**Curriculum Renewal:**

**Analysis and Action Plan Template**

| **Program Coordinator:**  | **Stephen Thompson** | **School:** | **SENRS** |
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| **Program Code:** | **ETY** | **Date Completed:** | **October 27, 2014** |
| **Program Name:**  | **Environmental Technology** |
| **A. Analysis of Indicators**Note: data is **not** recorded in this section of the template.**Reflect on, and discuss, the following indicators in the context of the curriculum and program:**   |
| 1. **Industry / Sector Trends**
	1. Identify any new or emergent *industry or sector* related issues and trends over the past year that will impact your program?
* **Some new and emerging job opportunities continue in western provinces (Alberta and British Columbia…intend to investigate further for students-to-jobs pathways**
	1. What are the Advisory Committee recommendations from the past year that will affect the positioning, nature, or scope of your program?
* **Implementation of Coop reiterated as a strong repositioning initiative**
	1. What information / observations have been generated via faculty and staff professional development, engagement in sectoral and profession associations, or involvement in community and employer networks connected to the field?
* **None**
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| **2. Curriculum Development**2.1 Identify any curriculum changes in the last year such as changes in course content and course materials, course / program outcomes, innovative delivery approaches, and/or assessment practices. * **Continuation of International Field Placement as alternative to Industrial Placement**

2.2 Does the current curriculum align with the college’s e-learning strategy which strives to have all Fleming graduates experience technology enhanced learning in each semester of their program? Identify courses where possible.* **Yes. All courses incorporate D2L functions (i.e. including assessments, quizzes, material presentation, Information dissemination),**
* **Fifth Semester: Constructed Wetlands (online video/animations)**
* **Sixth Semester: Environmental Hydrogeology (Provincial Groundwater Quality Network/Well Records), Spill Response (online video training for Transportation of Dangerous Goods, Online Haz Mat resources, Online Case Study Emergency Events)**

2.3 Does the current curriculum align with the College’s Strategic Plan to *“infuse sustainability across the curriculum and across the student experience so that graduates understand and address sustainability issues.” (Goal 3.3)* Please identify which courses/experiences in the students’ program that sustainability issues are addressed.**Virtually all of our core ET courses have the “Sustainability accumen” embedded in the curriculum.**2.4 Identify any recent or anticipated initiatives that promote student pathways including partnerships with high schools, program laddering, university transfer / articulations, or continuing education?* **Renewed/Updated Dual Credit Pathways document for Admissions**
* **Continue to work with Admissions on stream-lining the process to admit university transfer/articulation students**

2.5 Identify any new competitor programs and/or re-positioning of existing programs?* **None**

2.6 Identify if there are any new or changing provincial standards, standards for accreditation, credentials, and / or industry or sector certifications over the past year? * **The ETY Program continues to comply with the Ministry of Training, Colleges and Universities Environmental Technologist Program Standard renewed in 2012**
* **The ETY Program continues to comply with the ECO Canada Environmental Program Standard acquired in 2012…..annual renewal fees paid and annual report generated**
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| **3. Applied Learning*** 1. Does the current program contain a discrete Applied Learning opportunity for students? If yes, which category of Applied Learning is fulfilled?

\_\_\_ Field Work (Indirect Supervision)\_**X**\_ Field Work (Direct Supervision) Field camp.\_**\_**\_ Co-op\_\_\_ Applied Project / Applied Research Project If the answer to 3.1 is no, are there plans to create a discrete Applied Learning opportunity for students within this program? Why or why not? |
| **4. Student and Graduate Satisfaction**4.1 Key performance indicators # 4, 8, 9, and 11 (see **Appendix of Curriculum Guide** for a description of these).

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| **KPI**  | **Program** | **College** | **System** |
| **KPI # 4 Graduate Satisfaction with Generic and Vocational Learning Outcomes – 2012/2013** | 11(N), 81.14(%) | 925(N), 86.07(%) | 67(N), 73.83(%) |
| **KPI # 8 Student Satisfaction with Learning Experience – Winter 2014** | 23(N), 76.47(%) | 3730(N), 82.58(%) | 316(N), 79.66(%) |
| **KPI # 9 Student Satisfaction with Teachers – Winter 2014** | 23(N), 71.01(%) | 3730(N), 73.92(%) | 316(N), 73.53(%)  |
| **KPI # 11 Graduate Satisfaction with Program - 2012/2013** | 18(N), 80.32(%) | 1513(N), 82.66(%) | 100(N), 71.16(%) |

4.2 Review and discuss student retention on a semester by semester basis over the past year.**According to the most recent data (2011), the retention rate was 44% from Semester 4 and 5 and 93% from semester 5 and 6.** |
| **B. Curriculum Strengths and Challenges** Summarize the curriculum strengths and challenges identified by the team.  |
| **Curriculum Strengths*** Integrated
* Sequenced (some challenges with sequencing of information)
* Timely (Fall vs. Winter) e.g. Field Activities
* Applied hands on learning
* Academic format with theory based knowledge incorporated
* Selective Competency-Based Education
* Comprehensive Program of Study meets needs of employers (few options and directed education to ensure successful competency to Environmental Program Standard).
* The program has been accredited with the Canadian Environmental Accreditation Commission
* The program incorporates a progressive curriculum
* Appropriate Prerequisite knowledge and skills are gained through the 2 year Technician program for further study in 3rd year Technology Program
* 3rd year Technology Program is designed and recognized as an advanced level of study
* Curriculum is designed to develop analytical thinking. This allows students to see how things fit with the bigger picture and how it ties into the big picture and why the information is important.
* Integrates fundamental science concepts into broader comprehensive industry-based applications
* Water/Wastewater operator certificate requirements are embedded into the program curriculum
* Excellent program reputation within the employment industry
* Inclusion of a Coop Option in September 2014….first student cohort available for coop in May, 2016
* Common Block Development has provided opportunity of program staff to review, amend and integrate curriculum changes (as was historically conducted in May/June prior to the initiation of the January common first semester intake)
* New ET Hire (Robert (Bob) Bialkowski) significant addition to ET Program
* Fall offering of Environmental Techniques implemented last year of great benefit to the ETD and Dual Diploma
* Addition of International Field Placement as alternative (or in addition to) Industrial Placement

**Curriculum Challenges*** New ET Hire (Robert (Bob) Bialkowski) significant addition to ET Program, however, the commitment of his time in the CAWT continues to leave ET program short staffed for courses in which Bob is qualified to teach….results in ET have to go “outside” to fill this role.
* Lack of succession planning for faculty….Steve Thompson to retire in June 2015 and there is need to fill his position with a person of similar background and experience to maintain “culture” of program (see PAC Resolution, June 2014)
* Tracking of student numbers for preparation of course loads/course enrolment continues to be virtually nonexistent for dual diploma students. As a program with approximately 10-15% of our student numbers as dual diploma it is critical to be able to track these students to prepare course loads, etc.
* Need equitable Capital Equipment allocation as ET has not received capital replacement in some time and equipment is becoming dilapidated and out-dated
* Appropriate class room space/resources. Although the program gained Rooms 191 and 194 in the fall of 2010, the historic ET dedicated classroom space in Rm 132 is out-of-date and Room 191 requires additional equipment, Muffle furnace
* ET program space. There continues to be increasing demands on ET space from programs such as AWSOM. ET heavily utilizes the core rooms (132, 191 and 194) for ongoing activities. Frustration is that rooms appear to be available for booking; however, students in both 2nd and 3rd year are engaged in multiple week tasks, activities and projects which require the rooms to be dedicated for safety and equipment protection….appears that Programs are initiated at Frost with little to no forward-thinking or planning for key elements including classroom space, equipment, budget, technical support, etc
* Need for updated curriculum in the Environmental Principles course
* Need for inclusion of Class V Well Tech Certification embedded in curriculum
* Interest in pursuing alignment/articulation/placements with potential employers in Alberta as this continues to be an area of strong employment
* Interest in pursuing alignment/articulation/placements with potential employers in mining sector in Ontario as this continues to be an area of strong employment
* Interest in pursuing International Opportunities with Operation Wallacea
* Potential for decreasing ET student numbers. Never in position to have need to “advertise” but having a presence in CFS would assist in bringing information to students regarding the ET curriculum. Also, would help to proactively advertise to university student graduates
* Course sequencing for Waste Management Approaches, Environmental Hydrogeology and Environmental Site Assessment is a challenge as the hydrogeology learning should be concurrent, not subsequent to the other two courses.
* Constant pressure to collapse sections (often prematurely) where it is essential to maintain caps due to health and safety as well as learning environment
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| **C. Action Plan**Identify priority actions for the next year and the rationale for their inclusion. For each, indicate the project lead, and the proposed timelines for completion.   |
| * **Action #1: Implement Discussion for alternate arrangements for staff involvement in CAWT**

Discussion needs to be held to discuss alternatives, or at least long-term planning for staff involvement that takes them away from core ET Program commitments (i.e. particularly CAWT) This initiative must be supported by Administrative Team. **Project Lead:** Chair/Program Coordinator with support from ET Team**Anticipated Completion Date:** June 2015 * **Action #2: Implement of Succession Plan**

This initiative must be supported by Administrative Team. Timing is essential as retiring faculty departs in June, 2015.**Project Lead:** Chair/Program Coordinator with support from ET Team**Anticipated Completion Date:** June 2015 * **Action #3: Secure one Full-Time ET Program Faculty to replace open position due to faculty retirement**

It is imperative to replace the open full-time ET Faculty position prior to the start of the Fall 2015 term to maintain program integrity and continuity. The desired skill set and discipline focus to be similar to that of retiring Professor (see PAC Recommendation June 2014)**Project Lead:** Chair/Program Coordinator with support from ET Team**Anticipated Completion Date:** June 2015* **Action #4: Implement student tracking system with admissions for dual diploma students**

The program needs to have support from the admissions department with respect to tracking all students that are deficient in select semester 2 courses due to the dual diploma nature of study. **Project Lead:** Chair in coordination with the admissions department. **Anticipated Completion Date:** August 2014 * **Action #5: Development of a Capital Equipment Renewal/Replacement Program**

Develop an Capital Equipment Renewal/Replacement program would potentially benefit the program from a budgetary standpoint and help to alleviate program challenges related to program equipment availability and student numbers. **Project Lead:** Chair/Program Coordinator/Program Technologist with support from ET Team**Anticipated Completion Date:** August 2015 * **Action #6: Completion of ET Room 132/191/194**

Room 132 needs overhaul to deal with deteriorating old finishes (i.e. floors…..note student injury Fall 2015)/fume hoods/lost storage space …..Rooms 191/194 are not equipped with necessary equipment such as Muffle Furnace to conduct learning sequences for the students. The rooms repairs to Rm 132 and purchase and installation of such equipment for Rm 191/194 is imperative for curriculum delivery.**Project Lead:** Environmental Technology Team**Anticipated Completion Date:** August 2015* **Action Item #7: ET Program Space**

Any new or evolving Program must have appropriate planning and resources PRIOR to accepting students to avoid stresses on existing Programs, space and resources. **Project Lead:** Chair/Environmental Technology Team**Anticipated Completion Date:** August 2015* **Action Item #8: Updated Curriculum for Environmental Principles course**

This course needs to be revisited to incorporate updated materials and format. Need to explore options for this type certification for graduating students (i.e letters of certification, take advantage of physical facilities to enhance skills of graduates)Follow Up Date: August 2015**Project Lead:** Environmental Technology Team**Anticipated Completion Date:** December 2015 (dependent on release time and funding)* **Action Item #9: Inclusion of Class V Well Tech Certification**

This topic needs to be revisited to incorporate into existing curriculum.**Project Lead:** Anne Vanwarmerdam/Environmental Technology Team**Anticipated Completion Date:** December 2015 (dependent on release time and funding)* **Action Item #10: Investigate Alignment with Alberta Institutions/Employers**

Invesitigate, with site visit to Alberta, candidate Institutions/Employers for alignment/placements, etc**Project Lead:** ET Team with Administration support**Anticipated Completion Date:** December 2015 (dependent on release time and funding)* **Action Item #11: Investigate International Opportunities with Operation Wallacea**

Operation Wallacea supports faculty recognassance to candidate countries for student placement opportunities **Project Lead:** Mark Williamson/Robert Bialkowski with support from ET Team**Anticipated Completion Date:** August 2015 (dependent on release time)* **Action Item #12: Inclusion of ET faculty into Semester One (CFS)**

Actively pursue having presence in Semester One by ET faculty. Any ET faculty would be suitable but needs to be timetabled and placed on SWF**Project Lead:** Chair/ET Team**Anticipated Completion Date:** December 2015 (dependent on release time and funding)* **Action Item #13: Investigate course sequencing**

Investigate course sequencing for Waste Management Approaches, Environmental Hydrogeology and Environmental Site Assessment to align to be concurrent.**Project Lead:** ET Team**Anticipated Completion Date:** December 2015 (dependent on release time and funding)* **Action Item #14: Investigate Consistency/Stability in ET Program Class numbers**

Need to discuss the constant pressure to collapse sections (often prematurely) where it is essential to maintain caps due to health and safety as well as learning environment and also PROPERLY anticipate ACTUAL student numbers by Day 10 of each semester (chronic inaccuracies)**Project Lead:** ET Team**Anticipated Completion Date:** August 2015 (dependent on release time) |
| **D. Deferred Actions**Record any issues that will need to bemonitored, researched, or deferred for future action. |
| * **Investigate Alignment with Mining Sector**

Invesitigate, with site visit to northern Ontario, candidate Mining Companies for alignment/placements, etc**Project Lead:** Faculty and Staff**Anticipated Completion Date:** December 2016(dependent on release time and funding)* **Incorporate competency-based education training**

Need to explore options for this type certification for graduating students (i.e letters of certification, take advantage of physical facilities to enhance skills of graduates)Follow Up Date: Summer 2013 |
| **E. Attach an updated Program Curriculum Map to your report**  |
| Please file an updated Program Curriculum Map in folder named Program Curriculum Map.: **S:\shared data\CLT\School Name\Program Name\Program Curriculum Map** |