

**University of Windsor  
Senate**

5.4.2: **Articulation Agreement for Admitting Students from CIC BTEC program into the Bachelor of Computer Science (General) program at the University of Windsor**

Item for: **Approval**

Forwarded by: **Program Development Committee**

**MOTION: That the articulation agreement, between the Canadian International College (CIC) BTEC program and the University of Windsor's Bachelor of Computer Science (General) program, be approved.\***

*\*Subject to approval of the expenditures required.*

Rationale/Approvals

- This proposal has been approved by the Department of Computer Science and the Faculty of Science (Coordinating) Council and the Program Development Committee.
- Course equivalencies have been reviewed and set by the appropriate AAUs.
- In June 2009, Senate approved the offering of the General and Honours BSC Applied Computing programs at Canadian International College (CIC) Cairo. This proposal would allow CIC students who have completed part or all of the BTEC diploma to articulate into the General BSC Applied Computing at CIC Cairo or the main Windsor campus.

**Proposal:**

The Department of Computer Science proposes that the University of Windsor enter into an articulation agreement between CIC BTEC program and the University's Bachelor of Computer Science (General) program.

**Background:**

In order to facilitate the entry of students from the CIC BTEC programs to the University, the courses in the CIC BTEC program have been examined by the appropriate areas at the University and equivalencies have been established.

**Details:**

Students may enter the Bachelor of Computer Science General program in accordance with the admission requirements set out below. Such students may be granted up to 17 semester course credits towards the University's Bachelor of Computer Science General program.

**NB:** Transfer credit obtained through this articulation agreement is subject to reevaluation in cases where the student decides to transfer into another program at the University.

Should changes in the courses offered or required at either institution necessitate changes to the specific courses mentioned in the agreement, with the agreement of the respective Dean's offices the list of courses included in the agreement can be modified by the U of W Department involved in consultation with the Registrar's office; the changes have to be submitted to the appropriate FCC, PDC, and Senate for information only.

**Admissions Requirements**

1. "Computer Science", or "Computer Programming", or "Information Technology" Degree program from the Canadian International College (CIC), Cairo college of applied Arts and Technology that is broadly equivalent to the four-year Degree program "BTEC – Network Management-Joint 2007" offered by CIC at Cairo, Egypt, (see <http://www.cic-cairo.com/cic/>), with a grade-point average of 3.0 out of 4.0 or better (or a B grade or better). Students from CIC, Cairo program are eligible, within 10 years of graduation or while still in the program

- and have completed at least first 2 years, for admission to Bachelor of Computer Science (General) degree program offered by the School of Computer Science at the University of Windsor under the provisions of this transfer agreement.
2. Students who graduated from a 4-year degree program more than 10 years before application to a degree program at the University of Windsor will be considered on an individual basis, and their acceptance into the degree program will require approval by the Director of the School of Computer Science and the Dean of the Faculty of Science at the University of Windsor.
  3. In addition to the appropriate four-year degree or for those still in the program, a required set of CIC's BTEC completed courses, applicants to the Bachelor of Computer Science (General) are required to
    - i. Have successfully completed Grade 12U Advanced Functions or equivalent. The successful completion of Grade 12U Calculus and Vectors or its equivalent is strongly recommended.
    - ii. Have the University of Windsor English Language Proficiency Requirement.
    - iii. Have at least, the equivalent of Years 1 and 2 of the University of Windsor Computer Science curricula, with a minimum cumulative average of B or better and a minimum grade of B in each course;
  4. Students admitted to the Bachelor of Computer Science (General) under this transfer agreement will obtain the equivalent of 1.7 years of Advanced Standing (or awarded 17 course transfers) if they have the 4 year CIC BTEC degree. Others who have completed at least the equivalent of Years 1 and 2 of the University of Windsor, will receive advanced standing matching the BTEC courses they have completed. Additional credit for courses taken toward the CAAT Degree will not be permitted.
  5. Students with full 4 year CIC BTEC degree are required to complete thirteen (13) courses at the University of Windsor in fulfillment of the requirements of the Bachelor of Computer Science (General) (see the Table 1 (Matrix) for the program requirements and Tables 2 and 3 for more details on the granted equivalencies). The required University of Windsor courses can be completed over 1.3 academic years (three semesters) for the 4 year BTEC degree holders. The full BTEC - Network Management – Joint curriculum is provided in Table 4.
  6. The Bachelor of Computer Science (General) CIC BTEC Transfer agreement will be reviewed and amended, if appropriate, by the School of Computer Science every three years following the approval of the program.

### **CIC Cairo BTEC Degree Holders' Program Requirements for the University of Windsor BCS(General) Degree Program**

Program Curriculum Structure/Program of Study for BCS(General) for holders of four year CIC Cairo BTEC Degree

*Total courses:* 30 courses consisting of 13 University of Windsor courses that must be completed and 17 University of Windsor courses that can be awarded transfer credits for CIC BTEC courses taken. Detailed program structure for all 30 courses is provided in Table 1 (The MATRIX) given below.

Major University of Windsor Course Requirements to Complete: seven courses consisting of 60-100, 60-212, 60-254, 60-256, 60-266, 60-322, 60-330.

The major average will be calculated on the basis of grades obtained in courses including 60-100, 60-212, 60-254, 60-256, 60-266, 60-322, 60-330.

#### Other University of Windsor Requirements to Complete:

(six courses including)

- (a) 62-120 (or 62-125), 62-130 (or 62-139 or 62-140), and 65-205,
- (b) One course from Social Sciences at the 200 to 400 level.
- (c) Two courses from any area of study including Computer Science in 200 to 400 level.

#### The University of Windsor Requirements that May Be Awarded Transfer Credits:

(Seventeen consisting of) with details as shown in Tables 2 and 3 below.

- i) Major Requirements (seven courses consisting of): 60-140, 60-141, 60-265, 60-315, 60-367, 60-393, 60-311.
- ii) Other Requirements (b): One Arts/Language elective
- iii) Other Requirement (c): Nine other courses consisting of 3 Computer Science courses (60-205, 60-275, 60-305), and 6 Business Courses (75-290, 70-151, 70-255, 71-2xx, 73-101, 74-002).

#### Important Notes:

1. It is required that from now onward, the three required courses **60-140, 60-141, 60-265** be taught at CIC Cairo exactly as University of Windsor courses. Thus, the equivalent BTEC courses that had been accepted as transfer credits for these courses need to be modified to reflect the contents of these courses as in the University of Windsor calendar and course outlines and with the same learning outcomes.

2. Although Table 1 has provided courses to be taken for each semester of the program, the courses that must be taken to maintain pre-requisite requirements for higher level courses are mostly **60-100, 60-140, 60-141, 60-212, 60-254, 60-256 and 60-265**. Other courses might be delayed until when convenient.
3. In order to enroll into courses, students must successfully complete all prerequisite courses. A failed course can be repeated in accordance with the Senate Policy on the Repetition of Courses.
4. Courses (such as Math and Statistics courses) offered by other Universities currently present at CIC Cairo such as Cape Breton University and University of Ottawa and which are assessed by University of Windsor through the registrar's office as being equivalent to any of the University of Windsor course requirements may be accepted as further transfer credits if taken by CIC BTEC – Network Management students as long as the University of Windsor residency requirements (the number of courses that must be completed at the University of Windsor) are met.
5. The University of Windsor residency requirements state that a student will be required to complete successfully, at the University of Windsor for a BCS(General) program, a minimum of ten courses (thirty semester hours) numbered 200 or higher to qualify for a degree from the University of Windsor. These ten courses must include a minimum of six courses from the major course requirements to qualify for a three-year Major degree.

**Table 1 (MATRIX): Recommended Six Semester Program Sequencing for BCS(General) (30 courses) for Students admitted from the CAIRO CIC BTEC Information Management Degree program (43 courses): January 25, 2011:**

--The 30 courses required to fulfill the requirements for BCS(General) of University of Windsor are listed on the leftmost column for 6 terms and 17 University of Windsor courses matched with CIC courses, are indicated while the rest of the 13 courses not matched are to be taken as University of Windsor courses either at Cairo or at University of Windsor as indicated on the table below. Also, provided below are the summaries of program curriculum structure that can be used to grant transfer credits to any CIC student at other entry points such as after completing 2 or 3 years at CIC.

Windsor Code	Windsor Name (total 40 courses)	CIC code	CIC Course Title (total 43 courses)	Credits	Lecture	Tutorial / Lab	UW Notes	Comments	Prerequisites
<b>TERM 1</b>									
03-60-100	Key Concepts in Computer Science	03-60-100	Key Concepts in Computer Science	3	3	1.5	No CIC course matched	to teach as UW	
03-60-140	Introduction to Algorithms and Programming I	BTEC 103	Introduction to Programming C++	3	3	1.5	Should be now taught with C	Modify as UW	
03-62-130	Elements of Calculus	03-62-130	Elements of Calculus	3	3	2	No CIC course matched	to teach as UW	Grade 12U Advanced Functions
04-70-151	Principles of Financial Accounting	BTEC 202 And BTEC 210	Intro to Financial Accounting I; and Intro Managerial Accounting	3	3				75-100, (62-194(Math for Business) or 62-130)
03-60-265	Computer Architecture I	BTEC 105	PC Hardware Fundamentals	3	3			Modify as UW	60-140
<b>TERM 2</b>									
03-60-141	Intro to Algorithms and Programming II	HUMN 201-1	Advanced C++	3	3	1.5	Should be now taught with C	Modify as UW	60-100, 60-140
03-62-120	Linear Algebra I	03-62-120	Linear Algebra I	3	3	2	No CIC course matched	to teach as UW	Grade 12U Advanced Functions
01-26-100	Composition: (One Arts/Language elective)	ENGL 101 And ENGL 102 And BTEC 305	English I; And English II; And CBU English I	3	3				
04-73-101	An Introduction to Business Data Analysis	BTEC 205	Intro to Statistics	3	3				
04-74-002	Public Relations I	BTEC 313	Introduction to Public Communication	3	3				
<b>TERM 3</b>									
03-60-212	Object-Oriented Programming Using Java	03-60-212	Object-Oriented Programming Using Java	3	3	1.5	No CIC course matched	to teach as UW	60-141
03-60-254	Data Structures and Algorithms	03-60-254	Data Structures and Algorithms				No CIC course matched	to teach as UW	60-100, 60-141
03-60-256	Systems Programming	03-60-256	Systems Programming	3	3		No CIC course matched	to teach as UW	60-141
02-xx-2xx	One Social Science elective	02-xx-2xx	One Social Science elective	3	3		No CIC course matched	to teach as UW	
04-70-255	Principles of Managerial	BTEC 314	Managerial Accounting	3	3				70-151

	Accounting								
<b>TERM 4</b>									
03-60-275 as other elective	Selected Topics I	BTEC 311 and BTEC 420	Visual Basic; and Intermediate Technical Writing	3	3				60-100, 60-140, 60-141
03-60-205	Introduction to the Internet	BTEC 431	Internet Administration	3	3				60-104, 60-140
04-71-2xx	A Management and Labor Studies elective	BTEC 203	Organizational Behavior I	3	3				75-100(Intro to Business)
03-60-266	Computer Architecture II: Microprocessor Programming	03-60-266	Computer Architecture II: Microprocessor Programming	3	3		No CIC course matched	to teach as UW	60-265
03-65-205	Statistics for the Sciences	03-65-205	Statistics for the Sciences	3	3		No CIC course matched	to teach as UW	Grade 12U Advanced Functions
<b>TERM 5</b>									
03-60-334 as other elective	World Wide Web Info Systems Development	03-60-334	World Wide Web Info Systems Development	3	3		No CIC course matched	to teach as UW	60-212, 60-254
03-60-330	Operating Systems Fundamentals	03-60-330	Operating Systems Fundamentals	3	3		No CIC course matched	to teach as UW	60-212, 60-254, 60-256, (60-265 or 60-266)
03-60-311 as a CS major elective	Introduction to Software Engineering	BTEC 201 And BTEC 315	System Analysis & Design; and IT Project Management	3	3				60-212, 60-254, 60-256
03-60-322	Object Oriented Software Analysis & Design	03-60-322	Object Oriented Software Analysis & Design	3	3		No CIC course matched	to teach as UW	60-212, 60-254, 60-256
03-60-367	Computer Networks	BTEC 107 and BTEC 207 and BTEC 432	Internet Fundamentals; and Advanced Network Management; and Advanced TCP/IP	3	3				60-212, 60-254, 60-256
<b>TERM 6</b>									
03-60-393 as a CS major elective	Developing Systems for Information Processing	BTEC 319; and BTEC 421	Business Strategies in IT; And E-Commerce Technologies	3	3				60-212, 60-254, 60-256, and 60-265
03-60-321 as one other elective	Advanced Software Techniques	03-60-321	Advanced Software Techniques	3	3		No CIC course matched	to teach as UW	60-212, 60-256
03-60-315	Database Management Systems	BTEC 206 and BTEC 208	Advanced Programming (Oracle Developer); and Database Development	3	3				60-254, (60-256 or 60-265)
03-60-305	Cyber-Ethics	BTEC 423; and BTEC 434	Current Issues in IT (Case Analysis); and Specialized Elective	3	3				60-104, 60-205
04-75-290	Fundamentals of Entrepreneurship	BTEC 426	Managing of Small	3	3				Must be in semester

**Table 2: Bachelor of Computer Science (General) for CIC Cairo Advanced Standing Tally (Explanation of awarded Advanced Standing and Credits Required for Program Completion)**

	Course Number	Course Title	Courses for Program		Course Count
			Advanced Standing	U of W	
<b>Major Requirements</b>					
	03-60-100	Key Concepts in Computer Science		X	1
	03-60-140	Introduction to Algorithms and Programming I	X		1
	03-60-141	Introduction to Algorithms and Programming II	X		1
	03-60-212	Object-Oriented Programming Using Java		X	1
	03-60-254	Data Structures and Algorithms		X	1
	03-60-256	Systems Programming		X	1
	03-60-265	Computer Architecture I: Digital Design	X		1
	03-60-266	Computer Architecture II: Microprocessor Programming		X	1
	03-60-315	Database Management Systems	X		1
	03-60-322	Object-oriented Software Analysis and Design		X	1
	03-60-330	Operating Systems Fundamentals		X	1
	03-60-367	Computer Networks	X		1
	03-60-2xx/3xx (filled with 60-311)	First of two major CS electives that can be chosen from a list including 03-60-214, 03-60-231, 03-60-311, 03-60-321, 03-60-352, 03-60-393.	X		1
	03-60-2xx/3xx (filled with 60-393)	Second of two major CS electives that can be chosen from a list including 03-60-214, 03-60-231, 03-60-311, 03-60-321, 03-60-352, 03-60-393.	X		1
<b>Other Requirements</b>					
(a)	03-62-120/ 03-62-125	Linear Algebra I Vectors and Linear Algebra		X	1
	03-62-130/ 03/62-140	Elements of Calculus/ Differential Calculus		X	1
	03-65-205	Statistics for the Sciences		X	1
(b)	01-xx-xxx	One Arts/Language elective	X		1
	02-xx-2xx	One Senior Social Science elective		X	1
(c)	03-60-321	Advanced Software Techniques		X	1
	03-60-205	Introduction to the Internet	X		1
	03-60-275	Special Topics I	X		1
	03-60-305	Cyber-Ethics	X		1
	03-60-334	World Wide Web Information Systems Development		X	1
	04-75-290	Fundamentals of Entrepreneurship	X		
	04-70-151	Principles of Financial Accounting	X		1
	04-70-255	Principles of Managerial Accounting	X		1
	04-73-101	An Introduction to Business Data Analysis	X		1
	04-74-002	Public Relations I	X		1
	04-71-2xx	A Management and Labour Studies elective	X		
		<b>Total</b>	17	13	30

**Table 3: CIC BTEC and University of Windsor Course Equivalencies Matched (For explanatory purposes)**

CIC Course	Transfer credit for University of Windsor Course #	Serial Number
<b>27 BTEC courses matched to 14 University of Windsor Computer Science course equivalencies</b>		
i) BTEC 102 Information Systems ii) BTEC 107 Internet Fundamentals	03-60-104	1
i) BTEC 431 Internet Administration	03-60-205	2
i) BTEC 423 Current Issues in IT (Case Analysis) ii) BTEC 434 Specialized Elective	03-60-305	3
i) BTEC 103 Introduction to Programming C++	03-60-140	4
i) HUMN 201-1 Advanced C++	03-60-141	5
i) BTEC 105 PC Hardware Fundamentals	03-60-265	6
i) BTEC 311 Visual Basic ii) BTEC 420 Intermediate Technical Writing	03-60-275	7
i) BTEC 201, System Analysis & Design, ii) BTEC 315 IT Project Management	03-60-311	8
i. BTEC 206 Advanced Programming (Oracle Developer) ii. BTEC 208 Data Base Development	03-60-315	9
i) BTEC 107 Internet Fundamentals ii) BTEC 207 Advanced Network Management iii) BTEC 432 Advanced TCP/IP	03-60-367	10
i) BTEC 319 Business Strategies in IT ii) BTEC 421 E-commerce Technologies	03-60-393	11
i) BTEC 435 WAN Technologies ii) BTEC 438 Server Technologies	03-60-426	12
i) BTEC 425 Systems Implementation Project ii) BTEC 429 Specialized Elective	03-60-470	13
i) BTEC 101 Introduction to Operating Systems ii) BTEC 106 Introduction to Network Management iii) BTEC 316 Object Oriented Programming (JAVA) iv) BTEC 312 Mid-Range Operating Systems	03-60-2xx	14
<b>11 BTEC Business Courses are matched with 7 University of Windsor Business Credits next</b>		
BADM 101/HUMN 304-5 Intro to Business	04-75-1xx	15
BADM 102/202 Intro to Financial Accounting I BADM 105/BTEC 210 Intro Managerial. Accounting	04-70-151	16
BADM 103/BTEC 205 Intro to Statistics	04-73-101	17
BADM 203/BTEC 203 Organizational Behavior I	04-71-2xx	18
BADM 316/BTEC 314 Planning and Control (Managerial Accounting)	04-70-255	19
BTEC and BADM 426 Managing of Small Business	04-75-290	20
BTEC 313 Introduction to Public Communication	04-74-002	21
BTEC 318 Business and Technical Writing I	-	-
BTEC 104 Business Math I	-	-
BTEC 108 Business Math II	-	-
<b>3 BTEC English Courses are matched to One University of Windsor English or Art Credit</b>		
i) 3 BTEC English Courses including BTEC 305 CBU English I ii) ENGL 101 English 1, iii) ENGL 102 English II	1 University of Windsor Art credit (01-26-100)	22
<b>The following 2 other BTEC Courses are Unmatched</b>		
HUMN 222 Cannot find title or content		
HUMN 303-1 Introduction to Western Civilization		

**TABLE 4: BTEC - Network Management - Joint 2007 CURRICULUM**

<b>CBU</b>	<b>CIC</b>		<b>Credits</b>	<b>Lecture</b>
<b>First Semester</b>				
ITEC 112	BTEC 101	Introduction to Operating Systems	3	3
ITEC 114	BTEC 102	Information Systems	3	3
ITEC 110 (I)	BTEC 103	Introduction to Programming C++	3	3
BUSS 101	BTEC 104	Business Mathematics I	3	3
TBD	ENGL 101	English I	3	3
<b>Second Semester</b>				
ITEC 120	BTEC 105	PC Hardware Fundamentals	3	3
ITEC 122	BTEC 106	Introduction to Network Management	3	3
ITEC 124	BTEC 107	Internet Fundamentals	3	3
BRLT 902	BTEC 108	Business Mathematics II	3	3
TBD	ENGL 102	English II	3	3
<b>Third Semester</b>				
ITEC 210	BTEC 201	System Analysis & Design	3	3
BUSS 121	BTEC 202	Financial Accounting I	3	3
BUSS 261	BTEC 203	Organizational Behavior I	3	3
BUSS 182	BTEC 205	Introduction To Statistics	3	3
TBD	HUMN 305	CBU English I	3	3
ITEC 110 (II)	HUMN 201-1	Advanced C++	3	3
<b>Fourth Semester</b>				
ITEC 220	BTEC 206	Advanced Programming (Oracle Developer)	3	3
ITEC 222	BTEC 207	Advanced Network Management	3	3
ITEC 224	BTEC 208	Data Base Development	3	3
BUSS 122	BTEC 210	Introductory Managerial Accounting	3	3
COMM 112	HUMN 222		3	
BUSS 111	HUMN 304-5	Introduction to Business	3	3
<b>Fifth Semester</b>				
ITEC 307	BTEC 430	Intermediate Technical Writing	3	3
ITEC 310	BTEC 311	Visual Basic	3	3
ITEC 318	BTEC 312	Mid-Range Operating Systems	3	3
ITEC 320	BTEC 315	IT project Management	3	3
BUSS 323	BTEC 314	Managerial Accounting	3	3
COMM 111	HUMN 303-1	Introduction to Western Civilization	3	3
<b>Sixth Semester</b>				
ITEC 322	BTEC 316	Object Oriented Programming (JAVA)	3	3
ITEC 324	BTEC 317	Windows Server Technologies	3	3
ITEC 328	BTEC 319	Business Strategies in IT	3	3
BUSS 262	BTEC 209	Organizational Behaviour II	3	3
COMM 105	BTEC 313	Introduction to Public Communication	3	3



<b>Seventh Semester</b>				
ITEC 415	BTEC 318	Business and Technical Writing I	3	3
ITEC 416	BTEC 433	E-commerce Technologies	3	3
ITEC 414	BTEC 432	Advanced TCP/IP	3	3
ITEC 427	BTEC 438	Server Technologies	3	3
	BTEC 439	Specialized Elective	3	3
		Information Technology Documentation		
<b>Eighth Semester</b>				
ITEC 425	BTEC 436	Current issues in IT (Case Analysis)	3	3
ITEC 426	BTEC 437	Systems Implementation Project	3	3
ITEC 412	BTEC 431	Internet Administration	3	3
ITEC 424	BTEC 435	WAN Technologies	3	3
	BTEC 434	Specialized Elective	3	3