



**CONESTOGA**  
Connect Life and Learning

**Conestoga College Institute of Technology and Advanced Learning**  
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**Final Status Report**  
**ONCAT Project 2014-22**  
**Pathways from the Software Engineering Technology Diploma**  
**Program at Centennial College to the Bachelor of Applied**  
**Health Information Science Degree at Conestoga College**  
**December 23, 2014**

## **Executive Summary:**

Conestoga College ITAL (Conestoga) and Centennial College (Centennial) have worked in partnership to establish educational pathways from Centennial's Software Engineering Technician Diploma Program (hereafter SET) into Conestoga's Bachelor of Applied Health Information Science Program (hereafter BAHIS). Students from Centennials program will be required to take 5 academic semesters, and 1 co-op semester.

## **Project Overview:**

### **Stage One - Gap Analysis:**

The SET project members discussed the project expectations, and confirmed timelines and individual responsibilities for the SET gap analysis and bridging development, by telephone and email. It was determined that a site visit would not be required.

Centennial provided the SET program design matrix, learning outcomes, and all course outlines for the programs to Conestoga. Additionally program maps demonstrating how the program learning outcomes are met through the SET program curriculum were supplied.

Conestoga completed a comprehensive gap analysis on June 30<sup>th</sup>, 2014 for the SET program into BAHIS. ([Appendix A](#)). In sharing their findings with Centennial, the following recommendations were made to ensure strong pathways from SET to the BAHIS Degree:

- The pathway should be able to be completed in two calendar years.

## Stage Two - Agreement:

Conestoga and Centennial recognize the importance of creating accessible pathways of education for students, while maintaining program integrity and providing for student success. Stage Two of the project included the development of a program pathway, including bridging courses, addressing the gaps in knowledge, skills or abilities identified through the gap analysis completed in Stage One ([Appendix A](#)).

Once the bridge was developed, Conestoga identified the minimum GPA and other relevant eligibility standards for students seeking admission to BAHIS via these established pathways. Conestoga also identified the courses for which transfer credit will be granted to students entering via each established pathway, as well as the remaining courses to be completed at Conestoga.

## SET Pathway Overview:

After completing a bridge course, transfer credit will be granted for the first two years of the BAHIS program with the exception of the following courses:

- Biomedical Concepts I
- Health Informatics I
- Health Information Management I
- Governance & Structures of HC Systems
- Solving Problems in HI
- Biomedical Concepts II
- Clinical Systems I
- Introduction to Data Analysis
- Biomedical Concepts III
- Health Information Management II

These courses must be completed in addition to the regular Year 3 and Year 4 courses. Year 3 and 4 credits will be granted for 2 Breadth Electives, Management & Organizational Behaviour, and Project Management. Credit will be given for 1 of 2 co-op terms. An overview of pathway requirements is as follows:

- # of bridging courses required: 1
- # of transfer credits granted to graduates: 17
- # of credits to be taken at Conestoga, plus # of co-op terms: 30 + 1 co-op

There are no fast track opportunities.

See [Appendix B](#) for details regarding bridging curriculum and [Appendix C](#) for complete pathway details.

## Stage Three: Final Report

Conestoga and Centennial have partnered to complete all analysis and conclusions that support the objectives of project 2014-22: Pathways from the Software Engineering Technology Diploma Program at Centennial College to the Bachelor of Applied Health Information Science Degree at Conestoga College, including: a curriculum and gap analysis of the pathways ([Appendix A](#)), a corresponding explanation of bridge curriculum and scheduling ([Appendix B](#)), and a detailed financial statement ([Appendix D](#)).

Centennial SET faculty and interested Centennial students will be given the opportunity to tour Conestoga's facilities. Conestoga's BAHIS administrators and faculty will be given the opportunity to tour Centennial facilities.

Conestoga will post the complete pathway details at [ontransfer.ca](http://ontransfer.ca) on December 23, 2014, and the Credit Transfer and Registrar's Offices of both Conestoga and Centennial have been appropriately informed of the new pathway details, per [Appendix C](#). The pathway will be implemented in August, 2015.

## **Appendix A: Gap Analysis for SET**

The following is a curriculum and gap analysis of SET to the BAHIS based on a learning outcomes framework.

### **Method:**

Learning outcomes from Centennial's SET program (versions 3408 and 3409/3419) were compared against the learning outcomes from the BAHIS degree. A gap analysis was done to identify SET outcomes that achieved outcomes defined for BAHIS. For each BAHIS program outcome, gaps and their remediation were assessed and documented. Please see the table in the [Gap Analysis: Software Engineering Technician Program Outcomes \(3408\)](#) table, below.

### **Findings:**

Many of the technical competencies developed in the SET program address the technical competencies of the BAHIS program. There are opportunities to exempt SET students from courses of a technical nature.

### **Recommendations:**

SET students require courses from the BAHIS degree in healthcare, biomedicines and health informatics to complete established degree requirements.

### **Conclusions:**

A pathway for SET students is feasible based on the technical capabilities of SET program graduates. Much of the pathway design would bypass the technical curriculum in the BAHIS degree.

GAP ANALYSIS: Software Engineering Technician Program Outcomes (3408)

<b><i>Conestoga Bachelor of Applied Health Information Science</i></b>	<b><i>Centennial Software Engineering Technician Program Outcomes (3408)</i></b>	<b><i>Gap in Knowledge and Skills</i></b>	<b><i>Remediation of Gap</i></b>
<p>1. Apply theory and practice of managing data, information, and knowledge using appropriate information and communication technologies for the purpose of improving health care processes and decision-making to achieve better health of individuals, populations, communities, and society.</p>	<p>No outcomes apply here.</p>	<p>The gap here is very significant and is, in some respects, at the heart of the difference between SET and AHIS graduates. While SET graduates will enter with strong knowledge and skills around information and communication technologies, they will be completely lacking knowledge and skills pertaining to health processes and environments; collecting, managing and utilizing data &amp; information in healthcare settings; supporting and implementing knowledge management and decision support in health care contexts.</p>	<p><b>Years 1 &amp; 2:</b> Some elements of "Health Informatics I" would be needed, but for the following: "Solving Problems in HI", "Health Information Management 1, 2" <b>Years 3 &amp; 4:</b> Take full "Health Informatics II &amp; III", "HC Quality Improvement", "Decision Support in HC" &amp; "Health Information Management 3" courses</p>
<p>2. Manage healthcare information systems, including planning, analysis, design, development, implementation, maintenance, and evaluation.</p>	<p>(2) "Design, implement, test and document software systems based on specifications and software engineering methodologies," (4) "Test, verify, and evaluate procedures to assess software quality and improve software performance.", (5) "Design, model, implement, and maintain a database" and (6) "Develop and maintain software systems through the application of networking concepts."</p>	<p>SET graduates typically exceed AHIS students in terms of this outcome and the gap is really only in the knowledge of the types of clinical systems found in the various care settings</p>	<p><b>From Years 1 &amp; 2:</b> A summary module from "Clinical Systems I" that focuses on an overview of the types of CIS's used in the various care settings. Other than that, students are well-suited to jump right to the following course: <b>Years 3 &amp; 4:</b> Take full "Clinical Systems II" course</p>

<b>Conestoga Bachelor of Applied Health Information Science</b>	<b>Centennial Software Engineering Technician Program Outcomes (3408)</b>	<b>Gap in Knowledge and Skills</b>	<b>Remediation of Gap</b>
3. Integrate healthcare information systems within and among various healthcare organizations.	Outcomes (5) "Design, model, implement, and maintain a database", (6) "Develop and maintain software systems through the application of networking concepts" and (7) "Analyze, design, and implement integrated solutions that address issues of security."	SET graduates typically exceed AHIS students in terms of technology skills so they are well-suited to integrate Information Systems so the gap is really one in: i.) the healthcare specific integration technologies - e.g. IHE, DICOM & HL7 ii.) the knowledge of the types of clinical systems found in the various care settings	<b>From Years 1 &amp; 2:</b> A summary module from "Clinical Systems I" that focuses on an overview of the types of CIS's used in the various care settings. Other than that, students are well-suited to jump right to the following courses: <b>Years 3 &amp; 4:</b> Take full "Clinical Systems II" and "Systems Integration" courses
4. Assess, monitor and ensure the efficient operation and evolution of applications, core computer functions and networks in a variety of healthcare settings.	(4) "Test, verify, and evaluate procedures to assess software quality and improve software performance.", (5) "Design, model, implement, and maintain a database" and (6) "Develop and maintain software systems through the application of networking concepts."	The gap here is very minimal. SET graduates typically exceed AHIS students in terms of technology skills so they have much of the skills and capabilities associated with this outcome; the gap is really one of knowledge of the types of clinical systems found in the various care settings	<b>From Years 1 &amp; 2:</b> A summary module from "Clinical Systems I" that focuses on an overview of the types of CIS's used in the various care settings. Other than that, students are well-suited to jump right to the following courses: <b>Years 3 &amp; 4:</b> Take full "Clinical Systems II" (deeper into various types of clinical systems and care settings) and "Systems Integration" (more focused on evolution of clinical systems) courses
5. Analyze, evaluate and apply best practices in health informatics and health information management in order to support client-centered, safe, high quality health care.	No outcomes directly support this program outcome. There may be indirect support for the HI aspect of this outcome in the fact that much of HI overlaps with technology domains.	While SET students can bridge into the AHIS degree with strong technology and programming skills they will have very little direct support for HI knowledge and skills (e.g. HI II course outcomes 1 to 3 may be supported already) and no support for HIM. As such they will need the full complement of HI & HIM courses.	<b>Years 1 &amp; 2:</b> Take full "Health Informatics I", "Solving Problems in HI", "Introduction to HIM", "Health Records Concepts" courses <b>Years 3 &amp; 4:</b> Take full "Health Informatics II & III", "HC Quality Improvement" & "Advanced HIM" courses
6. Integrate knowledge of the healthcare delivery system into functionality of health information systems and information management in health care.	No outcomes apply here.	The gap here is complete - i.e. this is an area not covered at all in the SET diploma program so bridge students will have to complete all the degree material pertaining to this outcome.	<b>Years 1 &amp; 2:</b> Take full "Governance & Structures in HC" course

<b><i>Conestoga Bachelor of Applied Health Information Science</i></b>	<b><i>Centennial Software Engineering Technician Program Outcomes (3408)</i></b>	<b><i>Gap in Knowledge and Skills</i></b>	<b><i>Remediation of Gap</i></b>
7. Apply biomedical and health concepts to the development of healthcare information systems and information management in health care.	No outcomes apply here.	The gap here is complete - i.e. this is an area not covered at all in the SET diploma program so bridge students will have to complete all the degree material pertaining to this outcome.	<b>Years 1 &amp; 2:</b> Take full "Biomedical Concepts I & II" courses <b>Years 3 &amp; 4:</b> Take full "Biomedical Concepts III" course
8. Apply the concepts of organizational behavior, culture, human relations, leadership, and change management to improve development, adoption, and management of health informatics solutions in health care.	Outcomes (8) "Work effectively as a member of a software development team on the design, implementation and testing of a software system where no one person has " and (9) "Contribute to the successful completion of the project applying the project management principles in use." may apply here.	While there is some SET outcomes supporting this outcome there is considerable absence in terms of the theories of management and organization behaviour, and an even larger gap around the tools and techniques in support of change management.	<b>Years 3 &amp; 4:</b> Take full "Mgmt & Org Behaviour" or "Change Management" courses
9. Communicate effectively, both verbally and in writing, with members of an inter-professional healthcare team.	Outcome (8) "Work effectively as a member of a software development team on the design, implementation and testing of a software system where no one person has complete knowledge of the entire system." and outcome (9) "Interpret, create, and present work-related documents and information effectively and accurately." may apply here.	Gap here, if it exists at all, is small and may be limited to a lack of application of skills in a professional setting, unless of course the SET program is a co-op program.	The gap may be closed through the verbal and written communication skills developed in remaining courses, plus the co-op work term experience; Additionally, in terms of specific courses: <b>Years 3 &amp; 4:</b> Take full "Adult Training & Education" course
10. Apply the principles and skills of project management to health informatics and health information management initiatives.	Outcome (8) "Work effectively as a member of a software development team on the design, implementation and testing of a software system where no one person has " may apply here.	No gap here - SET program has a "CNET 307 IT Project Management" course which is similar to "Project Mgmt" course in AHIS degree.	Knowledge and skills pertaining to this outcomes will only be enhanced through the co-op experience and projects & work-integrated-learning opportunities in the degree completion.

<b>Conestoga Bachelor of Applied Health Information Science</b>	<b>Centennial Software Engineering Technician Program Outcomes (3408)</b>	<b>Gap in Knowledge and Skills</b>	<b>Remediation of Gap</b>
11. Adhere to professional, ethical and legal codes and standards, including ensuring privacy and confidentiality of health information.	Outcome (10) "Analyze the social, ethical, and legal issues that face software engineers to contribute in a positive and productive manner in society."	Even if the SET graduate has had opportunities to adhere to ethical principles and practice, and privacy and confidentiality, in a professional setting, there is most likely still a gap in the absence of a healthcare context, and the special nature of privacy and confidentiality in such settings.	Some aspects of this outcome may be acquired through co-op experience in a healthcare setting <b>Years 3 &amp; 4:</b> Take full "Security, Privacy & Confidentiality" & "Advanced HIM" (more for legal codes and standards) courses
12. Create and deliver educational material to healthcare professionals in use of information technology to support and improve health care processes.	No outcomes apply here.	The gap here is complete - i.e. this is an area not covered at all in the SET diploma program so bridge students will have to complete all the degree material	<b>Years 3 &amp; 4:</b> Take full "Adult Training & Education" course
13. Conduct and evaluate research using theory and practice of health informatics and health information management to contribute to evidence based practice in health care.	No outcomes apply here.	The gap here is complete - i.e. this is an area not covered at all in the SET diploma program so bridge students will have to complete all the degree material	<b>Years 1 &amp; 2:</b> Take full "Introduction to Data Analysis" course <b>Years 3 &amp; 4:</b> Take full "Research Methods & Statistics", "Epi, Pop'n & Public Health" & "Decision Support in HC" courses
14. Develop plans for lifelong learning and professional development.	No outcomes apply here.	Gap here, if it exists at all, is small and can be closed through a variety of means during degree completion.	Can be acquired partially through extra-curricular activities AHIS students commonly engage in through memberships in groups as NIHI's NSF and COACH. It also comes through an attitude fostered in remaining completion courses. <b>Years 3 &amp; 4:</b> Take full "Adult Training & Education" course
15. Apply health informatics and health information management knowledge and skills during work integrated learning opportunities in health care related organizations.	No SET outcomes apply here. It is possible the student could have engaged in some experience in a healthcare context, through co-op or some other form of work-integrated learning.	In most cases there will be a gap here, especially in terms of the experiences being in a healthcare context.	Acquired throughout the work-integrated learning opportunities that arise in the remaining courses in the degree completion, as well as through Co-op experiences. Requirement for work experience before applying.

**GAP ANALYSIS Engineering Technology Program Outcomes (3409/3419)**

<b>Conestoga Bachelor of Applied Health Information Science</b>	<b>Centennial Software Engineering Technology Program Outcomes (3409/3419)</b>	<b>Gap in Knowledge and Skills</b>	<b>Remediation of Gap</b>
<p>1. Apply theory and practice of managing data, information, and knowledge using appropriate information and communication technologies for the purpose of improving health care processes and decision-making to achieve better health of individuals, populations, communities, and society.</p>	<p>No outcomes apply here.</p>	<p>The gap here is very significant and is, in some respects, at the heart of the difference between SET and AHIS graduates. While SET graduates will enter with strong knowledge and skills around information and communication technologies, they will be completely lacking knowledge and skills pertaining to health processes and environments; collecting, managing and utilizing data &amp; information in healthcare settings; supporting and implementing knowledge management and decision support in health care contexts.</p>	<p><b>Years 1 &amp; 2:</b> Some elements of "Health Informatics I" would be needed, but for the following: "Solving Problems in HI", "Health Information Management 1, 2" <b>Years 3 &amp; 4:</b> Take full "Health Informatics II &amp; III", "HC Quality Improvement", "Decision Support in HC" &amp; "Health Information Management 3" courses</p>
<p>2. Manage healthcare information systems, including planning, analysis, design, development, implementation, maintenance, and evaluation.</p>	<p>(2) "Design, implement, test and document software systems based on specifications and software engineering methodologies," (4) "Test, verify, and evaluate procedures to assess software quality and improve software performance.", (5) "Design, model, implement, and maintain a database" and (6) "Develop and maintain software systems through the application of networking concepts."</p>	<p>SET graduates typically exceed AHIS students in terms of this outcome and the gap is really only in the knowledge of the types of clinical systems found in the various care settings</p>	<p><b>From Years 1 &amp; 2:</b> A summary module from "Clinical Systems I" that focuses on an overview of the types of CIS's used in the various care settings. Other than that, students are well-suited to jump right to the following course: <b>Years 3 &amp; 4:</b> Take full "Clinical Systems II" course</p>

<b>Conestoga Bachelor of Applied Health Information Science</b>	<b>Centennial Software Engineering Technology Program Outcomes (3409/3419)</b>	<b>Gap in Knowledge and Skills</b>	<b>Remediation of Gap</b>
3. Integrate healthcare information systems within and among various healthcare organizations.	Outcomes (5) "Design, model, implement, and maintain a database", (6) "Develop and maintain software systems through the application of networking concepts" and (7) "Analyze, design, and implement integrated solutions that address issues of security."	SET graduates typically exceed AHIS students in terms of technology skills so they are well-suited to integrate Information Systems so the gap is really one in: i.) the healthcare specific integration technologies - e.g. IHE, DICOM & HL7 ii.) the knowledge of the types of clinical systems found in the various care settings	<b>From Years 1 &amp; 2:</b> A summary module from "Clinical Systems I" that focuses on an overview of the types of CIS's used in the various care settings. Other than that, students are well-suited to jump right to the following courses: <b>Years 3 &amp; 4:</b> Take full "Clinical Systems II" and "Systems Integration" courses
4. Assess, monitor and ensure the efficient operation and evolution of applications, core computer functions and networks in a variety of healthcare settings.	(4) "Test, verify, and evaluate procedures to assess software quality and improve software performance," (5) "Design, model, implement, and maintain a database" and (6) "Develop and maintain software systems through the application of networking concepts."	The gap here is very minimal. SET graduates typically exceed AHIS students in terms of technology skills so they have much of the skills and capabilities associated with this outcome; the gap is really one of knowledge of the types of clinical systems found in the various care settings	<b>From Years 1 &amp; 2:</b> A summary module from "Clinical Systems I" that focuses on an overview of the types of CIS's used in the various care settings. Other than that, students are well-suited to jump right to the following courses: <b>Years 3 &amp; 4:</b> Take full "Clinical Systems II" (deeper into various types of clinical systems and care settings) and "Systems Integration" (more focused on evolution of clinical systems) courses
5. Analyze, evaluate and apply best practices in health informatics and health information management in order to support client-centered, safe, high quality health care.	No outcomes directly support this program outcome. There may be indirect support for the HI aspect of this outcome in the fact that much of HI overlaps with technology domains.	While SET students can bridge into the AHIS degree with strong technology and programming skills they will have very little direct support for HI knowledge and skills (e.g. HI II course outcomes 1 to 3 may be supported already) and no support for HIM. As such they will need the full complement of HI & HIM courses.	<b>Years 1 &amp; 2:</b> Take full "Health Informatics I", "Solving Problems in HI", "Introduction to HIM", "Health Records Concepts" courses <b>Years 3 &amp; 4:</b> Take full "Health Informatics II & III", "HC Quality Improvement" & "Advanced HIM" courses
6. Integrate knowledge of the healthcare delivery system into functionality of health information systems and information management in health care.	No outcomes apply here.	The gap here is complete - i.e. this is an area not covered at all in the SET diploma program so bridge students will have to complete all the degree material pertaining to this outcome.	<b>Years 1 &amp; 2:</b> Take full "Governance & Structures in HC" course

<b>Conestoga Bachelor of Applied Health Information Science</b>	<b>Centennial Software Engineering Technology Program Outcomes (3409/3419)</b>	<b>Gap in Knowledge and Skills</b>	<b>Remediation of Gap</b>
7. Apply biomedical and health concepts to the development of healthcare information systems and information management in health care.	No outcomes apply here.	The gap here is complete - i.e. this is an area not covered at all in the SET diploma program so bridge students will have to complete all the degree material pertaining to this outcome.	<b>Years 1 &amp; 2:</b> Take full "Biomedical Concepts I & II" courses <b>Years 3 &amp; 4:</b> Take full "Biomedical Concepts III" course
8. Apply the concepts of organizational behavior, culture, human relations, leadership, and change management to improve development, adoption, and management of health informatics solutions in health care.	Outcomes (8) "Work effectively as a member of a software development team on the design, implementation and testing of a software system where no one person has " and (9) "Contribute to the successful completion of the project applying the project management principles in use." may apply here.	While there is some SET outcomes supporting this outcome there is considerable absence in terms of the theories of management and organization behaviour, and an even larger gap around the tools and techniques in support of change management.	<b>Years 3 &amp; 4:</b> Take full "Mgmt & Org Behaviour" or "Change Management" courses
9. Communicate effectively, both verbally and in writing, with members of an inter-professional healthcare team.	Outcomes (8) "Work effectively as a member of a software development team on the design, implementation and testing of a software system where no one person has ", (9) "Contribute to the successful completion of the project applying the project management principles in use." and (10) "Interpret, create, and present work-related documents and information effectively and accurately."	Gap here, if it exists at all, is small and may be limited to a lack of application of skills in a professional setting, unless of course the SET program is a co-op program.	The gap may be closed through the verbal and written communication skills developed in remaining courses, plus the co-op work term experience; Additionally, in terms of specific courses: <b>Years 3 &amp; 4:</b> Take full "Adult Training & Education" course
10. Apply the principles and skills of project management to health informatics and health information management initiatives.	Outcome (9) "Contribute to the successful completion of the project applying the project management principles in use."	No gap here - SET program course in project management is similar to "Project Mgmt" course in AHIS degree.	Knowledge and skills pertaining to this outcomes will only be enhanced through the co-op experience and projects & work-integrated-learning opportunities in the degree completion.

<b>Conestoga Bachelor of Applied Health Information Science</b>	<b>Centennial Software Engineering Technology Program Outcomes (3409/3419)</b>	<b>Gap in Knowledge and Skills</b>	<b>Remediation of Gap</b>
11. Adhere to professional, ethical and legal codes and standards, including ensuring privacy and confidentiality of health information.	Outcome (11) "Analyze the social, ethical, and legal issues that face software engineers to contribute in a positive and productive manner in society."	Even if the SET graduate has had opportunities to adhere to ethical principles and practice, and privacy and confidentiality, in a professional setting, there is most likely still a gap in the absence of a healthcare context, and the special nature of privacy and confidentiality in such settings.	Some aspects of this outcome may be acquired through co-op experience in a healthcare setting <b>Years 3 &amp; 4:</b> Take full "Security, Privacy & Confidentiality" & "Advanced HIM" (more for legal codes and standards) courses
12. Create and deliver educational material to healthcare professionals in use of information technology to support and improve health care processes.	No outcomes apply here.	The gap here is complete - i.e. this is an area not covered at all in the SET diploma program so bridge students will have to complete all the degree material	<b>Years 3 &amp; 4:</b> Take full "Adult Training & Education" course
13. Conduct and evaluate research using theory and practice of health informatics and health information management to contribute to evidence based practice in health care.	No outcomes apply here.	The gap here is complete - i.e. this is an area not covered at all in the SET diploma program so bridge students will have to complete all the degree material	<b>Years 1 &amp; 2:</b> Take full "Introduction to Data Analysis" course <b>Years 3 &amp; 4:</b> Take full "Research Methods & Statistics", "Epi, Pop'n & Public Health" & "Decision Support in HC" courses
14. Develop plans for lifelong learning and professional development.	Outcome (12) "Identify and implement strategies to improve job performance and promote personal and professional growth."	Gap here, if it exists at all, is small and can be closed through a variety of means during degree completion	Can be acquired partially through extra-curricular activities AHIS students commonly engage in through memberships in groups as NIHI's NSF and COACH. It also comes through an attitude fostered in remaining completion courses. <b>Years 3 &amp; 4:</b> Take full "Adult Training & Education" course
15. Apply health informatics and health information management knowledge and skills during work integrated learning opportunities in health care related organizations.	No SET outcomes apply here. It is possible the student could have engaged in some experience in a healthcare context, through co-op or some other form of work-integrated learning.	In most cases there will be a gap here, especially in terms of the experiences being in a healthcare context.	Acquired throughout the work-integrated learning opportunities that arise in the remaining courses in the degree completion, as well as through Co-op experiences. Requirement for work experience before applying.

## Appendix B: Bridging Documentation

### SET Pathway Delivery Schedule

#### Required

##### SET\_P1\_Fall

Biomedical Concepts I  
 Clinical Systems I  
 Health Informatics I  
 Introduction to Data Analysis  
 Web Application Development I  
 Co-op & Career Preparation (no credit)  
 Health Information Management I

##### SET\_P2\_Winter

Clinical Systems II  
 Governance & Structures of HC Systems  
 Solving Problems in HI  
 Web Application Development II  
 Health Information Management II  
 Information Technology Planning and Procurement

##### SET\_P3\_Spring

Co-op Term

##### SET\_P4\_Fall

Biomedical Concepts II  
 Breadth Elective IV  
 Health Informatics II  
 Research Methods & Statistics  
 User Training & Adult Education  
 Systems Analysis & Design

### BAHS(HIM) Program Exemptions for SET Pathway

#### Y1/S1/Fall

##### Exempted Courses

Information Systems I  
 Academic Communication

##### Required

Biomedical Concepts I  
 Health Informatics I  
 Health Information Management I

#### Y1/S2/Winter

##### Exempted Courses

Database Concepts I  
 Group Dynamics  
 Information Systems II  
 Programming Concepts I

##### Required

Governance & Structures of HC Systems  
 Solving Problems in HI

#### Y2/S3/Fall

##### Exempted Courses

Database Concepts II  
 Professional Communication  
 Programming Concepts II

##### Required

Biomedical Concepts II  
 Clinical Systems I  
 Introduction to Data Analysis

## SET Pathway Delivery Schedule

### SET\_P5\_Winter

Biomedical Concepts III  
Decision Support in Health Care  
Epidemiology, Population & Public Health  
Security, Privacy & Confidentiality  
Systems Integration  
Health Information Management III

### SET\_P6\_Spring

Change Management  
Health Care Quality Improvement  
Health Informatics III  
Visual Design  
Interpersonal Conflict Management

### Exempted Courses

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#### exempt

Breadth Elective I - III  
Project Management  
Database Concepts I  
Database Concepts II  
Database Concepts III  
Group Dynamics  
Health Informatics Field Studies  
Information Systems I  
Information Systems II  
Management & Org Behaviour  
Professional Communication  
Programming Concepts II  
Programming Concepts I  
Co-op Term  
Academic Communication

## BAHS(HIM) Program Exemptions for SET Pathway

### Y2/S4/Winter

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#### Exempted Courses

Database Concepts III  
Health Informatics Field Studies  
Elective

#### Required

Biomedical Concepts III  
Health Information Management II

### Y3/S5/Fall

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#### Required

Health Informatics II  
Research Methods & Statistics  
User Training & Adult Education  
Web Application Development I  
Co-op & Career Preparation (no credit)  
Systems Analysis & Design

### Y3/S6/Winter

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#### Exempted Courses

Breadth Elective III  
Management & Org Behaviour  
Project Management

#### Required

Epidemiology, Population & Public Health  
Web Application Development II  
Information Technology Planning and Procurement

### Y3/S7/Spring

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**Exempted Courses:** Co-op Term

### Y4/S8/Fall

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**Required:** Co-op Term

## SET Pathway Delivery Schedule

## BAHS(HIM) Program Exemptions for SET Pathway

### Y4/S9/Winter

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#### Required

- Breadth Elective IV
- Clinical Systems II
- Decision Support in Health Care
- Security, Privacy & Confidentiality
- Systems Integration
- Health Information Management III

### Y4/S10/Spring

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#### Exempted Courses

- Breadth Elective I

#### Required

- Change Management
- Health Care Quality Improvement
- Health Informatics III
- Visual Design
- Interpersonal Conflict Management

## Appendix C: Pathway Documentation

PATHWAY DETAILS	
Title of Pathway:	From: Software Engineering Technology To: Bachelor of Applied Health Information Science
Pathway Type:	Degree Completion
List other postsecondary institution/s involved in the creation of the pathway:	Conestoga College, Centennial College
Pathway Implementation:	Date the pathway is put into effect: August 2015
Expiry Date:	Expiry is four (4) years from implementation. In order to maintain currency, you will be required to review the mapping for this pathway the year before expiry.
Program designs for which this pathway is eligible:	Year/s or version/s: N/A
Terms for renewal or cancellation:	All Conestoga pathways will have a default review date of three years from the date of implementation. Pathways may have a shorter review date if substantive curriculum changes are made to either the sending or receiving program. Students enrolled in the receiving institution at the time of any change or notice of termination will be given the opportunity to complete their studies based on the terms of the transfer pathway in effect at the time of their enrollment.
Contact Procedure:	Program Website: <a href="http://www.conestogac.on.ca/fulltime/1131C.jsp">http://www.conestogac.on.ca/fulltime/1131C.jsp</a> Program Coordinator - Name, Phone, Email: Justin St-Maurice, 519-748-5220 x 2593, <a href="mailto:jstmaurice@conestogac.on.ca">jstmaurice@conestogac.on.ca</a>
Eligibility for the Pathway:	Graduates with a System Engineering Technology (SET) diploma with a minimum B average may apply for advanced standing into the Bachelor of Applied Health Science in Health Informatics Management degree. Once they are given an offer of admission by Conestoga, applicants must successfully complete a Bridging Module consisting of 1 week of full-time studies at the end of August before beginning full-time studies in September. The Bridging Module consists of a 45 hour course comprised of lectures and a project. Students enter into a modified year 3.
Applicant must have graduated from the program at the sending institution:	Yes
Minimum program GPA or % required to be eligible for this pathway:	3.0 (B average)
Minimum GPA or % required in specific courses	N/A

Total number of courses in the Conestoga program design, not including Co-op:	46
Co-op opportunities in the Conestoga program design:	Total number of Co-op opportunities in the program: 2 Number of Co-ops required for graduation from the full program: 2 Number of Co-ops to be completed by advanced standing students: 1
Total number of program courses for which credit will be granted:	16
Transfer Credits Granted:	Transfer credit will be granted for the first two years of the Bachelor of Applied Health Information Science program with the exception of the following courses: Biomedical Concepts I, Health Informatics I, Health Information Management I, Governance & Structures of HC Systems, Solving Problems in HI, Biomedical Concepts II, Clinical Systems I, Introduction to Data Analysis, Biomedical Concepts III, and Health Information Management II, These courses must be completed in addition to the regular year 3 and 4 courses. Year 3 and 4 credits will be granted for 2 Breadth Electives, Management & Organizational Behaviour, and Project Management. Credit will be given for 1 of 2 co-op terms.
Total number of program courses that must be completed at Conestoga in order to graduate:	30
Program Completion Requirements:	All required courses listed in <a href="#">Appendix B.</a>
Anticipated time to complete the credential if enrolled full-time:	Number of academic semesters: 5 + 1 co-op Number of years: 2
List of eligible institutions and their programs	Centennial College Systems Engineering Technology ( <b>3409/3419/3408</b> ), Conestoga College Systems Engineering Technology

### Appendix E: Key Milestone Table

Id.	Title	Planned completion date	Forecast completion date as reported two months ago	Forecast completion date as reported last month	Current forecast completion date	Actual completion date
1	SET Program evaluation and Gap Analysis	01-Apr-30	n/a	n/a	30-Jun-14	30-June 14
2	Program Bridge Mappings	30-Aug-14	n/a	n/a	30-Jun-14	30-June 14
3	ONCAT Posting and Final Report	31-Dec-14	n/a	n/a	31-Dec-14	23-Dec-14