**Curriculum Renewal:**

**Analysis and Action Plan Template 2013/14**

| **Program Coordinator:**  | **Gord Knox** | **School:** | **Trades and Technology** |
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| **Program Code:** | **41007** | **Date Completed:** | **Winter 2014** |
| **Program Name:**  | **Mechanical Techniques – Plumbing (PLM)** |

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| **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. Are there new or emergent *industry or sector* related issues and trends identified over the past year and their potential impact on the program?

The new build at Darlington Nuclear plant has been cancelled, so this changes demand for plumbers in this area.Ongoing water and soil clean-up efforts in Port Hope continues to draw employment for plumbers.Plumbing codes have changed in 2014 to better align provincial standards to national ones. * 1. What are the Advisory Committee recommendations from the past year that will affect the positioning, nature, or scope of the program?

Based on last PAC meeting in May 2013, members approved the changes in courses and programming to a traditional two-semester model of Mechanical Techniques – Plumbing. The PAC also supported the idea of replacing the four-week placement to integrated applied learning embedded within program courses. Feedback from a contractor’s breakfast noted the need for plumbers to get gas (G-3) and oil (OBT-3) certifications. * 1. What information / observations have been generated via faculty and staff professional development, engagement in sectoral and profession associations, and involvement in community and employer networks connected to the field?

Ontario College of Trades wants water treatment installers to have certification. This could be a possible OCC offered at Fleming? MOE goal to have potable water linked to plumbing trade and recent discussions will shed more light on this.Walkerton and the Walkerton Clean Water Centre (WCWC) continue to be the leaders on water quality, testing, and training for other agencies.Faculty member Jason Jackson is involved in a multi-million dollar biogas project at Maryland farms. Students learn about this initiative and visit the farm as part of a field trip. Current news and updates can also come from Local 401, Plumbers and Pipefitters as well as UA (United Association).TDA Status: Separate but plumbing related-trades like Sprinkler Fitting and Steam Fitting have only a few colleges with TDA status. For example, steam fitting apprenticeship at George Brown, Humber, Thunder Bay as TDAs). Fleming should explore the possibility of getting TDA status for less common trades (like above). * 1. Are there new or changing employment trends in the industry or sector?

There is a consistent demand for skilled plumbers to replace retiring baby boomers.General trends for graduates of the program indicate that they need to leave Peterborough and the Kawartha’s to gain employment. Downtown Toronto has demand for plumbers with ongoing condominium developments. Alberta also has an increased demand for this trade within the oil sands industry. * 1. What are the curriculum issues / strengths that have been identified by employers pertaining to graduate job readiness? Based on informal PAC feedback:

The curriculum is strong and aligns with program standards for Mechanical Techniques – Plumbing as it should. The apprenticeship outcomes (for level 1) are embedded in this certificate program as well and added value included with curriculum covering water systems, solar energy, fixture installation and service.MATH130/131 and their equivalency to 12C level math is beneficial for graduates entering an apprenticeship. |
| **2. Curriculum Development*** 1. Have there been any curriculum changes in the last year such as changes in course content and course materials, course / program outcomes, innovative delivery approaches, assessment practices, applied learning experiences, e-learning / blended learning? If yes, please provide details.

This is the first academic year (2013/2014) that plumbing program has run as Mechanical Techniques - Plumbing. There were significant program/courses changes made last year. Refer to the Mechanical Techniques – Plumbing shared folder for details.Applied learning opportunities are now embedded in courses rather than the four weeks of unpaid placement. A new blended/hybrid course and an on-line course is part of this new curriculum (see section 2.2). * 1. Does the current curriculum align with the college’s e-learning strategy which strives to have all Fleming graduates experience e-learning in each semester of their program? Yes.

CNST159 – Health and Safety Theory Applications is a hybrid/blended course that PLM students take in SEM1. MECH 253 is an on-line offering in SEM2.* 1. Are there any recent or anticipated initiatives that promote student pathways including dual credits, partnerships with high schools, program laddering, and university transfer / articulations, continuing education?

PLM courses also run as dual credits (e.g., MECH201, 203) which gives students an opportunity to receive transfer credit if they come to Fleming. Students can also move directly into apprenticeship work as the PLM program meets (and exceeds) basic level I apprenticeship outcomes.* 1. Are there any new competitor programs and/or re-positioning of existing programs?

Durham has a new Mechanical Techniques – Plumbing program that launched in Fall 2013. There are currently 6 colleges (including Durham) that offer the above program and 4 colleges that offer the Plumbing Techniques program.* 1. Are there any new or changing provincial standards, standards for accreditation, credentials, and / or industry or sector certifications over the past year?

There are new/revised provincial plumbing codes that better alignment with existing national codes.At the present time, graduates of the PLM program cannot challenge the 1st block of the apprenticeship exam. This provincial exam was pulled because it was allegedly compromised. * 1. What is the progress made from the last curriculum renewal initiative?

The new PLM curriculum (Mechanical Techniques – Plumbing) was largely developed at the same time it was delivered to students. Significant CBD time should be spent on collecting course binders and making revisions to curriculum as needed changes are flagged by the teaching team.Specifically, MECH202, 229, and 256 curriculum need to be reviewed and updated/revised during 2014 CBD. |
| **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? Yes

\_\_\_ Field Work (Indirect Supervision)\_\_\_ Field Work (Direct Supervision)\_\_\_ Co-op\_X\_ Applied Project / Applied Research ProjectSeveral courses within the new PLM curriculum have an applied project component embedded in lab hours. The old Plumbing Techniques curriculum had FLPL184 (placement) but program struggled to get placements.* 1. In the 2013/14 academic year, Fleming College will ask all programs with Applied Learning opportunities to align to an agreed upon framework. To confirm program alignment, please complete the appropriate Applied Learning Framework Checklist and attach it to this document. After completing the checklist, please answer the following: Is the program in alignment with the Applied Learning Framework? If no, what are the strategies in place to bring the program into alignment?

There is ample applied learning through core curriculum but this does not currently fit into present categories.  * 1. 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?
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| **3. Student and Graduate Satisfaction**3.1 Key performance indicators # 4, 8, 9, and 11 (see **Appendix of Curriculum Guide** for a description of these).PLM KPI analysis for 2013 Reporting Year

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|  KPI Indicator | Benchmark Gap |
| KPI#4: Graduate Satisfaction, Learning Outcomes  | -1.65 |
| KPI#8: Student Satisfaction, Learning Experience  | N/A |
| KPI#9: Student Satisfaction, Teachers | N/A |
| KPI#11: Graduate Satisfaction, Program  | -5.18 |

*BENCHMARK GAP is Program Difference minus the College Difference. If the Benchmark Gap is positive, Fleming's program difference is above the college difference and the program does not have to increase its performance on this KPI. If the Benchmark Gap is negative, Fleming's program difference is below the college difference and the program needs to increase its performance on this KPI by the value of the Benchmark gap.*3.2 Review and discuss student retention on a semester by semester basis over the past year. The 2013/14 academic year was the first time there was Sept. and Jan. starts for SEM1 and the first time the plumbing program was delivered in a traditional 2-semester (15 weeks each) pattern. 38 Students in Fall 2013 reduced to 31 in SEM2 but some re-enrolled in SEM1 in Winter 2014 (Winter intake great for retention).  |
| **B. Curriculum Strengths and Challenges** Summarize the curriculum strengths and challenges identified by the team.  |
| ***(update as appropriate based on discussions with teaching team)******Strengths:**** New curriculum has more academic rigor and more in-line with traditional semester plans
* Students have a more personal one-on-one experience with instructors as the core curriculum is delivered off site (at old Examiner building) and at McRae (smaller campus)
* Curriculum aligns with apprenticeship level 1 for Plumbing with added value in information on codes and regulations (MECH203) and water systems
* Curriculum includes content expertise on water systems from Jason Jackson
* New MATH130/131 will be an advantage to students as they move on to possible apprenticeship and join union (TBA - letter that states that these math course are equivalent to MAP4C)

**Challenges:*** More expectations and academic rigor in new curriculum may present challenges for students coming in with workplace level from high school.
* With the largest intake yet (2 sections/intakes) there was some loss of the personalized one-on-one contact that you get with a smaller group.
* The college experience is a bit lacking when students are at the old Examiner building.
* Some curriculum is being developed on the fly and presents an ongoing challenge.
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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. **What resources are required to complete the action plan, i.e., software, equipment, and training?**  |
| ***(update as appropriate based on discussions with teaching team)**** **Collect course binders (e-copy and any hard copy materials) to have a record of new curriculum and a starting point for teaching team discussions on revisions and any other needed curriculum changes.**
* **Changes/updates needed specifically for MECH229, MECH 203 (currently being developed and delivered on the fly).**
* **Ongoing training on D2L to enhance e-learning, particularly for Codes and Regulations course**
* **Investigate the possibility of Fleming delivering the water treatment training that is currently in discusions between OCOT and MOE; involvement in information sharing, collaboration with Frost and interested parties (Walkerton, CAWT, MOE, etc.)**
* **2 week equipment move from Examiner building to new KTTC in mid-late August (as it stands now, faculty have been told that they are responsible for this move**
* **Coordinator and other team members require updated first-aid training.**
* **Coordinator to attend part two of Focus on Learning PD.**
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| **D. Deferred Actions**Record any issues that will need to bemonitored, researched, or deferred for future action. |
| * **TDA Status: Separate but plumbing related-trades like Sprinkler Fitting and Steam Fitting have only a few colleges with TDA status. For example, steam fitting apprenticeship at George Brown, Humber, Thunder Bay as TDAs). Fleming should explore the possibility of getting TDA status for less common trades (like above).**
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| **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**  |