			<p>incorporate building a project from one course to another</p> <p>Time tracking, version control, and testing done in level 6 projects course</p>		
Skills required for graduates	2. Teach students to understand software patterns and how to build on them.	Curriculum changes	Agreed. Currently have a course teaching patterns; we will explore adding a second patterns course.	Agreed.	Members of the team have agreed to identify how a new patterns course would be implemented and what changes might be required to the existing patterns course and the rest of the curriculum.
Skills required for graduates	3. Students should build code libraries leading to a capstone project, possibly after the first co-op.	Curriculum changes	Agreed. Additional projects course in level 5 could facilitate this. Investigate using Open Source libraries towards their capstone project and build over time.	Agreed.	Members of the team agreed to investigate using Open Source libraries within the (tentative) level 5 projects course and possibly earlier within the program as well.

Key Issues	Recommendations	Implications	Faculty Comment	College Comment	Action Plan
Skills required for graduates	4. Students need broader knowledge and understanding of the history and nature of the business.	Curriculum changes	Agreed. Could be covered in a proposed new Business General Education course. COBOL course will assist in building a broader understanding.	Agreed.	The team member responsible for the development of the proposed BGE course has agreed to consider this subject area within the course content. Course learning outcomes will be created and sent to Gen. Ed. For approval.
Career pathways	5. Offer more vocational electives. Especially after the first co-op to help students decide a focus and options.	Curriculum changes; additional costs	In 2012 we are offering electives with COBOL and 3D Graphics & Animation in way of a pilot. Electives are difficult to implement to maintain consistency in the program outcomes and it adds cost	Offering more electives can negatively impact the program in a couple ways; first, students may graduate with different skills and knowledge not consistent with employer expectations. Second, electives add cost to running a program.	No specific plans at this time.
Skills required for graduates	6. Introduce students to non-windows operation systems. a. E.g. Introduce IBM programs, such as IBM System z.	Curriculum changes	Agreed. COBOL course will be introduced in Winter 2012.	Agreed, but further investigation needed.	The team member responsible for the development of the new COBOL course intends to

Key Issues	Recommendations	Implications	Faculty Comment	College Comment	Action Plan
			<p>Explore a new C++ course that would incorporate development in the Linux environment (possible replacement for a graphics course)</p>		<p>implement the course delivery platform using IBM System Z.</p> <p>The team member responsible for investigating the new advanced C++ course will examine the possibility of deploying the course using the Linux platform.</p>
<p>Skills required for graduates</p>	<p>7. Introduce some SharePoint development and Microsoft Cloud content for broad awareness.</p>	<p>Curriculum changes</p>	<p>Students are mandated to use cloud technologies in Level 6 project course. Would be expanded to level 5 if a second project course was added.</p> <p>Teaching SharePoint development would require a new and very specific course; something else would have to be</p>	<p>Agreed.</p>	<p>No plans for pursuing SharePoint in the curriculum at this point in time.</p> <p>The team members investigating the development of a level 5 projects course will include Cloud Computing as part of the required content.</p>

Key Issues	Recommendations	Implications	Faculty Comment	College Comment	Action Plan
			removed. Concern over having such a specific course with limited portability.		
Skills required for co-op, timing in program	8. Examine introducing XML earlier to help students be better prepared for the first co-op.	Curriculum changes	Fits well in level 4 due to prerequisite courses and knowledge taught in earlier levels	Agree with faculty comments.	No plans to change.
Co-op education preparation	9. Offer the students more pre-co-op awareness sessions and change the message or add a refresher between 1st and 2nd co-op. a. Employer reception – could encourage better placement fit and ease students into their placements.	Additional costs	Agreed. Currently, the co-op consultant (Amy) organizes individual “Employer Presentations” (e.g. RIM, TD Bank) for students before their 1st co-op whereby they talk about the co-op opportunities that they have for our students.	Agreed.	Amy will modify the existing class on “Starting Your Job” to put more emphasis on these employer expectations. As well, Amy will explore “re-introducing” a Co-op Class called “Employer/Student Panel” whereby the class consisted of a current co-op IT employer and previous co-op IT students that would talk about their expectations and experiences.

Key Issues	Recommendations	Implications	Faculty Comment	College Comment	Action Plan
					In addition, Amy will talk to employers who come in to present to talk about their expectations of students on the job.
Co-op education timelines	10. Should we look at the co-op timeframe and patterns to determine if the co-ops could be longer to allow the students to engage content and add value to the organization?	Program timeline changes; changes to when students are available for employers	Deemed not feasible or of benefit to the program.	Co-op duration has changed a few times in the past and the 8-month model was used. However, it was not successful in retaining students nor did it provide year round coverage for employers to hire co-op students. The college feels that 4-month co-op and the current time pattern is the most effective way to offer co-op.	No plans to change.
Promotion of the programs	11. Try to attract females into the program to offset the coming demographic shift.		Agreed. We participate in the Girls Rock IT event and are the first Canadian Institution to join the National Center for Women	Agreed; anything we can do to try and recruit more females into IT is beneficial.	Continue with existing strategies to recruit female students and also continue to research, and where appropriate, deploy new strategies for

Key Issues	Recommendations	Implications	Faculty Comment	College Comment	Action Plan
			& Information Technology (NCWIT).		female recruitment.
Promotion of the programs	12. Market the career possibilities that grow out of this program.		Agreed. Review promotional materials and complete program fit document.	Agreed.	The coordinator (Jim) has agreed to develop the program fit document.
Career pathways and program fit	13. Develop some aptitude testing opportunities for the students to help them determine different career paths.		Difficult to develop internally; we will support existing tools as provided by the college and attempt to match to match to program fit.	Aptitude testing is planned to move online through the student services area. We can promote the use of the tool to ensure fit and promote pathways.	The Chair (Kevin) to stay informed as the plans for deployment of online aptitude testing.
Skills required for graduates	14. Add content to address QA role (the need for a Quality Analyst, system tester).	Curriculum changes	QA is not the focus of this program; there are separate program standards and MTCU codes for that type of program. Quality assurance is emphasized in various courses. Testing	Agreed.	No plans to change.

Key Issues	Recommendations	Implications	Faculty Comment	College Comment	Action Plan
			<p>techniques are taught in the Level 6 project course</p> <p>Co-op students and grads do obtain employment as QAs and Testers.</p>		
Skills required for graduates	15. Explore alternatives to the gaming/graphics curriculum.	Curriculum changes	Agreed. Alternatives to graphics courses will be investigated.	Agreed.	Members of the team have agreed to investigate alternatives to the two graphics courses and have the alternatives ready for deployment within the next degree audit.

SUMMARY OF INTERNAL RECOMMENDATIONS

Computer Programmer Analyst

Program Review Committee Chair: Deb Wilkin

Internal Assessment Report Completion Date: April 20, 2011

Issues	Recommendations	Implications	Faculty Comment	College Comment	Action Plan
A. Program Overview	1. Seek aggressive articulation agreements with Universities in South-western Ontario	May influence curriculum changes, but also provide new recruitment opportunities	Agreed	Agreed	Work with UWO and U of Guelph to create articulation agreements (ideally 3 + 1, or 2, and 2 + 2 agreements).
	2. Explore the content and expectations in level 2 C++ course to increase retention in early levels		Agreed	Agreed	Discuss ideas as a program team once we have the stats for the Winter semester. An additional hour has been added to the course starting in 2011/12 which is aimed at increasing retention.
B. Student Success Analysis	3. Complete a program fit document for the CPA program to help students in assessing whether the CPA program is the right program for their interests and career aspirations.		Agreed	Agreed	Complete program fit document by end of Fall 2011 semester
	4. Continue to participate in recruiting events with a focus on the application of technology and the broad	Requires time, money and volunteers	Agreed	Agreed	Attend Skills and SLOME with representation from CPA

Issues	Recommendations	Implications	Faculty Comment	College Comment	Action Plan
	prospects of employment (e.g., Open Houses, SLOME, Skills, Girls Rock IT)				
	5. Build and/or showcase sample apps that may be more appealing to prospective female students		Agreed	Agreed	Members of the program team have agreed to consider apps that we show at recruitment events and build in courses are less biased towards males (e.g., gaming) and highlight how it applies to other industries (e.g., healthcare).
	6. Pilot peer led tutorial sessions (e.g., SI model) for level 1 programming and networking courses	Potential to increase retention	Agreed	Agreed	Develop the model and materials in Summer 2011 and pilot in Fall 2011
C. Program Curriculum and Resources	7. Add another project course or increase hours in current course (e.g., cover more PMLC and SDLC)	DA Changes	Agreed	Agreed	Members of the team have agreed to compare the two options (new level 5 course vs. more hours in the existing level 6 course) and then make a recommendation to be deployed within the next degree audit.
	8. Explore the following changes in consultation with industry: a. remove existing graphics courses b. remove existing	DA Changes	Agreed	Agreed	Members of the team have agreed to investigate each of the recommendations listed and determine how each would be positioned within the context of the existing

Issues	Recommendations	Implications	Faculty Comment	College Comment	Action Plan
	<p>concurrent processing courses</p> <p>c. add in an advanced topics in C# course and cover threading as part of that course</p> <p>d. add in an advanced topics in C++ course (e.g., Linux development, threading, sockets)</p> <p>e. add in a second patterns in software course</p>				<p>curriculum. Based on the results of the investigation, changes will be made to the degree audit.</p>

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Degree Audit Report

Catalog: 2012/2013

Program: CPA2
Department: ITY - Information Technology
Academic Level: PS
CCD: 9 - 6AcadSem/1800-2100hrs

Name: Computer Programmer Analyst

Grade Scheme: LG2
Major: CPA2 - Computer Programmer Analyst
Co-Op Indicator: Mandatory Co-op

Div: ITY - Information Technology Division

Academic Program Requirement

Total Credits: 115.00
GPA Requirement: 2.000
Minimum Grade: D
Residency Reqmt: 29.00
Residency Reqmt GPA: 2.000

Academic Requirement: CPA2.12 Computer Programmer Analyst

Major: CPA2
Grade Scheme: LG2
Minimum GPA: 2.000
Minimum Grade:

Subrequirement: Level 1

Take all of the following Mandatory Courses:
Group 1

Table with 4 columns: Course ID, Course Name, Total Hours, Total Credits, GE. Rows include BUSI-1060, INFO-1135, INFO-1150, INFO-1119, INFO-1120.

Group 2

TAKE WRIT-1043 OR WRIT-1034

Table with 4 columns: Course ID, Course Name, Total Hours, Total Credits, GE. Rows include WRIT-1043, WRIT-1034.

Subrequirement: Level 2

Take all of the following Mandatory Courses:

Table with 4 columns: Course ID, Course Name, Total Hours, Total Credits, GE. Includes handwritten 'Delete' next to BUSI-1005 and 'Add: INFO-1167 Business at the Speed of Light' next to a row with 45.00 hours and 3.00 credits.

Subrequirement: Level 3

Take all of the following Mandatory Courses:

Table with 4 columns: Course ID, Course Name, Total Hours, Total Credits, GE. Rows include INFO-3070, INFO-5052.

Degree Audit Report

INFO-5055	OO Analysis & Modeling	90.00	6.00
MATH-3045	Mathematics of Computing	45.00	3.00
COMM-3047	Communication for IT Professionals	45.00	3.00

Subrequirement: Level 4

Take all of the following Mandatory Courses:

Add: INFO-3109 Patterns in Software 1		45.00	3.00	
	Total Hours	Total Credits	GE	
Delete	INFO-3067	ASP.NET Programming with C#	45.00	3.00
Delete	INFO-3071	Windows GUI Development with .NET	45.00	3.00
Delete	INFO-5051	Java-Adv	45.00	3.00
Delete	INFO-5056	Concurrent Processing	45.00	3.00
Delete	INFO-5064	Web Programming with XML	45.00	3.00
Delete	INFO-5058	DirectX Computer Graphics	45.00	3.00

Add: Programming with XML - INFO-3110 45.00 3.00

Subrequirement: Level 5

Gen Ed - Take a 3 credit General Education elective course

Take all of the following Mandatory Courses:

Group 1 Add: INFO-5101 C# Advanced Topics		45.00	3.00	
Add: INFO-3112 Software Projects-Applied 1		45.00	3.00	
	Total Hours	Total Credits	GE	
Delete	INFO-5062	Patterns in Software	45.00	3.00
	INFO-3069	Web Applications & Technologies	45.00	3.00
	INFO-5060	Component-based Programming with .NET	45.00	3.00
	(Move: MGMT-3036	Professional Development-Career Planning	45.00	3.00)
	BUSI-1064	Marketing & eCommerce Intro	45.00	3.00

Add: INFO-5100 Patterns in Software 2 45.00 3.00 ~~Delete~~

Add: INFO-5102 GUI Development 45.00 3.00

Group 2
Take INFO-3105 or ~~INFO-5063~~
INFO-3111

	Total Hours	Total Credits	GE
Delete	INFO-3105	System 2 Cobol Programming	45.00 3.00
Delete	INFO-5063	3D Graphics & Animation	45.00 3.00
Add: INFO-3111 C++ Graphics Programming	45.00	3.00	

Subrequirement: Level 6

Gen Ed - Take a 3 credit General Education elective course

Take all of the following Mandatory Courses:

Add: INFO-5103 Software Projects-Applied 2		75.00	5.00
	Total Hours	Total Credits	GE
Delete	INFO-5087	Managing Software Projects-Applied	45.00 3.00
	INFO-3068	Secure Computing	45.00 3.00
	INFO-5059	Java EE Client/Server Applications	45.00 3.00
Delete	INFO-5083	Concurrent Processing 2	45.00 3.00
	INFO-3097	Mobile Development	45.00 3.00

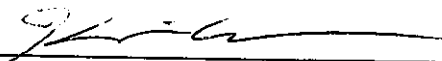
Add: INFO-5104 C++ Advanced Topics 45.00 3.00

Subrequirement: Gen Ed - Electives

Take 6 General Education Credits -
Normally taken in Levels 5 and 6

Subrequirement: Check Residency

Students Must Complete a Minimum of 29 of the Program
Credits at Fanshawe to meet the Residency Requirement and
Graduate from this Program.


Approved By Chair/Manager:

ITY Nov. 28/11
Department and Date:

Move Group 2 to Level 4

Move MGMT-3036 to Level 4

See attached sheet for Level 4, 5, 6 courses

Degree Audit Report

Catalog: 2012/2013

Program #: CPA2

Name: Computer Programmer Analyst

Subrequirement: Level 4

Take all of the following Mandatory Courses:

Group 1

		Total Hours	Total Credits	GE
INFO-3067	ASP.NET Programming with C#	45.00	3.00	
INFO-3071	Windows GUI Development with .NET	45.00	3.00	
INFO-3109	Patterns in Software 1	45.00	3.00	
INFO-3110	Programming with XML	45.00	3.00	
INFO-5051	Advanced Java	45.00	3.00	
MGMT-3036	Professional Development-Career Planning	45.00	3.00	

Group 2

Take INFO-3105 or INFO-3111

INFO-3105	System Z Cobol Programming	45.00	3.00	
INFO-3111	C++ Graphics Programming	45.00	3.00	

Subrequirement: Level 5

Take a 3 credit General Education elective course

Take all of the following Mandatory Courses:

		Total Hours	Total Credits	GE
INFO-3069	Web Applications and Technologies	45.00	3.00	
INFO-3112	Managing Software Projects-Applied 1	45.00	3.00	
INFO-5060	Component based programming with .NET	45.00	3.00	
INFO-5100	Patterns in Software 2	45.00	3.00	
INFO-5101	C# Advanced Topics	45.00	3.00	
INFO-5102	GUI Development	45.00	3.00	

Subrequirement: Level 6

Take a 3 credit General Education elective course

Take all of the following Mandatory Courses:

		Total Hours	Total Credits	GE
INFO-3068	Secure Computing	45.00	3.00	
INFO-3097	Mobile Development	45.00	3.00	
INFO-5059	Java EE Client/Server Applications	45.00	3.00	
INFO-5103	Managing Software Projects-Applied 2	75.00	5.00	
INFO-5104	C++ Advanced Topics	45.00	3.00	

Subrequirement: Gen Ed - Electives

Take 6 General Education Credits - Normally taken in Levels 5 and 6

Degree Audit Report

CL Benjamin
Approved by Dean:

[Signature]
General Education Approved By (as appropriate):

Nov-30-2011
Date:

Dec 1/11
Date:

H. Smith
Dec 19/11