Program and Curriculum Review Template

*Instructions: Review all information that is stored on your program and curriculum review web page.*

[***https://department.flemingcollege.ca/pcr***](https://department.flemingcollege.ca/pcr)

*\*\*NOTE: Referenced documents for each section can be accessed in GHS Program Review folder*

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| Review Facilitator: | Jodie Black | Date Completed: | June 2018 |
| Program Name: | GHS – PRE-HEALTH SCIENCES PATHWAY TO CERTIFICATES AND DIPLOMAS | Program Code: | GHS |
| 1.0 Industry Trends and Employment  | Summary of Key Findings |
| * 1. Labour Market & Occupational Standard Trends

Review and discuss the following:* Industry / sector changes or issues identified by the Program Advisory Committee
* Recent labour market data or sector reports as provided by the Fleming Library Researchers.
* Recent or anticipated changes in occupational standards, level of entry and credential and / or standards of accreditation
* Based on the above, do these changes or issues necessitate changes to your program, either immediately, or in the next few years?
 | The Pre-Health Science Pathway to Certificates and Diplomas program (GHS) is a pathway program designed to provide learners with the opportunity to prepare for entry into college health science certificate and diploma programs. Fleming College reserves 25% of seats in the following programs for GHS graduates with a minimum of 70% overall program average:* Practical Nursing
* Paramedic
* Health Information Management
* Pharmacy Technician
* Occupational Therapist Assistant/Physiotherapist Assistant

All students who have applied to one of the above programs but are not accepted (based on GPA and/or admission requirement deficit) receive alternate offers to the GHS Program. MTCU approval was obtained for a Pre-Health Sciences Pathway to Certificates and Diplomas program with six Vocational Learning Outcomes (VLOs) and associated Elements of Performance in July 2016 ([Pre-Health Sciences Pathway to Certificates and Diplomas Program Standard](http://www.tcu.gov.on.ca/pepg/audiences/colleges/progstan/health/prehealth.pdf)) (CVS Application). Specifications within the new program standards have resulted in changes in program availability for GHS graduates. At Fleming College, the advanced diploma programs (Massage Therapy and Biotechnology Advanced) were removed from the suite of health programs offering reserved seating for GHS graduates. Reserved seats for these programs at Fleming are now restricted to graduates of the Pre-Health Sciences Pathway to Diplomas and Degrees (PHS) program. Externally, until Fall 2017, the GHS program was the accepted pathway program to Veterinary Technician/Assistant programs at other Ontario colleges. However, with the advent of the new standards, the admission requirements for these programs have become quite variable across the colleges. For example, Sheridan College now requires a 70-72% HOAE test result and 12U equivalents for English, Math and Sciences eliminating the GHS program as a viable pathway option. In contrast, Northern College is still accepting GHS graduates in to these programs. Other admission inconsistencies are emerging across the province. Students wishing to apply to the Respiratory Technician or Dental Hygiene Advanced Diploma programs at Cambrian College are now required to complete the PHS pathway program. However, since Cambrian College offers only the GHS equivalent stream, Cambrian will accept students from their own Certificate/Diploma stream. In addition, a clearly defined policy regarding ranking or preferential admission of students to oversubscribed health programs, such as PMD or PN based on the pathway stream taken, is not evident within the college system. Two colleges (Centennial and George Brown) reserve seats for their Pre-Health Sciences Pathway to Certificates and Diplomas program graduates in health programs, while Conestoga and St. Lawrence Colleges provide an admission points bonus. At Fleming College, PMD, PN, HIM, PT and OT/PTA programs reserve seats only for graduates of the GHS program not Fleming’s alternate PHS pathway program. Consequently, students interested in these programs at Fleming are generally advised to complete the GHS program. The Admissions Department at Fleming College reports that they are accepting students from the Certificates to Diplomas stream into the Biotechnology and Massage Therapy programs as graduates have met the admission requirements for these programs. However, reserved seats in these programs are restricted to PHS graduates. The newly emerging variation in college health program admission standards among and within institutions are creating challenges with respect to student pathway program choice and advising, at both the secondary school and college levels. |

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| 1.2 Graduate Employment & Employment TrendsReview and discuss the following:* Graduate employment statistics over the last few years, including those of students employed in the field, in a related field, outside the field, or unemployed, and any emerging patterns in this data.
* Emergent employment trends such as new types of positions, changing job market, regional distinctions, changing employer profile, or emerging skill shortages
 | As the GHS program is a pathway for students into other health-based post-secondary diplomas, graduate employment statistics are not applicable or are difficult to obtain. However, 2017 KPI Graduate Survey data indicated 75% of GHS graduates were employed when contacted 6 months after graduation. Also, 78% of graduating students were satisfied with the usefulness of their college education in achieving goals after graduation. Analysis of the registration of GHS graduates into subsequent Fleming programs indicates that graduates of this program comprise a large proportion of Fleming graduates entering 4 of the 7 programs formerly or currently offering reserved seating to GHS graduates. Between 2014 and 2017, GHS graduates represented 66%, 47% and 75% of the total number of Fleming graduates entering the PMD, PN and PMT programs respectively (Figure 1). GHS graduates have also chosen to remain and to continue their studies at Fleming in the PSW, HIM, OT/PTA and FHP programs upon graduation (Figure 1). Some are also entering non-health/science related programs such as Border Security, Fish and Wildlife Technology, Police Foundations, Urban Forestry and Pre-Service Fire Fighter at Fleming College and others are continuing their education at other institutions (KPI Graduate Program Choices). These data suggest that the GHS program is reaching its objective of creating opportunities for student transition to other college programs and the reassessment of career options. Figure 1: Number of GHS graduates entering health related programs compared to graduates of from other programs. |
| 2.0 Key Performance Indicators Review and analyze the formal Key Performance Indicator (KPI) results for your program. | Summary of Key Findings |
| 2.1 Student Satisfaction* In addition to the formal Student Satisfaction KPI results, comment upon any other formal or informal discussions with students and graduates such as *student focus groups*, class councils, class representatives, individuals or delegations, or debriefing sessions following a field placement, clinical placement, or practical work integrated learning experience.
 | The overall student satisfaction Key Performance Indicators for the past three reporting years have continued to be above 82% and slightly above the MTCU scores. Despite the 5-week work stoppage that occurred in 2017, 84% of students surveyed were satisfied with the program. However, student satisfaction with the teaching dropped, as expected to 76% (from 87% in 2016 and 86% in 2015).The Overall KPI Student Satisfaction Capstone score is an average of the scores for four questions (Q13, Q24,Q39, Q49). Two of these questions do not relate directly to the GHS program, but rather overall college services and facilities. The inclusion of these scores results in a slight decrease of the overall KPI score each year (Q39: Quality of Services = 76.4%, Q49: Quality of Facilities = 83.3% vs. Q13:Knowledge and Skills = 87.5%, Program Quality = 81.9% 2016/17). Faculty attribute the maintenance of these KPI results which are above provincial satisfaction rates to the institution of smaller more consistent teaching teams, continued strong advising support from the faculty teaching team and careful annual review of course evaluation feedback.In the 2017/18 year, students were asked to complete an online exit survey. The survey supports student satisfaction with the program in this most recent year. Eighty-three percent of students responding to the survey indicated that they were very satisfied or satisfied that while in the GHS program they gained skills and/or knowledge that will be useful in their future careers and/or programs (Hlth274 Exit Survey). Examples of skills/knowledge provided by the students surveyed included computer skills, knowledge of human body, time management and development of professional skills/image. (Hlth274 Exit Survey). In addition, 94% of the students indicated that they would recommend the GHS program to other students (Hlth274 Exit Survey)Knowledge and Skills – Future CareerSpecific KPI results, which focus on career readiness, remain strong (Q03,Q04,Q12,Q13), indicating that students find that the program provides skills and knowledge that will be useful in their future career and assists them in understanding their career options. These results are supported by information, from GHS graduates who have entered a health program at Fleming College, gathered during focus groups, PAC meetings and other student feedback (Focus Group 2017, PAC 2017, PAC 2018, Student Feedback Graduate). During all of these discussions, students have indicated that they have benefitted from:* Reduced course load in PN, PMD, BTF
* Chemistry and Math background knowledge supports learning
* Math courses eased math anxiety felt by many students in PN as students were familiar with content already
* Human Biology courses provided a good foundation for more challenging Anatomy and Physiology courses

Students have suggested (Focus Group 2017, anecdotal) that the relevance of the GHS program to the work place and career could be enhanced through the availability of General Education courses such as American Sign Language, Spanish, French and the inclusion of the option to complete a Physics course. Students consistently agree that the GHS program develops their math skills. This is supported by the 2014-2017 KPI data (KPI data charts). In addition, a Fall 2017 course exit survey indicates that over 85% of the students surveyed found the Math117 course structure facilitated their learning (Math117 Survey Results). Likewise, KPI data indicate that students find that the program develops their ability to work with others. (KPI data charts).In contrast, student satisfaction with their opportunities to develop their writing skills has been consistently low with a steep decline from 67.9% to 44.9% satisfaction. The program team has identified several factors which may have contributed to this decline. Firstly, the Communications courses underwent significant curriculum and delivery changes which were implemented in the Fall 2016 and Winter 2017. There were challenges for faculty delivering the curriculum under the new model. In addition, for the first time since 2013/14 students were not sectioned according to program. When GHS students were sectioned together Communications instructors were better able to make specific program references and select learning materials specifically relevant to the pathway program. Such linkages were more difficult to implement in classrooms with multi-program representation. In addition, faculty teaching other GHS courses found it more difficult to make course connections and linkages across other courses as they were not as familiar with the format, model and curriculum of the new Communications courses. To strengthen the integration of the Communications courses within the GHS program students the use of blogs to share professional practice and development was incorporated into the Hlth274 course in 2017/18. However, during the Spring 2018 GHS focus group session students continued to express concerns regarding the applicability and structure of the Communications courses (Focus Group 2018).Student satisfaction with the development of problem solving, speaking and computer skills also decreased to below provincial levels in the 2016/17 year. Historically, student satisfaction with the development of their computer skills within the program is very low (32%-50.9%) and well below the provincial average. This is not unexpected as a computer skills course is not part of the GHS curriculum. To address this, Excel graphing opportunities, blog development and maintenance and opportunities for independent online learning (within Hlth274) were incorporated into the program delivery or enhanced in 2017.Learning ExperiencesGHS students continue to be satisfied with the overall quality of the learning experiences in the program (see graph below). Students have reported satisfaction with promptness and helpfulness of feedback and accessibility to teachers outside of class. (KPI data charts). Specifically, students have reported, during focus groups and PAC meetings, that the GHS teaching team is very supportive, patient and attentive towards students. They felt as if “GHS was a community group where students and teachers were supported” (Focus Group 2017). They also found the integration of the courses to be helpful to their overall learning and motivation (Focus Group 2017, PAC 2017).Overall Student ExperienceStudent KPI feedback indicates that students are very satisfied with the quality of teachers in the program and with the overall quality of their educational experience at the college (see graphs below). A student focus group was conducted on April 17, 2018 and is summarized in an Appendix. Overall, students were satisfied with the program with the exception of the second semester Communications course. Students were also satisfied with the number of assessments, how they were being assessed and the variety of assessments being used across the program. |
| 2.2 Retention Rate* Use the IPP (Integrated Program Planning) data that focuses on Retention.
* Review patterns of retention on a semester by semester basis over the last five years.
* Comment on the effectiveness of any strategies adopted to improve student retention.
 | Since 2014, student retention from Semester 1 to Semester 2 of the program has remained strong (80-83%) (see graph below). The lower retention rate for the 2017 intake can likely be attributed to student withdraw following the Fall 2017 work disruption. At least 12 GHS students reported withdrawing from the program for reasons related to the work stoppage (Strike Related Withdraw).It is also important to note that while in the first semester of the GHS program, a number of students receive offers of admission to programs with January intakes (ie. PN). This past January (2018), 4 of 65 Semester 2 students switched into other programs. In addition, several students will receive offers of admission to college health programs during Semester 2 that are not conditional upon completion of the GHS certificate. These situations are not reflected in the GHS retention numbers, even though these students are retained within the college. The increased retention rate after 2013 coincides with the institution of the GHS student advising system. With this system in place, students at risk are contacted by a faculty member early in the semester and prior to the course withdraw date. This provide students with the opportunity to receive personalized information regarding academic options in a timely manner. |
| 2.3 Graduate Rate* Review patterns of graduation rates on a semester by semester basis over the last five years.
 | Graduation rate data provided by the Institutional Research Office includes data from both the GHS program and GSU program. Consequently, reported rates do not accurately reflect GHS graduation rate patterns. However, the 2017 graduation list reports that 79.7% of semester 2 students successfully completed the GHS certificate (GHS Grads 1181). This rate is above the overall 2017 college graduation rate of 68.8% and certificate program rate of 71.4% (College Graduation Rate Summary). Also of note, 27 students were recognized for their academic achievement on the Dean’s List for earning a GPA of over 3.6 in Semester 1 of the GHS program in 2016. Of these students, 13 earned a GPA greater than 3.8. (Dean’s List – Fall 2016). Additionally, in 2016, a GHS student was selected as valedictorian and another received the School of General Arts and Science award. |
| 2.4 Graduate Satisfaction* Review patterns of graduate satisfaction and provide comment.
 | Graduate satisfaction related to program purpose and quality of instruction is positive. This is reflected in the graduate satisfaction survey data (graph below) and in graduate feedback during focus groups, student visits to classes and unsolicited feedback to faculty (Focus Group 2017, Student Feedback -Graduate) in which students express that completion of the program has been of assistance in achieving their goals of entering and being successful in health care programs. The lower graduate satisfaction with preparation for work is expected since the outcomes of this pathway program are not health-care skill related. Since there is a focus on professionalism and transferable skills within the program curriculum and a plan to enhance these skills, the program team plans to work toward more direct promotion within each course. In addition, the proposed opportunity to work towards NARS, other certifications and professional development (such as First Aid, AODA, Positive Space, mock interviews with an employer panel) (NARS-Certifications-Other) within the Hlth273 and Hlth274 courses will enhance opportunity for preparation for work related learning experiences. |
| 2.5 Enrolment Trends and Demand* Your team will review and analyze the patterns in the number of program applicants, confirmations and actual registrants over the past 5 years. You will also examine changes, if any, in the student demographic profile and the impact, if any, of this changing student profile on program curriculum.
* Assess whether the program curriculum needs to change based on the above analysis.
* Use the FDR excel spreadsheet that provides Day 10 enrolment numbers for Fleming for the last 10 years, to assist you with your analysis.
* Please review the IPP (Integrated Program Planning) data that focuses on trends related to student demand, and the related ‘Situational Analysis’ information included for your program – select the  Demand Trending Tab and Situational Analysis Tab.
 | Enrollment in the GHS program has remained relatively consistent over the past 10 years (Figure 1). An annual target for Fall intake is usually set at 90 students. Since the Science courses have a laboratory component, section sizes for these courses must be capped at 30 students each. Consequently, it has been most efficient to plan for a maximum enrollment of 90 students unless more than 110 students confirm acceptance.Figure 1: Number of students registered at Day 10 in Fall intake 2009-2017Annual data gathered by the Pre-Health Coordinators indicates that in 2017 there were approximately 7700 students registered in Pre-Health programs (both streams) in the province (Provincial Overview Data). Fleming College’s enrollment of approximately 90 students is consistent with enrollments at other medium-small sized colleges (Figure 2). However, the large number of students entering Pre-Health programs across the province annually suggests that there is opportunity for growth of the program.Figure 2: Number of students registered in Pre-Health certificates and diplomas programs a various Ontario colleges in 2017Most students entering the GHS program in 2016 and 2017 entered the program with the intent to upgrade qualifications for admission to college health programs (Hlth274 Exit Survey). Consistently, the majority are under the age of 21 (although this number appears to be decreasing) and have not attended school in the past year (not direct entry, Figure 3). Less than one quarter of the students in the program have post-secondary education experience (graph below). In addition, students from the nearby Peterborough catchment area represented just over half (52%) of the Fall 2017 intake (GHS Demographics 2017-18). These demographics suggest that marketing to our local and GTA secondary schools and to students over the age of 21 who may be returning to education could increase enrolment.Figure 3: Student Profile for Fall intakes 2015-2017Five other colleges (Centennial, Conestoga, Durham, Mohawk, St. Clair) offer a winter intake of the Pre-Health Sciences Pathway to Certificates and Diplomas program. At Fleming College, the winter intake of the GHS program was suspended for both the 2016/2017 and 2017/2018 years as early enrollment numbers and historical retention rates into the spring second semester were low (2015- 36.7%, 2016-64.7%) (Student Retention Rates).Offering a Winter intake of the program will be revisited for Winter 2019. It has been proposed that this intake be utilized by the Fleming Health programs (ie. PN, PMD) as an opportunity for students in these programs, who are struggling or are unable to progress to a subsequent semester (ie. did not achieve a prerequisite needed for advancement), to improve their learning skills and rejoin the program in a subsequent semester. In the past, students choosing this option have not been required to complete the program (or even part of) resulting in poor attendance and completion rates. The suggestion that re-entry into a Health program be conditional upon completion of all or part to the GHS program will be a recommendation.As noted above and upon review of the IPP data, the number of applications for the GHS program has declined consistently over the last 3 years. However, the number of registrations leveled off in 2016 and 2017.

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|  | 2015 | 2016 | 2017 |
| Applications | 1705 | 1658 | 1328 |
| Registration | 129 | 101 | 102 |

When comparing the number of applications for all 1-year General Arts & Science certificates (44700) over the last 10 years, Fleming was trending lower than the system average from 2012 to 2016 but received more applications last year in 2017.In terms of enrollment for all 1 year General Arts and Science certificates (44700), the percentage of students choosing Fleming is lower than the system average from 2013 to 2016. It should be noted that these statistics includes data from all programs of study with the Ministry code of “44700”. Unfortunately, the data specifically for the GHS program are not available. However, system wide comparisons for applications and enrollment is available for programs of study considered “preparatory/upgrading”. The GHS program falls in this category.With respect to applications, similar to the data reported above, Fleming received more applications for preparatory/upgrading programs in 2017 than were received system-wide.In terms of enrollment in preparatory/upgrading programs, Fleming is trending slightly lower than the system average. Conversion rates for the GHS program are relatively consistent at 8% (2015 – 8%; 2016 – 6%; 2017 – 8%). There is an opportunity to do more in marketing this program to prospective students who are considering a 1-year preparatory certificate. In speaking with graduating students and member of the Program Advisory Committee, the success of the program and the ability of the program to prepare students for their next diploma or degree are noteworthy and have been reportedly repeatedly. New out-reach and marketing initiatives should be explored further in the interest of improving conversion rates.  |
| 3.0 Program Curriculum | Summary of Key Findings |
| 3.1 Program Learning Outcomes and/or Sector Standards* Review program level learning outcomes in preparation for curriculum mapping (vocational, essential employability skills, general education)
* Where applicable review sector standards to ensure program is keeping up with new trends, developments and requirements.
 | Until 2016, MTCU approved Vocational Learning Outcomes for Pre-Health Science programs were not available. The Fleming GHS program was operating using general outcomes established by other institutions (Program Map). During a 2014 program renewal, the GHS program team implemented its own locally developed set of vocational outcomes for the program (VLO Comparisons). During this time, Provincial Heads of Health Sciences group proposed the standardization of Vocation Outcomes and Elements of Performance for Pre-Health Science programs to facilitate student mobility among colleges and programs (S:shared/data/GAS/GA$S Program Related/GHS/Curriculum Renewal Spring 2015/Provincial MOU). Fleming College agreed to the guidelines of the resulting MOU and revised the program curriculum to meet or exceed these standards (VLO Comparisons, MOU Mapping). In July 2016, the Ministry of Training, Colleges and Universities approved the proposed Pre-Health Sciences Pathway to Certificates and Diplomas Program standard. The Fleming College GHS program received ministry approval through the Credentials Validation Service (CVS) in 2016. (CVS Application File). Fleming College submitted an application for the approval of the Pre-Health Sciences Pathway to Certificates and Diplomas program to the Credentials Validation Service (CVS) (CVS Application File).  |

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| 3.2 Program of Study, Course Outlines, Delivery and Program Map * Review the feedback and suggestions received from Course-level survey completed by faculty at the end of each semester.
* Review the balance and frequency of assessment types across the curriculum and their appropriateness to learning outcomes for the course and program level outcomes.
* Collect a cross section of samples of student work as evidence of achievement of learning outcomes.
* Reflect and comment upon the variety of methods used to demonstrate program outcomes.
* Reflect and comment upon the degree of technology-enhanced delivery of the program outcomes.
* Discuss the degree and depth to which the program is providing work integrated learning experiences.
* Discuss the degree and depth to which the program includes Indigenous perspectives and record the courses in the curriculum in which Indigenous perspectives are covered
* Record the course in the curriculum that covers the college-wide sustainability learning outcome
* Review (or create) Program Curriculum Map(s) to ensure that there is alignment of current courses to the overall program outcomes, including the Vocational Learning Outcomes, the Essential Employability Skills, and adherence to the General Education Policy.
* Review pre and co-requisites to ensure that they do not hinder progress in the program, unnecessarily.
* Make recommendations to address any gaps identified or improvements required.
* Review the program’s current admission requirements and their suitability in relation to program rigour and student preparedness.
* Include an updated program curriculum map on your program and curriculum review web page.
 | During 2016-2017, the curriculum of the Mathematics, Human Biology, Issues in Health Science and Integrating Theory and Practice and Chemistry courses were revised to ensure adherence to the program standards. The GHS team completed a detailed survey of VLOs and Elements of Performance in Spring 2017 for all required program courses and determined that each outcome and element of performance is adequately taught, reinforced and assessed across the program curriculum (EOP – VLO Survey Summary) (Program Map).AssessmentFrequent low risk assessments are utilized in the core courses to enable the provision of regular feedback and student reflection regarding course material. To assist with the utilization of this feedback students have opportunities in the Hlth273 course to discuss effective feedback techniques and analyze feedback from core course assessments. The implementation and analysis of this feedback activity is described in detail by the course instructor and coordinator in the Fleming College Faculty Patchbook (<https://facultypatchbook.wordpress.com/2017/06/20/patch-fourteen-the-feedback-loop-de-loop/>).Student feedback from focus groups and faculty course evaluations is divided with respect to the use of frequent low stakes assessments. Some students feel that these assessments disadvantage students who choose not to attend classes, while others express that these assessment strategies facilitate long-term retention of material and encourage the development of regular study routines. (Focus Group 2018, Focus Group 2017, Scie148-149 Survey Summary).Semester assessment maps outlining all assessments contributing to the final grade in each course are revised each academic year. These maps allow the program team to ensure that large assessments are reasonably distributed each semester. The assessment map is also used to inform curriculum changes as it provides a weekly overview of the student assessment experience (Assessment Maps).Faculty course teams participate in annual curriculum renewal discussions and regularly reflect upon the nature, efficacy and UDL compliance of assessment strategies. In all program courses, students participate in a variety of both low-stakes and high-stakes assessments and are afforded the opportunity to demonstrate course and program outcomes in a variety of ways. For example, assessment strategies include both summative and formative assessments, independent work, group work, laboratory activities, reflections, case studies, applied scenarios and web-based/technology assisted activities (Course Reflection Documents, Assessment Type Summary Chart). In the majority of the program courses, assessment timing follows a regular pattern that is clearly documented in course outlines and course introduction materials (Course Outlines). Due to the nature of the course content and design, the assessment schedule in Hlth273 and Hlth274 is not as predictable although the plan is clearly articulated in course outlines and weekly on the LMS course page. In several courses, students participate in reflective assessment activities regarding their learning (Comm201, Hlth273, Hlth274, Math117). During these activities, students are required to discuss their experiences and learning using an evidence based approach. (Math 117 Test Triage, Student Reflection Exemplars)Technology The GHS program curriculum within each course uses a scaffolded approach. With this approach, first semester students are gradually introduced to technology enhanced learning and are guided by faculty with respect to the use of technology. All first semester GHS courses require students to navigate and engage in learning activities within the Desire2Learn platform. Examples include accessing lecture notes, completing quizzes, engaging in online discussions, retrieving course support resources and accessing course grades. In second semester, students are required to complete two hybrid courses (Hlth274 and Comm202). Examples of the technology based learning tools and opportunities within the program learning curriculum include: Comm201/202* Students create their own WordPress site to post weekly blogs and drafts of assignments. In Fall 2018, students will begin using a WordPress platform hosted specifically for Fleming College students (wpflemingcollege.com).
* Desktop computers are used for writing, revision and research.

Math 117/118* Students are provided with the opportunity to participate in guided activities using Excel spreadsheets to visualize, analyze and interpret scientific and health care related information.

Scie150/151* Instructor use of a writing tablet to annotate notes facilitate student note-taking during lecture.
* Use of short “Kohoot” quizzes during lab tutorials using BYOD technology increased student engagement, but technical difficulties (ie. lack of consistent WiFi) presented a challenge.

Hlth273/274* Hlth274 is a hybrid course in which student learning is blended to take place online and in the classroom. Uses of technology which are unique to this course within the program include:
	+ Development of a LinkedIn profile
	+ Blog tasks on WordPress and online discussion boards are used to share research finding and learning experiences and give and receive respectful and constructive feedback in a public forum
	+ Practice professional communication via email and voicemail
	+ Assess validity of various online career and personality assessment tools
	+ Investigate various job search tools
	+ Participate in digital learning
	+ View, assess and apply (as relevant) skills from online videos

Scie148/149* I-clicker response system with physical remote or REEF app on a digital device is utilized in lecture classes to allow students and instructor to identify concepts for review in real time.
* Students participated in interactive video formative quizzing (EdPuzzle)

It is important to note that one challenge in the use of technology within the classrooms in this program is that not all students bring digital devices to classes. Consequently, some activities must be conducted in groups to ensure inclusion of all students.Two members of the GHS teaching team participated in a college Bring Your Own Device professional development opportunity in Spring 2017. This faculty learning opportunity has resulted in the use of Surface Pro technology for the delivery of math content within the program. The technology facilitates the annotation of notes and the subsequent timely provision of completed notes and solution sets for students. The use of this tablet technology is expected to expand to create more dynamic classroom (and possible online) delivery with the purchase of licencing for FluidMath (math teaching and learning software designed for Tablet PC’s and other pen-centric computer systems) in Fall 2019.Pre and co-requisitesPrior to 2016, Hlth273 and Math117 were prerequisites for Hlth274 and Math118 respectively. These prerequisites were eliminated in 2016 as it was determined that the learning outcomes of the two second semester courses could be achieved without successful mastery of the first semester outcomes. The removal of these prerequisites allows greater student flexibility with respect to program completion especially in years in which a Winter intake does not occur. In the 2017/18 year, two students completed Math117 and Math118 in the same semester enabling the completion of their GHS certificates within one year.Work Integrated Learning ExperiencesSince the GHS program is designed as an educational pathway to college health related diploma programs, the following work related experiences and opportunities have been incorporated into the curriculum across the program courses.Ongoing* Development of LinkedIn professional profiles (Hlth274)
* Positive Space Level 1 certification (Hlth274)
* Professional portfolio and resume development (Hlth274)
* Guest speakers (CMHA, Human Resources)
* Participation in mock Mass Casualty incident sessions with PMD program students
* Collaborative cross program injury case scenario labs with PMD program
* Participation in mock client information sessions with PMT program students
* Completion of laboratory-based activities in lab setting following mandated safety protocol (Scie148/149, Scie150/151)

Past* Collaborative cross program activity with FHP programs. As part of the Hlth274 applied learning component, students were clients for upper semester FHP students during fitness and vitals testing (Hlth274)
* Volunteer activities within the community (15 hours) (Hlth274) (Applied Learning – Volunteer List). This applied learning activity was removed from the program beginning Fall 2017. Student feedback regarding the required volunteering experience was variable, but largely positive (Course Evaluations, Focus Group 2017, Hlth274 Course Feedback, Hlth274 Course Feedback). However, given the great time, documentation and follow up required by the course faculty, this component was removed from the course.

FutureA component of the GHS program improvement plan is to increase the opportunity for applied cross program collaborative activities to increase student exposure to future program and career choices (Program Improvement Plan). In addition, the incorporation of a Non-Academic Requirement Skills (NARS)/Certification component to the Hlth274 course is being developed with gradual implementation beginning in Fall 2019 (Program Improvement Plan).College-Wide Sustainability Learning OutcomeThe GHS program is well situated in meeting the current college-wide sustainability learning outcomes. Students have the opportunity to experience and demonstrate applied learning, complex problem solving, assessment of personal actions and civic responsibility in addition to systems thinking. The GHS Sustainability Map provides a detailed annual overview of the courses and learning opportunities that cover these outcomes (GHS Sustainability Map).Indigenous PerspectivesAn important value and priority of Fleming College’s current strategic plan is the provision of an inclusive learning environment and working towards introducing indigenous knowledge and perspectives into the existing curriculum Currently, the GHS program curriculum does not directly include courses that focus on Indigenous perspectives. There is opportunity for students to choose to incorporate these perspectives through their selection of online readings in Comm201 and their Community Health Profile and Professional Development Modules in Hlth274. To better align the program curriculum with this component of the academic and strategic plan, several courses (Hlth274, Comm201, Comm202, Scie150) will work towards the incorporation of Indigenous perspectives (See Course Improvement Plans within Program Improvement Plan). For example, in Fall 2018 learners in Hlth274 will investigate the variation in health care approaches within Indigenous communities nationally through the lens of the social determinants of health. Another option would be to allow students an opportunity to take GNED49 – Introduction to Indigenous Studies. This is a pre-requisite course in the College’s Indigenous Perspectives Designation (IPD). Students who continue into other programs of study that provide the IPD option would be able to continue their studies to earn this designation upon graduation. GNED49 would stand as their general education elective requirement should the student not wish to pursue the IPD option.Program Admission RequirementsThe current GHS program admission requirements are:* 2 College (C) English course (Grade 11 or 12)
* 1 College (C) Grade 11 or Grade 12 science course (Chemistry, Physics or Biology)

These admission requirements are adequate for the purpose and scope of the GHS program goals. The requirements allow students who are lacking a secondary school level science and/or math credit to meet the qualifications for admission to Fleming health programs and programs at other institutions upon completion of the GHS certificate. Students who meet the admission requirements for a health program, but who did not achieve a high enough academic standing for admission are provided with the opportunity to enhance their qualifications.  Currently, there is a wide range of student prior knowledge within the Chemistry and Mathematics classrooms. These are the courses within the program that typically have the highest non completion and failure rates (Fall 2017 Math -29% not complete, Chemistry - 34% not complete) (2017 Sem1 Course Completion Data) . Fleming’s Pre-Health Pathway to Certificate and Diploma program is the only Ontario college with a science course admission requirement for this program. Only 4 colleges require a Grade 11 or 12 math course (GHS Trends and Comparisons). Removal of the science course admission requirement would increase eligibility for the GHS program. However, given the historical completion rates for the Chemistry course, it would likely have a negative impact upon retention and success rates. Program Course Reflections and SummariesAs part of the GHS program end of semester course and program reflection, faculty complete course reflection and action plan documents. The format of this document has varied over the years (see past Annual Curriculum Renewal documents). As sample of 2017/2018 course summary paragraphs completed as part of these documents are below:Communications I (Comm201)As indicated in the course outline, “Communications I is an introductory course that provides a foundation in college-level communications by teaching students to read critically, write appropriately for a variety of audiences, conduct and cite research, and revise for clarity and correctness. In seminars and labs, students will engage in both independent and collaborative activities, including the development of a digital portfolio designed to help them become more effective communicators in academic and professional environments.” The course currently serves students in the GHS program well. The reading, writing and digital literacy components of the course serve student success in other GHS courses and as they progress along their education pathway. Blogging and seminar discussion provide opportunities to make connections to concepts introduced in other program courses. The course design uses digital technology to facilitate the publication of student work and allow for feedback from both students and peers. Ever-evolving online platforms and digital technologies require that the course be regularly updated. There is room to better align the course with strategic and academic plan through the incorporation of Indigenous perspectives.Communications II (Comm 202)As specified on the course outline, “Communications II, building on the foundation of Communications I, is a blended course that teaches students to write and communicate for a variety of professional situations. In seminars, labs and online modules, students will develop a professional portfolio that demonstrates their abilities to meet the challenges of a changing workplace.” This is a forward-looking course that leverages digital tools to enable students to become confident, twenty-first century communicators. In the two years the course has run, adjustments and revisions have strengthened this course. It effectively serves the needs of students in the GHS program by providing multiple opportunities for community engagement and opportunities to make connections with other program courses.Chemistry for Health Sciences I and II (Scie 150/151)This foundational chemistry course for GHS students satisfies the Ministry Program Standard learning outcomes, while providing students with a hands-on laboratory learning component. Students indicated they enjoyed the laboratory experience, and that it increased their understanding of theoretical concepts. This course shares many linkages with the math and biology courses in the program as well. There are a variety of assessments (labs, tutorials, quizzes – in class and online, case studies, tests) with many different opportunities for students to demonstrate fulfillment of the learning outcomes. However, the current assessment plan may not adequately reflect student performance or provide meaningful, timely or adequate feedback. In addition, students are not utilizing the learning resources, particularly the textbook, to enhance their understanding. Chemistry is a challenging course for students, who struggle with the material and problem solving. While this course currently supports students in their learning, further innovation and curriculum development could lead to greater student success.Human Biology I and I (Scie148/149)These courses introduce students to the fundamental concepts of biology, human anatomy and physiology. The specific elements of performance and learning outcomes have been mapped to the Ministry Program Standard learning outcomes and the subsequent anatomy and physiology courses in PN and PMD programs at Fleming college. This mapping demonstrates that the courses are well positioned as preparatory for transitioning into health science programs. In a 2018 exit survey (Scie148-149 Survey Summary) and course evaluations, 100% of students agree or strongly agree that this course structure facilitates and supports their learning. However, student satisfaction with the use of iclicker technology and the textbook were low. Iclicker technology will not be incorporated into the course beginning Fall 2018 and a formal textbook review will occur in Spring 2019. This course shares linkages with other program courses including Soci36, Scie150/151 and Math117/118. Cross program learning opportunities including mock emergency scenarios (PMD) and prescription reading (PHM) will be re-introduced in Fall 2019. The creation of a new Biology lab will facilitate the continued development of lab activities including specimen analysis, microscopy and experimentation. Mathematics for Health Sciences (Math117/118)These courses provide opportunities for students to apply mathematical concepts important for students entering college health science programs. The course is also designed to complement and reinforce learning in the first semester Human Biology and Chemistry for Health Sciences courses. Students are assessed to demonstrate a mastery level understanding of essential numeracy skills in Math117 to address varying math competencies. Test review stresses self reflection as an important component of the learning process.Introduction to Psychology (Soci36)This course offers a systematic approach to exploring human behaviour. The concepts and empirical findings are examined using a variety of theoretical approaches. Major topics include perception, motivation, learning, memory, intelligence and personality. Linkages to the program’s Human Biology, Communications and Professional Issues in Health Science have been developed and continue to be strengthened. |
| 4.0 Strategic Positioning and New Opportunities | Summary of Key Findings |
| 4.1 College and School Alignment* Review program alignment with college priorities such as vision, mission, values, strategic plan, academic plan and the educational mandate, and / or academic priorities of the School.
* Review program webpage and promotional messaging to ensure accuracy and currency.
 | The Pre-Health Sciences Pathway to Certificates and Diplomas program team has recently identified the following four key strengths of the program (GHS Program Review Meeting Minutes – April 2018):1. The provision of opportunities for and support with personal and professional growth during the program in the development of a plan for continued growth.
2. Its continued success in meeting its mandate as a pathway program for students.
3. The integration of the curriculum across program courses and across programs.
4. The participation of a student focused teaching team.

The maintenance and enhancement of these strengths continues to align the GHS program well with the current vision, values, strategic and academic plans of Fleming College.1. Delivery of outstanding student learning and experiences.* Each course in the GHS program offers a variety of **learning experiences** that include applied learning, life skills, educational technology and cross disciplinary learning opportunities. All core program courses have incorporated UDL principles into their curriculum, delivery and assessment and have or are working towards AODA and copyright compliance. (Course Reflection Documents, Topic Maps, Assessment Grids). Faculty endeavour to provide individualized, timely feedback to students which has included personalized course completion letters of recognition (Portfolio Feedback Sample).
* In the absence of a college wide student advising model, the GHS program team has developed (beginning 2014) and implemented an integrated program specific **student advising** system. Each GHS student is assigned a faculty advisor. Students are encouraged to contact their advisor with questions and/or concerns during the semester. An important retention strategy used in this advising model is the generation of a progress report spreadsheet twice each semester. The spreadsheet enables faculty to indicate student progress and attendance in each course. Each student receives a personalized email from their advisor twice a semester with a summary of progress, next steps information and requests for meetings with students who are identified as at risk for success (Sample Progress Report spreadsheet, Student progress report contact samples). Currently, faculty volunteering as student advisors do not consistently receive time below the line on workload documents.
* The GHS program team meets regularly (biweekly) throughout each semester to discuss student success and program development. Given the standardization of the vocational learning outcomes for Pre-Health Sciences Pathway programs in Ontario the team continues to explore and implement learning opportunities and instructional design strategies that will **maintain differentiation** of the Fleming College program. Until 2016, Fleming College was one of the only colleges offering laboratory experiences in both Biology and Chemistry courses and was the only college providing the opportunity for volunteer experience within the program curriculum. Recently, the implementation of LinkedIn portfolio development, blog creation and professional development through Lynda.com courses, Positive Space and AODA training contribute to the differentiation of the GHS program from other Pre-Health programs. As outlined in the Program Improvement Plan, the GHS program team is working toward the enhancement of this differentiation through the implementation of the opportunity for completion of NARS, other certifications and professional development initiatives.
* The Program Coordinator and Associate Dean have worked closely with the Admissions department to ensure **pathways** into Fleming health diploma programs are clear and accessible to GHS graduates. While the availability of reserved seats for GHS graduates in Fleming health programs has been present since its inception, a formal written record of the selection process does not exist. In 2015, at the request of the coordinator and Chair an informal record was established via email (GHS Selection Communication). It is important to note that the lack of a formal, easily accessible reference document led to confusion among some students in Fall 2017 who received confusing information regarding GHS student eligibility for over-subscribed programs from Admissions and the Student Administrative Council.
* To ensure **mobility** between institutions, the GHS program team committed to the implementation of the standardized Pre-Health Sciences program curriculum prior to its ministry approval in 2016. The program is fully compliant with the ministry standards including elements of performance for each course (EOP-VLO Survey Summary) and suggested course exemplars (MOU Mapping).

2. Collaborate and prosper with our communities* The GHS program continues to offer learning opportunities that involve access to **community** resources and individuals and in partnership with other programs through learning activities within the Communications, Issues in Health Sciences, Integrating Theory and Practice and Biology course. (See 5.1 Community Partnerships).
* Members of the GHS teaching team are also interested in investigating the possibility of the integration of travel based learning into the program to provide international opportunities for student learning and growth.

3. Excel as an organization * The GHS teaching team endeavours to model behaviours that promote the development of a **learning community**. The team focused, interdisciplinary approach of the faculty fosters a sense of integration in the program as students are provided with opportunities to see **connections** between various courses and faculty. Students have articulated the observation and usefulness of these connections in focus groups and course evaluations (Focus Group 2017, Focus Group 2018). The GHS teaching team conscientiously incorporates **new strategies and teaching practices** into the program curriculum. For example, within the math courses self-paced mastery based essential numeracy skills modules were introduced in Fall 2017 to address the varying competencies of incoming first semester students. A unique self-reflective practice of review (Math117 Test Triage) and the opportunity for pre-test mediation were also incorporated into this course. Bring Your Own Device and Fluid Math software learning initiatives have also been or will be introduced in Math and Science courses. In addition, a badging system was implemented in the Hlth274 course to recognize student achievements and milestones (Hlth274 Badges in D2L).
 |
| 4.2 Competitor Programs* Analyze key parallels and differences between this program and those of its closest competitors, where applicable.
* Comment on the ’Value-added’ program distinctions and their attractiveness to prospective students.
 | Not all Ontario colleges offer both Pre-Health Science pathway programs. Of the thirteen colleges offering the Pre-Health Sciences Pathway to Certificates and Diplomas, nine also offer a Pre-Health Sciences Pathway to Advanced Diplomas and Degrees program. Eight of the twenty-four colleges offer only the Pre-Health Science Pathway to Advanced Diplomas and Degrees program (including Loyalist, Durham, Fanshawe, Cambrian, Georgian, Humber). Fleming College is the only college requiring a Science course (Grade 11/12) for admission to its Pre-Health Sciences Pathway to Certificates and Diplomas program while only four colleges (Algonquin, Centennial, St. Lawrence and Fleming) include a Grade 11 or 12 Mathematics course in their admission requirements. Loyalist College requires students to have completed First Aid and CPR training prior to the start of the program (GHS Trends and Comparisons).The organization and delivery of the Pre-Health Science pathway programs at Fleming College is significantly different from that of its geographically closest competitor colleges (Loyalist and Durham). Unlike the Fleming College Pre-Health programs, at both Loyalist College and Durham College the Pre-Health Sciences Pathway to Certificates and Diplomas program and the Pre-Health Sciences Pathway to Advanced Diplomas and Degrees program share a common first semester curriculum. At these institutions, the program courses do not become differentiated until semester 2 (Comparison Chart – Competitor programs). The complete differentiation of the Fleming Pre-Health streams ensures that GHS students are covering the Ministry mandated learning objectives specific to the certificates and diplomas preparatory program and not those of an advanced diploma or degree stream. This may make Fleming’s distinct program curriculum attractive to prospective students who are confident in their plan to transition into a college certificate or diploma program as they are likely to be better positioned academically when applying to oversubscribed programs such as PN and PMD.Durham college is the only college offering full online delivery of the Pre-Health programs. Delivery occurs via Contact North and is mainly used as a ‘recovery’ option for students who have taken part/all of the program through the face-to-face delivery option (GHS Trends and Comparisons). The program utilizes virtual laboratory activities within its Biology and Chemistry courses to meet the critical thinking, problem solving and information management aspects of the program’s vocational learning outcomes and essential employability skills. Another Fleming program distinction is the opportunity for students, to complete courses within the GHS curriculum that are required in other health programs. For example, the Communications, Introduction to Psychology and the General Education elective courses completed during the GHS program are components of most of the health programs at Fleming College and at other institutions. In contrast, the Certificates and Diplomas pathway programs at Loyalist and Durham College do not include required courses common to their PN or PMD programs (Comparison-Chart Competitor Programs).Rather than make mobility between colleges more streamlined for students the common first semester approach adopted by several colleges has potentially made this a more challenging endeavour. For example, students moving from Durham or Loyalist College to Fleming College will not have covered all of the learning objectives of the Certificate/Diploma stream first semester Biology and Chemistry courses, (ie. Muscular System, Nervous System) but will have covered other objectives not required by the Certificate/Diploma stream courses (ie. photosynthesis, Krebs cycle). Given this discrepancy, transfer credits will need to be considered in the same manner as they were prior to the implementation of the new program outcomes.A common first semester would not likely be a viable option for the Fleming College programs at this time since the current admission requirements and the learning objectives of the science and math courses differ significantly between the two Pre-Health programs (PREC-Program Standard and GHS Trends and Comparisons). At the Spring 2018 Pre-Health Coordinator meeting colleges with a common first semester reported high attrition rates (50% or greater) after first semester. Given the lower enrollment at Fleming College such low retention rates could jeopardize the sustainability of both Pre-Health programs.  |
| 4.3 Learning Pathways* Comment on recent or anticipated initiatives that promote student pathways including secondary school partnerships, dual credits, program laddering, dual diplomas, and university transfer, articulations, and partnerships.
* Review all transfer credits.
* Identify any new pathways that could be developed.

4.4 New Program or Redesign IdeasAre there opportunities for new program initiatives based on Program, School, or community strengths and alliances? | The most common learning pathway for GHS students is the opportunity to transition to a health program at Fleming College. Fleming College reserves 25% of its seats in the PN, PMD, OT/PTA, HIM and PMT programs for graduates of the program who achieve an overall average of at least 70%. The majority of GHS graduates remain at Fleming College to continue their education. GHS graduates comprise 57% of Fleming graduates (from Fall 2014- Winter 2017) remaining at this institution who enter health related programs (KPI Graduate Program Choices) . Of the graduates of the 2017/2018 cohort, 78% have chosen to continue their education in a health related program 61% accepted offers to Fleming programs with 57% accepting offers to health related programs at Fleming (Graduate Program Chart).While the majority of GHS graduates enter PN and PMD programs, the program does provide learning pathways towards a variety of career and academic paths. These other pathways have included Human Resources, Dental Hygiene, Animal Care, Firefighter, Mental Health and Addictions, Nuclear and Radiation Safety, Environmental Resource Technician, Veterinary Technician and Diagnostic Medicine (Graduate Program Chart). The intent of the GHS program is not preparation for degree programs. However, Fleming College has established an articulation agreement with Algoma University in which GHS graduates are granted 15 transfer credits out of a 120 credit Bachelor of Arts or Bachelor of Science degree. <https://flemingcollege.ca/programs/pre-health-sciences-pathway-to-certificates-and-diplomas> (Algoma University 2016 Articulation Agreement). Students require a minimum GPA of 3.0 and may be required to complete a bridging mathematics course in the first 30 credits. Locally, Trent University recognizes Introduction to Psychology (Soci36) (required GHS course) and Human Growth and Development (Soci25) (GHS GenEd elective) with a minimum grade of 70% as transfer credit (Fleming-Trent Transfer Credits). To expand academic pathway options for GHS graduates it may be possible to combine existing courses within the PHS and GSU programs to develop a university preparation pathway for GHS students to university. Discussion of this option to provide further academic mobility should be included in proposed discussions of a GSU science stream. It is also of interest to pursue an on-line certificate for GHS students who, for very reasons, are not able to complete the program in a year’s time. When there is a winter intake, students who were unsuccessful in courses, could re-start the program in January in its entirety or only the courses that are necessary. As this is a pathway program, providing flexible delivery and completion options are essential as many times students may need only 1 or 2 courses to complete their certificate but are not able to return to the College to take courses in its current delivery format. Investigating Durham’s online certificate is an important next step. |
| 5.0 External Relations | Summary of Key Findings |
| 5.1 Community Partnerships* Does your program have significant partnerships, relationships, connections, or offers of support from the community that help to enrich the program and the student experience?
* Are faculty, staff, and student involved in volunteer projects and events?
 | To assist students with career choice, professional development and entrance into health science related programs the program team has integrated opportunities for student connections both within and outside the college community. Examples include:* Volunteer component to Hlth274 (until 2017) (Applied Learning – Volunteer List)
* Pharmacy Technician program mock client scenario volunteer opportunity (new 2017)
* PMD mock casualty incident volunteer opportunity (ongoing)
* PMD case scenario linked classroom activities (began 2016)
* Pharm Tech prescription activity (future)
* FAST team volunteers (ongoing)
* Fitness and Health promotion integrated learning opportunity (2016)
* Positive Space integrated into Hlth274 (ongoing)
* Human Resources visits to Hlth274 (ongoing)
* CMHA guest speaker (new 2017)
* Accessibility Etiquette guest speaker (new 2017)
* Canadian Blood Services (blood typing , blood donation trip) (ongoing)
* GHS graduates speaking to current students (ongoing)
* GHS students volunteering with CICE program (began 2016)

During the most recent PAC meeting, community partners from school boards suggested the following school community outreach activities:* Communication in person with Heads of Science at local secondary schools
* Program representatives attending Parent’s Nights (Semester 1 and 2)
* Invite Grade 8-9 students for a first-hand experience at Fleming
* Have program graduates attend school activities as guest speakers (perhaps outlining differences between college and secondary school)

Three GHS graduates were members of the committee and recommended implementing opportunities for students to shadow scenarios in their program of choice (PAC 2018). This implementation had already begun in Fall 2016 with the assistancd of the PMD program coordinator. Student representatives also expressed that class visits from former GHS graduates currently registered in other health programs a Fleming such as PN provided valuable information and motivation (PAC 2018). |
| 5.2 Program Advisory Committee* Comment on the distribution of Committee membership by constituency, sector, and / or region.
* Comment on the vitality of the Committee (frequency of meetings, members’ level of participation, engagement, and turnover.)
 | Until 2017, a number of challenges (multiple changes in school administration, difficulty identifying committee members from a variety of areas) limited the number of Program Advisory Committee (PAC) meetings which included a discussion of the GHS program. The process of annual PAC Committee meetings was renewed in June 2016. Given the challenges in assembling relevant PAC committees for pathway programs the current PAC committee meets to discuss issues related to all three General Arts and Sciences pathway programs (PHS, GHS, GSU). The current committee membership includes representatives from the secondary school panel (including Heads of Guidance, Lead Science teachers, a Kawartha Pine Ridge District School Board Pathways Consultant, Student Success Consultant and a Principal from local secondary schools), University representatives (Department Chair, Articulation and Transfer Pathways Coordinator), Fleming Pathways Coordinator and Fleming student representation. (PAC 2017, PAC 2018). This membership provides input from a variety of sectors that a pathway student may encounter during this portion of their academic journey. However, representation on the committee by program coordinators or faculty from Fleming health programs such as PMD and PN is recommended to provide input regarding graduate preparedness and curriculum laddering. Given that this PAC committee is relatively new there are no immediate recommendations for renewal.  |
| 5.3 Alumni Relations* Describe the type and range of alumnae involvement in the program.
* Current and future strategies to engage alumnae in the program.
 | Current GHS students have the opportunity to interact with GHS alumni who are completing or have completed a health science program at Fleming College. Former GHS graduates attend either an informal information session arranged by the coordinator or a question and answer session scheduled during Hlth274 class time. In addition, former GHS students currently completing the PMD program at Fleming visit GHS classes with the PMD coordinator or faculty member to promote GHS involvement in PMD mock casualty incident scenarios during Semester 2. Former GHS students expressed during the most recent PAC meeting that it was very informative to learn directly from students in health programs (PAC 2018). GHS students can also interact with GHS alumni during tutoring sessions. Several GHS graduates serve as tutors in Fleming’s Tutoring and Learning Centre. GHS alumni have been selected for graduate profiles upon completion of subsequent health programs at Fleming College ([A.Rumbaoa](https://flemingcollege.ca/focus-on-fleming/angelica-rumbaoa-uses-her-love-of-helping-others-in-a-nursing-career/), [B. Sullivan](https://flemingcollege.ca/school/general-arts-and-sciences), [O.Anderson](https://flemingcollege.ca/focus-on-fleming/childhood-hospital-stay-inspired-fleming-grad-olivia-anderson-to-become-a-nurse/)) (Alumni profiles). |
| 6.0 Program Resources  | Summary of Key Findings |
| 6.1 Program Revenue and Expenses* Please review Integrated Program Planning (IPP) information for your program.
* Are program resources adequate, in the context of program currency and student numbers? (e.g. laboratory equipment, software, library holdings, or tools essential to program delivery and student learning.
* Are there opportunities for further program specific external revenue such as sponsorship, grants, donations or gifts-in-kind?
* Review the existing revenue and expenses associated with your program using the IPP tool and provide comments below.
* Review all textbooks for cost, format (hard-copy, e-book, rental), use in multiple semesters, content (curriculum alignment, Canadian content, readability, engagement level), ancillary materials (question bank, Powerpoint, online support, image bank), publisher support, AODA compliance, and conflict of interest.
 | *Program Resources*The presence of only one science lab on the Fleming campus has meant that the GHS program has had to share lab space within the Pharmacy Technician program lab in order for laboratory activities to occur within the Human Biology course curriculum without significant timetabling issues. This space did not provide an optimal learning environment for the GHS students. The room design is not conducive to group lab activities and technicians were required to bring carts with lab materials, microscopes and large anatomical models to the lab each week. Not only did this take additional time, but the process made the maintenance of proper lab protocol and professionalism more challenging. It is expected that the opening of the new Biology in Fall 2018 will alleviate these issues and allow for the addition of new applied learning opportunities for students.To enhance the applied student learning experiences in Human Biology and Chemistry new laboratory resources were purchased by the School of General Arts and Sciences in Winter 2018. These resources included new preserved specimens, specialized glassware and anatomical models. It is expected that additional resources will be purchased in the next budget year (GHS-PHS Instructional Supplies). This expansion of science resources directly addresses student course evaluation comments which indicate the desire for smaller working groups (currently 3-4 members per group) in the labs and faculty concerns regarding aging supplies (Scie148-149 Survey Summary).*Textbooks*Textbooks are utilized as a learning resource in the Scie148/149, Scie150/151 and Soci36 courses only. All the texts are aligned with the course curriculum, have instructor resources and access to student online resources. The Soci36 textbook selection is formally and systematically reviewed every two years. The textbooks used in the Scie148/149 and Scie150/151 have remained the same for several years. KPI data (KPI data charts) and student course evaluation feedback suggest that these books may not be meeting the current learning needs of the students. Consequently, a formal review of these texts and other course resources is planned for Spring 2019 (see Program Improvement Plan).Program Costing & IPP DataFinancially, in 2017, the GHS program improved its contribution margin, net income and total revenue from last year (see table below). Given the program is staffed mainly with full-time faculty and as a result of the increased concentration on expenses for the science labs, the total cost of running the GHS program has grown incrementally over the last 2 years.  |
| 6.2 Faculty and Staff ResourcesPlease comment on:* The number and distribution of all faculty, technicians, and technologists associated with the program including full-time, part-time, sessional, and cross-appointments.
* Profile of the faculty, and staff associated with the program including cumulative credentials, scholarship, work-related and teaching experience, and expertise in education.
* Significant faculty or staff accomplishments such as professional recognition and awards, achievement of credentials, and appointments.
* Hiring priorities over the next few years based on the above.
 | The GHS program has 4 full-time faculty members (1 of whom is the coordinator of the program) assigned to teach the biology, mathematics and HLTH273/274 curriculum. The remainder of the courses tend to be staffed by contract faculty. Per semester, the ratio for staffing tends to approximate 60% full-time faculty: 40% contract faculty. The program also shares a lab technician with another School. The lab technician supports the faculty teaching chemistry/biology in the lab.The program coordinator and a second faculty member hold Ph.D. in their areas of specialization (i.e., Biology and Chemistry, respectively). Other faculty who teach in the program have either a Masters in their discipline or an undergraduate degree. The average length of experience teaching at the post-secondary level across the program teaching team is approximately 8 years.There are no plans to hire a full-time faculty member to teach in this program over the next few years. |
| 6.3 Program Delivery Capital Assets* Please review existing program space and equipment
* Determine needs for space and equipment to fulfill future needs
 | With the newly constructed science laboratory that will be ready to use in fall 2018, the scheduling of biology/chemistry classes can now occur in a specialized lab. This should lead to improvements in student KPIs for facilities and classroom delivery as sometimes these classes were scheduled in the pharmacy lab and/or the classes were scheduled at less than favourable times (i.e., 8 am or later in the afternoon). |

**Program Improvement Plan**

Based on the analysis of your key findings, identify areas that require attention and action in the next 1-3 year timeframe. Ensure that you only recommend actions that reflect the program’s priorities and its capacity to achieve them, and record the success of any changes implemented and the means by which they are being evaluated.

To make sure your goals are clear and reachable, each one should be:

* **S**pecific (simple, sensible, significant).
* **M**easurable (meaningful, motivating).
* **A**chievable (agreed, attainable).
* **R**elevant (reasonable, realistic and resourced, results-based).
* **T**ime bound (time-based, time limited, time/cost limited, timely, time-sensitive).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| New Recommended Improvements | Rationale | Resources/Support Required | Timeframe | Person(s) Responsible | Approval: Dean, Chair, or VPA orNot Feasible, with rationale |
| **Program** |
| Work towards the development of a formal written document specifying admission process for GHS graduates to Fleming health programs and reserved seating process | * Supports student mobility and ease of transition into other programs
* Assists faculty team in providing timely, accurate advising to students
* Student focus
 | Associate Dean, Admissions, CoordinatorDean of Health | Begin Spring 2019 | Associate Dean, Admissions, CoordinatorDean of Health |  |
| Investigate flexible delivery options for program and/or specific courses | * Provide additional opportunity for certificate completion (‘recovery option’)
* Program differentiation
 | Coordinator, Program faculty, LDS, Associate Dean | Begin Spring 2019 | Coordinator, faculty |  |
| Investigate additional pathway options for GHS graduates | * Student mobility
* Graduate satisfaction
* Program growth and sustainability
 | Coordinator, PHS GSU coordinators, Associate Dean, Dean, LDS, Pathways Coordinator | Begin Spring 2019 | Coordinator, Pathways Coordinator |  |
| Program faculty use of LinkedIn profiles | * Integration of course topics
* Development of professional community within the program
* Program differentiation
 | Coordinator, Program faculty,Career Services, LDS | Begin Fall 2018Implement Fall 2019 | Coordinator, Faculty |  |
| Investigate options for a student advising model | * Differentiation
* Student learning experience
* Student retention
* Program viability
 | Coordinator,Dean, Associate Dean, Program faculty | Begin Fall 2018 | Coordinator, Faculty |  |
| Improve/revise topic linkages between coursesInvestigate opportunities for cross-course integrated learning activities  | * Program differentiation
* Increased student engagement
* Applied learning
* Faculty participation in innovative and new teaching methodology
 | Coordinator, Program faculty | OngoingDevelop Spring 2019 Implement Fall 2019 | Coordinator, Faculty |  |
| Program badging strategy development-Course specific through D2L-Program specific through external site | * Professional growth/profile
* Student focus
 | Coordinator GHS, Program facultyConsultation with GSU coordinatorExternal Badging License | Course Specific:Begin Fall 2018Implement Fall 2018-Fall 2019Program:Begin Spring 2019Implement Fall 2019 | Coordinator, Faculty |  |
| Indigenous perspectives integration-within courses-as a transition to college for Indigenous students | * Student focus
* Strategic plan alignment
 | Coordinator, Associate Dean, Dean, Program faculty, Indigenous Student Services Co-ordinator | Begin Spring 2019 |  |  |
| Improved program marketing | * Program sustainability
 | Coordinator, Associate Dean, Dean, Marketing Department, PAC Committee | Begin Spring 2019 |  |  |
| Course Specific |
| **Comm 201** |
| Incorporation of indigenous perspective | * This is in keeping with the strategic and academic plan.
 | Development time and consultation with indigenous experts to select appropriate readings or other course materials for incorporation into the existing curriculum. | Spring 2019 |  |  |
| Ongoing integration of technology | * As a course that relies heavily on digital technology, the course must continually adapt to meet changes in technology.
 | Ongoing development time and curriculum-focused IT support to implement new technologies as they become available. | Spring 2019 |  |  |
| Greater emphasis of APA citation | * This is noted as a priority by faculty in various programs.
 | This will be implemented into the curriculum for fall 2018. It will require review to track efficacy. | Spring 2018 |  |  |
| **Comm202** |
| Incorporation of indigenous perspectives. | * This priority is in keeping with the strategic and academic plan.
 | Development time and consultation with indigenous experts. | Spring 2019 |  |  |
| **Math117/118** |
| Improve numeracy modules | * Created quickly at the end of a development period. Opportunity to improve notes to better serve students
 | Development time | Spring 2019 |  |  |
| Clarify learning outcomes to ensure the “how” is clear | * Ensure level of learning outcomes is clear for students
 | Development time and LDS support | Spring 2019 |  |  |
| Modify week 4/5 notes | * Current notes are too abstract. Do not sufficiently support algebra needs for Chemistry
 | Development time alongside Chem faculty | Spring 2019 |  |  |
| Coursebook | * Note printing costs are high. Would ensure all students have the required learning materials
 | Development time | Spring 2019 |  |  |
| Incorporation of Fluid Math into delivery | * Increase technology enhanced delivery
 | Time for training with softwareDevelopment time for incorporation of software use into delivery methods | Training Winter 2019Development Spring 2019 |  |  |
| **Scie150/151** |
| Improve Assessment/Evaluation for the course, particularly labs and D2L quizzes | * Current plan may not adequately reflect student achievement of learning outcomes; meaningful, timely feedback currently difficult for faculty to deliver on laboratories; current activities may not adequately scaffold students to where they need to be; D2L quizzes
 | LDS support, for evaluation of the current assessment plan and suggestions for improvements, as well as enhancement of the D2L quizzes Development time to reassess and rework the laboratories and their assessment model | Spring 2019 | Faculty |  |
| Improve Learning Resources for the course, particularly the textbook and technologies | * Current textbook not being used by students but additional support for their understanding is required; online textbook homework resources not explored; learning technologies underutilized due to time, IT issues
 | Exploration of alternative resources and technologies with support from the Library, LDS, IT, textbook publishers, etc.Development time to explore, assess and implement new student learning resources | Spring 2019 | Faculty |  |
| Incorporate Sustainability/Indigenous perspectives as part of the Strategic Academic Plan | * More environmental/”green” chemistry focus and discussion would increase sustainability, student engagement in community and society at large
 | Exploration of ideas with the Sustainability officeResearch/PD into potential “green” chemistry laboratories/case studies to incorporate into courseDevelopment time to implement changes | Spring 2019 | Faculty |  |
| Retain and enhance Sequencing/integration with other GHS courses | * Current course integration improves student engagement, learning retention and overall success within the program; enhanced links could combat student learning deficits in chemistry, math and biology
 | Frequent discussion/ meeting as a program team to maintain/enhance course integrationDevelopment time to address sequencing/integration | Spring 2019 | Faculty |  |
| Improve Assessment/Evaluation for the course, particularly labs and D2L quizzes | * Current plan may not adequately reflect student achievement of learning outcomes; meaningful, timely feedback currently difficult for faculty to deliver on laboratories; current activities may not adequately scaffold students to where they need to be; D2L quizzes
 | LDS support, for evaluation of the current assessment plan and suggestions for improvements, as well as enhancement of the D2L quizzes Development time to reassess and rework the laboratories and their assessment model | Spring 2019 | Faculty |  |
| **Hlth273/274** |
| Revise course description, learning outcomes, delivery, instructional methods and sequencing related to program needs | * KPI data
* Course evaluations
* Address actions below
 | Program faculty, coordinator, LDSDevelopment time | Begin Spring 2018 | Faculty |  |
| Update and expand use of learning management system tools and resources for students including simplification of course content design and display in LMS | * Facilitate easier and smoother access for students (as per course evaluations)
 | LDSDevelopment time | Begin Spring 2018 | Faculty |  |
| Expand guest speaker roster to include more professionals who bring information and ideas relevant to student health career objectives and personal growth | * Applied learning
* Personal and professional growth
* Student engagement
 | External sources such as community health organizationsOnline resourcesDevelopment time | BeginSpring 2018 | Faculty |  |
| Broaden job preparation experiences to include practice job interviews and employer panel | * Addresses graduate KPI
* Applied learning
* Personal and professional growth
 | External sources such as community health organizationsOnline resourcesDevelopment time | Begin Spring 2018 | Faculty |  |
| Addition of opportunities for students to investigate and obtain NARS requirements for future programsAddition of opportunities for students to obtain other transferable certifications and skills for professional and personal growth(See NARS, Certifications and Other Opportunities) | * KPI, student focus groups, student course evaluations, student feedback surveys indicate that addition of these opportunities would increase student engagement and satisfaction
* Program differentiation
 | Development timeConnections with NARS office, external sources | Initial gradual implementation Fall 2018More extensive implementation Fall 2019 | Faculty |  |
| **Scie148/149** |
| Development of additional cross-program learning opportunitiesContinuation of current cross-program learning opportunities | * Current cross-program initiatives enhance student engagement and applied learning
* Program differentiation
 | Consultation with health science program faculty/coordinator | Begin Fall 2018Development Spring 2019 | Faculty |  |
| Renewal and enhancing of topic sequencing/integration with other GHS courses | * Improve student engagement, learning retention and overall success within the program
 | Frequent discussion/meeting as a program team to maintain/enhance course integrationDevelopment time to address sequencing/integration | Ongoing | Faculty |  |
| Formal textbook review (including consideration of online student resources)Development and modification of course resources to accommodate a new textbook and/or online resource use | * Improve support for learning outcomes
* Engage learners with support material
* Enhance technology use
* Enhance UDL and accessibility
* Support transition to A+P courses which utilize these resources heavily
 | Development time for reviewConsultation with Psychology coordinator regarding formal textbook review processPublisher representatives for support and set up of online resources for students | Spring 2019 | Faculty |  |
| Development of new applied learning experiences which maximize new biology lab facilities | * Applied learning
* UDL principles
* Differentiation
 | Development time to investigate and design learning activities | Spring 2019 | Faculty |  |