**Program Review Self Study Template**

| **Program Coordinator:**  | **Scott Heard** | **School:** | **SENRS** |
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| **Program Code:** | **HET** | **Date Completed:** | **January 30, 2013** |
| **Program Name:**  | **Motive Power Techniques- Heavy Equipment** |
| **Indicator****1.0 Industry Trends** | **Summary of Key Findings** |
| **1.1 Sectoral Standards and Industry Trends****Review / discuss:*** New or emergent industry / sector themes or issues that may have a potential impact on program positioning
* Industry / sector issues identified by the Program Advisory Committee
* Recent labour market data or sector reports
* Recent or anticipated changes in occupational standards, level of entry and credential and / or standards of accreditation
* Program alignment to labour market and sectoral trends
* Trends identified by the Program Advisory Committee
 | The industry Advisory Committee provides the sectoral standards and recommendations which are followed by this program. The industry is changing with more computerization and electrical components including:-electric drive systems-medium voltage systems on mobile equipment-low emission engine technology (Tier 4)-remote trackingTraining is also expanding as a result including such areas as: -medium voltage/arc flash trainingDue to the increase in technology demand for skills in this trade now include more computerized training. Technicians are increasingly mobile and need to be able to use a variety of diagnostic equipment on-site.Trends reported by the Advisory Committee including the current mining boom and the age of technicians that work in the Aggregate Processing Industry. Mining required Heavy Equipment Technicians as well as graduates of the Electrical Power Generation Program. |
| **1.2 Industry Liaison****Review / discuss:*** Program initiatives to maintain involvement with the industry / sector such as field placement supervisions, clinical, faculty renewal, professional learning, other professional affiliations, or community-based projects
 | The internship is a direct industry link with many students being hired by the company that hosted their internships.The program belongs to the Canadian Association of Equipment Distributers and the Ontario Chapter and the Caterpillar Foundation. These memberships provide machines, financial support and diagnostic equipment for the program.The program would benefit from more personal contacts by faculty with industry to access more internship possibilities and to stay directly in tune with industry changes. New faculty have newer industry contacts beneficial to the program.Industry also provides the program with direct access to several online training programs including John Deere University, CAT, and Strongo. More of these training modules are going to be incorporated into the program and some of the older modules are going to be removed. CAT Basics will be removed. |
| **2.0 Curriculum Development and Framework** | **Summary of Key Findings** |
| **2.1 Curriculum Framework****Review / discuss:*** Describe how your program demonstrates a learner centered approach and addresses our core promise to students concerning personalized learning and support.
 | This program is very applied with a “teach and then practice” approach. Students learn how to do the repair or maintenance, actually do the work and then are assessed. Students spend the second semester in a paid internship and return for a final third semester of course work and full course work.Small numbers in the applied settings (20 max) addresses individual learner-needs. |
| **2.2 Outcomes from Curriculum Renewal****Review / discuss:*** Key outcomes from the Curriculum Renewal processes of the past few years
* Progress to date in implementing the recommendations arising from Curriculum Renewal
* Success of the changes implemented and the means by which they are being evaluated
 | Students were having difficulties with fitting in a mandatory General Education course in the third semester. It was recommended that this situation could be alleviated with a different approach to obtaining this mandatory course for graduation. As a result, this course was dropped and students now have a wider choice of general education electives which can be done online. The program would like to see more choices in electives for the students.As a result of the previous curriculum renewal, weekly lesson plans are now developed standardize the courses and ensure consistency across groups. A template is being used and is stored electronically and hard copy.The diploma program which shares the first three semesters of MPH has been better aligned to the MPH program for successful laddering.It should be noted that the EPG program had highest KPI standards for all of Fleming College |
| **2.3 Curriculum Sequencing and Alignment with Standards****Review / discuss:*** The Ontario College Credentials Framework and the extent to which the program aligns with the provincial standards.
* The program’s current admission requirements and their suitability in relation to program rigour and student preparedness
* The extent to which course content, levels of learning, and assessment methodology are successfully sequenced and aligned between courses and across semesters
 | This program aligns with the Ministry Standards as well as apprenticeship standards 421A MTCU training standard. As a result of a recent change in the standard, welding hours have been adjusted to meet the standard.Progression is aligned between semesters (with prerequisites)The program does require some realignment with the MTCU standards and the standards modified to include new areas.The current admission requirements for the program are:-OSSD with 2 college English courses (grade 11 or 12) and 1 college math course (grade 11)These admission requirements are suitable for the program. |
| **2.4 a) Curriculum Map*** Review the Program Curriculum Map and discuss the extent to which there is alignment of vocational and course outcomes
* Review / discuss the distribution and progression of Vocational Learning Outcomes, Essential Employability Skills, and General Education themes across the curriculum.

 | The program requires remapping to the provincial standards to ensure that the standards are being met across the curriculum. The MTCU program standards are outdated (last revision 2003). The current 6 outcomes are based on these standards. An alignment map has been designed to ensure alignment to the MTCU standards while updating the language and trends. |
| **2.4 b) Curriculum Map** **Submit an updated curriculum map as an attachment to the Program Review Report** |  |
| **2.5 Delivery Mode****Review / discuss:*** The *primary* modes used to deliver curriculum such as lecture, seminar, lab, applied project, field camp and web based courses
* The rationale for, and appropriateness of, these delivery modes in relation to program learning outcomes
* The degree and depth to which the program is providing work integrated learning experiences
* The degree and depth to which the learning experiences are enhanced by the use of educational technology.
 | Like other programs at SENRS where students are dealing with equipment, safety is taught and continuously reinforced and monitored. Safety is reviewed at the beginning of labs and required personal protective wear must be worn at all times around all equipment and in all lab settings.This program’s major strength is the second semester paid internship. Students learn skills in the first semester that they can then apply on their internship. While interning, students learn further skills on the job. Students apply their safety training throughout the program which is critical in the field. Students have lectures to obtain required knowledge and are tested on this knowledge. Labs integrate the knowledge with applications.The program uses a mastery learning approach; 4 assessments are used followed by feedback each time until the student has achieved the outcome 100% in both the electrical and engines components in the program. This began in September of 2012 and replaced the 2 assessments used in the past. |
| **2.6 Assessment and Evaluation Methods****Review / discuss:*** The program approach to learning assessment
* The balance and frequency of assessment types across the curriculum and their appropriateness to course / vocational outcomes
* Reflect and comment upon the variety of methods used to demonstrate outcomes. Are learner-centred principles parts of the assessment approaches?
 | -currently offer midterm and final testing in lab and lecture-going to explore four lecture assessments versus two implemented nowThe program, due to its fundamental nature, is hands on. Students are shown a technique or skill in steps, observed while doing it and given feedback, and then performed again until the correct technique is mastered.The program is learner-centred. Small groups are used for the labs which allow students feedback from faculty as to their progress towards course learning outcomes.  |
| **2.7 Curriculum and Diversity****Review / discuss:*** Program strategies that support student diversity and promote understanding of diversity, including program culture / climate, curriculum content and approaches to teaching and learning
 | Recruitment efforts with industry partners from the North. Working in diverse settings with a variety of cultures is taught as many students may get employment overseas or in the United States. |
| **2.8 Learning Pathways****Review / discuss:*** Recent or anticipated initiatives that promote student pathways including high school articulations, dual credit, program laddering, dual diplomas, and university transfer, articulations, and partnerships
 | A major pathway in this program is to graduate from MPH with an Ontario College Certificate and spend an additional semester to earn an Ontario College Diploma in Electrical Power Generation. This program is unique in the province as is this pathway. The additional skill set in power generation (maintenance, troubleshooting, installation of generators) is sought after by many employers.The program has dual credit in Basic Shop Practice.The program also has a high school co-op with Kawartha Pine Ridge, and Lakeland Trillium school boards.Approximately 20 graduates of this program ladder into the fourth semester of Electrical Power Generation. A few students also return for the Heavy Equipment Operator program.The program is exploring a possible partnership with Confederation College to examine programs that students may ladder into after graduating from Fleming or vice versa. These talks are currently at the exploratory phase but this may open up some excellent opportunities for Fleming graduates of this program. |
| **3.0 Student and Graduate Satisfaction** | **Summary of Key Findings** |
| **3.1 Formal Measures of Student and / or Graduate Satisfaction****Review / discuss:*** Key Performance Indicator results for the program with a focus on #s 4, 8, 9, and 11
* Program status and positioning in relation to the KPIs of other programs of a similar type (where applicable)
* Feedback and summary report from Learning Support Services (LSS) summary
* Themes or issues emerging from a review of course evaluation summaries (Chair/Dean response here)
 | This program boasts some of the highest KPIs at Fleming as well as across the college system. Students and graduates are highly satisfied with this program.According to KPI4 (Graduate Satisfaction- Generic and Vocational Learning Outcomes), 95% of graduates reported high satisfaction compared to 87% at Fleming and 81% from comparable programs. In this program, 94% reported satisfaction with their learning experience (KPI8), higher than both the college average of 81% and the system average of 80%. Students were also satisfied with their teachers at a very high rate of 88% (KPI9), higher than the college average of 75% and the system average of 83%. Graduates also reported high satisfaction with the program with a 91% score, much higher than the college average of 83% and the system average of 81%. These are from the 2011 report.According to graduate satisfaction data in the Automotive Cluster 27% and 52% were highly satisfied and satisfied respectively with their college experiences.

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| Source: Key Performance Indicator Summary 5 Year Historical Overview KPI Data from Reporting Years 2008-2012:KPI1-Graduation Rate KPI2-Working KPI3-Working Related   | +7% above system +4% above system +9% above system  |

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| **3.2 Other Measures of Student and Graduate Satisfaction****Review / discuss outcomes from:*** Student focus groups (mandatory component)

 * Student Advisor observations / reports
* Formal or informal discussions with students and graduates such as class councils, class representatives, individuals or delegations
* Debriefing sessions following a field placement, clinical placement, or practicum
 | Feedback from students in a program advisory committee meeting in October 2012, supported that current students are highly satisfied with the program. They reported that faculty “know their stuff” and take time out to help the learners when needed. The students also like working on the new equipment as they know this is a reflection of the industry.Industry members supported that this is reflected when they hire Fleming graduates as they are easy to train and have the basic skills required performing the technical work.A student focus group held in December 2012 indicated that, overall, students are highly satisfied with the program. There was some concern voiced about faculty feedback that is timely. |
| **4.0 Employment Trends** | **Summary of Key Findings** |
| **4.1 Employment****Review / discuss:*** 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
* Student preparedness for entry-level positions
* Emergent employment trends such as new types of positions, changing job market, regional distinctions, changing employer profile, or emerging skill shortages
 | There are several areas of shortages currently in this program area for employment including:- shortage of parts counterpersons- shortage of technician trainer personnel- shortage of lead hand and shift supervisor personnelCurrent technicians are older and the retirement rate is increasing which will lead to more shortages.According to Labour Market research (Employment Ontario), the employment opportunities are strong. With the Federal Government’s investment in infrastructure improvements, Canadian employment opportunities are also robust. Working in Canada reports Estimated that there will be fewer job seekers in this field than job openings for the 2011-2020 periods (job openings are expected to total 77,600. It is expected that 75,688 job seekers will be available to fill these job openings). Job seekers will come from the school system (63%), net mobility (19%) and 8% from immigrationThe U.S. Department of Labour also reports a good job market in this field up to 2020.According to data from the Automotive Cluster (Employment Profile 2010), employer satisfaction with the preparation of graduates was 33% were highly satisfied and 57% were satisfied.79% of graduates were employed in 09/10 in this cluster.5 year KPI analysis:KPI4-Grad. Satisfaction - +3% above systemKPI8-Student Satisfaction-Learning – even with systemKPI9-Student Satisfaction- Teachers- Even with systemKPI11-Grad. Satisfaction-Program- +2% above system |
| **4.2 Other Graduate Destinations****Review / discuss:*** Alternative graduate destinations such as further education, international opportunities, volunteer service, or other experiences
 | Some students choose careers in product support and sales representative positions. Students also move to the United States for work. |
| **5.0 Strategic Positioning** | **Summary of Key Findings** |
| **5.1** **College Alignment****Review / discuss:*** Program alignment with college priorities such as vision, mission, values, strategic plan, academic framework, and the educational mandate, and / or academic priorities of the School
* Opportunities for new program initiatives based on Program, School, or community strengths and alliances
 | The program is aligned with the college’s vision and strategic plan of advancing skilled trades. Although not to be housed in the new KTTC, this program adds to the skilled trades programs at the college as one of the oldest and most productive programs. With a strategic direction in the trades, this program continues to illustrate the benefits for students of skilled trades programs.There will be an initiative to explore a possible fourth semester in advanced systems training (eg. electrical, hydraulic systems) at the technician level. |
| **5.2 Competitor Programs****Review / discuss:*** Key parallels and differences between this program and those of its closest competitors, where applicable
* ’Value-added’ program distinctions and their attractiveness to prospective students
 | The real value-add in this program is its compressed design combined with a full semester paid internship.Cambrian has a Heavy Equipment Techniques level program which ladders into one of two options of either Heavy Equipment Technician Or Motive Power Technician – Truck and Coach Technician.Conestoga, the only other college with the Certificate level program cancelled their program in 2007/8 leaving Fleming’s program with the only techniques level offering. |
| **6.0 Enrolment Trends** | **Summary of Key Findings** |
| **6.1 Demand for the Program** **Review / discuss:*** Patterns in the number of program applicants, qualified applicants, and actual registrants over the past 6 years
* Changes, if any, in the student demographic profile, including level of maturity, diversity, prior knowledge, technological literacy, work experience, and expectations
* Impact, if any, of this changing student profile on program curriculum
 | For certificate offerings Fleming has far better conversion ratios than Conestoga who have nothing from 2010-on. Fleming has had over **120** students apply each year and a minimum of **33** register out of that number. The five year conversion ratio is 3:1 higher than the system average of 4:1In the past year:70% were between 18-22 years old; 20% were aged 22-40; 10% were students from the Targeted Initiative for Older Workers. |
| **6.2 Student Progression****Review / discuss:*** Patterns of student success and retention on a semester by semester basis over the last six years
* The effectiveness of any strategies adopted to improve student success and retention
 | There is no current retention data; the last data ends in 2009. A new report is currently being completed and this data will be included once the report is available. |
| **7.0 External Relations** | **Summary of Key Findings** |
| **7.1 Alumnae** **Review / discuss:*** The type and range of alumnae involvement in the program
* Current and future strategies to engage alumnae in the program
 | Several graduates teach in the program or are members of the Program Advisory Committee. Scott Heard, Mike Rewegan, Dave Ingram are faculty and Jason Hiles is a technician. |
| **7.2 Community Relations****Review / discuss:*** Significant partnerships, relationships, connections, or offers of support from the community that help to enrich the program and the student experience
* Faculty, staff, and student involvement in volunteer projects and events
* Contributions to the not for profit sector such as committee or board service by program-associated faculty and staff
* Community recognition in the form of student bursaries, awards and scholarships
 | Program awards, bursaries-Jake Wallace memorial competition (10 yrs running)-industry equipment/component donations-Caterpillar Excellence fund-Carmen Moore sits on the economic development board for City of Kawartha Lakes |
| **7.3 Program Advisory Committee****Review / discuss:*** The distribution of Committee membership by constituency, sector, and / or region
* The vitality of the Committee such as the frequency of meetings, and members’ level of participation, engagement, and turnover
* The extent to which Committee operations are aligned with the Fleming College Advisory Committee Orientation Manual and Advisory Committee policy.

  | Re-established advisory committee and identify different mechanisms to provide for meetings. The committee met on October 24, 2012. |
| **8.0 Program Resources**  | **Summary of Key Findings** |
| **8.1 Human Resources** **Review / discuss:*** 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 Dean, 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
* Contributions to the professional community or industry by program-associated faculty and staff including board / committee service, research, and presentations / publications
* Current staffing levels for the program in relation to program

 numbers, curriculum, delivery modes and areas of specialization / generalization* Hiring priorities over the next few years based on the above
* Current professional development and renewal plans in relation to program or student needs
 | Resumes of faculty in the program have been updated and are included in the program review file.A review of the current state has:-identified need for dedicated program technician-identified need for succession planning (retirement)-develop 3 yr individual PD plan for faculty and staffScott Heard is currently participating in the college’s in-service teacher training.Carmen Moore was awarded the Pascal Award for Teaching Excellence.The program does incorporate training for Enbridge, Holcim, and OPG. A new program is being developed for the City of Kawartha Lakes.The program is a member of the Canadian Association of Equipment Distributors.With a continued increase in student numbers, space is becoming an issue.There will be a need for more technicians if the numbers continue to increase. |
| **8.2 Physical Resources****Review / discuss:*** Program costing information
* Scope of current program resources such as laboratory equipment, software, library holdings, or tools essential to or which enhance program delivery or student learning
* The adequacy of above resources in the context of program outcomes, program currency, and student numbers
* Program specific external revenue such as sponsorships, grants, donations or gifts-in-kind
* Other externally generated revenues, if applicable
 | (see attached for program costing for 2012\*)In 2010, an expansion proposal was developed. This is included in the program review file. -maximized utilization of current facility-with increased student numbers, more diagnostic equipment is required.-current equipment is both donated and purchased. |

File Program Review report in: **S:\shared data\CLT\School Name\Program Name**

Attach copies of existing and revised bench marks

Attach an updated Program Curriculum Map

**Based on an analysis of your key findings, identify areas that require attention.**

**Develop recommendations and an action plan that reflects the program’s priorities and its capacity to achieve them.**

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| **Program Review Action Plan** | **Responsibility** | **Timeframe** |
| **Recommendations:** |
| **Remapping of courses to ensure compliance with MTCU standards.** | **Co-ordinator/ CLT** | **Dec 2012/ completed Feb 2013** |
| **Increase Faculty contact with industry** | **Co-ordinator/ Faculty** |  |
| **Exploration of possible semester addition in Advanced Systems** | **Co-ordinator/ CLT** |  |
| **The program advisory committee has been re-established.** | -Co-ordinator | -2012 (completed) |
| Implement more frequent evaluation | **Co-ordinator/ Faculty** | **Fall 2012 (has been completed for one course; others will be reviewed)** |
| **Review diagnostic equipment to see if it is up-to-date. If not, what equipment is required and what will the costs be?** | **Program faculty** | **April 2013** |
| **Incorporate e-learning into new training modules. Explore the online modules at John Deere University and CatSafety.com. Both companies have granted free access.** | **CLT/ Program Faculty** | **September 2013** |
| **Revise courses to include current trends in industy** |  |  |
| **Remove CAT Basics online training and replace with new modules** |  |  |
| **Improve customer service and Innovations learning with a new course (currently being developed) which also incorporates e-learning. Draft course description and learning outcomes have been completed October 2012.****Replacement of two courses with a new course: Trade Practices. Draft course description and learning outcomes were completed in October 2012. Both courses were enthusiastically endorsed by PAC on October 24.** | **Faculty/ CLT** |  |
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| **\*Program Costing 2012****Revenue** |  |  |  |
|  | Grant |  | 258,099 |
|  | Tuition |  | 291,448 |
|  |  |  |  |
|  |  |  | 549,547 |
|  |  |  |  |
| **Expenses** |  |  |  |
|  | Direct Academic | 265,577 |
|  | Co-Ordinator | 21,373 |
|  | Technicians | 14,350 |
|  | Development and Planning | 7,846 |
|  | Supplies and other Non-Salary costs | 40,693 |
|  |  |  |  |
|  |  |  | 349,839 |
|  |  |  |  |
| **Net before Overheads** |  | 199,708 |
|  |  |  |  |
|  | Academic Overheads | 32,022 |
|  |  |  |  |
| **Net Income before College Overheads** | 167,686 |
|  |  |  |  |
| Net % |  |  | 31% |