RED RIVER COLLEGE
OF APPLIED ARTS, SCIENCE AND TECHNOLOGY

Collision Repair and Refinishing

Curriculum Validation – Program Renewal

Final Report

June 2010

Submitted to:
Neil Cooke, Chair, Transportation, Math and Science

Acknowledgements

The Collision Repair and Refinishing Program at Red River College wishes to express its appreciation for the support and commitment shown throughout this Curriculum Validation - Program Renewal process by the following:

Representatives from the community:

Alistair Ross	Autobody Journeyperson, Maxim Trucks
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Grant Balous	Owner/Manager, Manitou Autobody
Ed Debeuckelaebe	Owner, E.S.O. Enterprises
Jessy Unrau	Bodyperson and Painter, Niv Auto
Brian Libby	Painter, Clear Col

The Collision Repair and Refinishing Advisory Committee:

Dave Mack	All Star Collision & Glass
Norm Phillippe	Manitoba Public Insurance
Denis Pinette	Manitoba Public Insurance
Rob Hammerling	Arlington Auto Body Ltd.

The Collision Repair and Refinishing Faculty:

Brad Dusik
Ernie Monkman
Justin Pryor

Curriculum Validation – Program Renewal Project Team

Sandra Sukhan	Curriculum Consultant, Program and Curriculum Development (PCD)
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Brad Dusik	Curriculum Validation Facilitator

Table of Contents

Collision Repair and Refinishing
Curriculum Validation – Program Renewal Final Report

Introduction

The Collision Repair and Refinishing program provides a basic working knowledge of all areas of metal working and spray painting. Students will develop the skills and knowledge required to repair damaged vehicles, including all phases of autobody repair and painting. Students will learn to weld, use trade tools, and will develop the skills to work with and shape sheet metal, as well as the techniques required to realign and straighten the body and frame of cars. The program also teaches proper methods of patching, finishing, and preparing a panel for paint application. Students will learn to estimate as well as perform repairs or replacements needed to restore vehicles to their pre-damaged condition.

The program is a one year certificate program with a September entry date. There are two mandatory work placements and upon completion of the program, students can earn credit toward the Body Repairer or Body Repairer (Paint) apprenticeship. The program is currently being offered at the Notre Dame campus.

In 2009/10, the Dean and Chair requested a Curriculum Validation-Program Renewal to address the changing needs of industry. In an effort to respond to those changing needs, the Program Renewal process addressed six major areas for renewal - curriculum, student recruitment and retention, in-industry training, faculty development, facilities and equipment and budget - the outcome of which is a five-year program renewal plan.

Curriculum Validation - Program Renewal Deliverables:

The Collision Repair and Refinishing Curriculum Validation process involved 7 interrelated deliverables:

1. Environmental Scan and Analysis of the key findings of similar programs across Canada.
2. Industry Occupational Analysis (DACUM)
3. Graduate Skills and Abilities Chart
4. Graduate Profile
5. Program Renewal Plan
6. A 5-year Program Renewal Plan in Gantt Chart format
7. Final Report

Outcomes from the Deliverables:

1. Environmental Scan and Key Findings

The Environmental Scan provides the faculty and chair with information about similar programs that are offered in Colleges and Universities locally and nationally. The Curriculum Validation facilitator gathered information on similar programs and trends influencing their development and direction. The information was gathered by the Curriculum Validation Facilitator through web sites, email and telephone contact. The scan gathered information under the following categories:

- Name of institution, location, contact person
- Size of program
- Credential offered
- Program features
- Curriculum Model
- Curriculum Content
- Student Assessment
- Current and Coming Challenges
- Curriculum Renewal
- Partnerships
- Additional Information (Other and comments)

For the Collision Repair and Refinishing Curriculum Validation - Program Renewal, nine (9) programs were scanned. They included:

- Red River College – **Collision Repair and Refinishing** (Winnipeg, MB)
- Algonquin College – **Collision Repair** (Ottawa, ON)
- Centennial College – **Autobody Repair Techniques** (Toronto, ON)
- Fanshawe College – **Autobody Collision Repairer Pre-Apprenticeship Program** (London, ON)
- Northern Alberta Institute of Technology (NAIT) – **Autobody Technician, Pre-Employment** (Edmonton, AB)
- New Brunswick Community College – **Motor Vehicle Body Repairer and Painter** (St John, NB)
- Okanagan College – **Automotive Collision Repair/Painting & Refinishing** (Kelowna, BC)
- Saskatchewan Institute of Applied Science and Technology (SIAST) – **Autobody Technician** (Saskatoon SK)
- Vancouver Community College – **Automotive Collision Repair Technician** (Vancouver, BC)

Entrance Requirements and Credentials Awarded

Pre-requisites for entering programs range from Grade 10 to 12 including Basic Math, Communication and English. Fanshawe, NAIT and Vancouver Community College (VCC) have an additional selection process which may include pre-testing in Mechanical Aptitude or a Test of Workplace Essential Skills (TOWES), and an interview. Colleges having additional selection criteria agree that that it leads to lower attrition. All programs offer a certificate upon completion of the program. However, Algonquin offers Apprenticeship training only. RRC, Fanshawe, Okanagan, NAIT and VCC are accredited by their Departments of Education or Apprenticeship directives and are based on their own provincial guidelines.

Program Length and Curriculum

Program length ranges from 30 weeks at SIAST to 40 weeks at NBCC. At 12 weeks in length the program at NAIT is the exception, but it does not offer courses in Math, Science, and Communications. RRC offers 90 hours of instruction in related Math, Science and Communications over an 8 month period.

Graduation criteria range from 50% to 73%, with 60% being the most common. All colleges expressed dissatisfaction with having the letter grade of "C" set as their minimum pass mark and indicated that it should be set higher.

Most colleges deliver curriculum using traditional classroom methods. Okanagan has offered courses via distance education but found these courses less successful and have gone back to traditional methods. Vancouver is currently piloting online and distance delivery for some theory courses. There was no distance or online practical training reported being offered by any of the colleges that were scanned.

Experiential Learning

All schools except Centennial and Okanagan offer a work practicum component which ranges from two weeks to eight weeks. NAIT's work practicum is offered at the end of each of four training blocks (Detailing, Body, Prep. and Paint) and the practicum is focused on the content covered in each of these blocks.

Partnerships

Most colleges have partnerships with industry and high schools. RRC uses I-CAR training material to keep staff current with industry. Most of the colleges identified the importance of I-CAR training to meeting the needs of industry and to keeping instructors current.

Upon employment as an apprentice, graduates of RRC may be granted up to one level of in-school training towards the Body Repairer or Body Repairer (Paint) apprenticeship.

Graduates of the other programs must challenge to receive Level 1 apprenticeship standing by writing a test. RRC's program is the only one that is accredited for both Body and Paint. The other colleges separate the Body and Paint designations in order to be accredited in their provinces. As a result, students wanting to pursue apprenticeship training in Painting at the other colleges must take a separate Paint program.

Challenges
Most colleges report that it is difficult for them to maintain existing equipment and to purchase the new equipment required to meet Federal and Provincial legislation in regards to lowering the volatile organic compounds found in products used in the industry, recycling waste products, (active) passive restraint systems, sandblasting, parts recycling/disposal, and refrigerate reclaiming.
Algonquin is facing a possible program closure because of diminishing numbers of students.
VCC is dealing with marketing issues pertaining to sustaining distance and on-line training as they are very expensive to deliver and maintain.
RRC is finding it more difficult to attract the numbers of prospective students required to replace retiring workers in industry.

2. Industry Occupational Analysis (DACUM) Chart

The Industry Occupational Analysis using the DACUM process is a familiar component of the curriculum development process at Red River College and provides the program with a description of regional occupational needs. Included in the process is the identification of emerging and retiring industry trends.

Gene Semchych and Sandra Sukhan facilitated the Collision Repair and Refinishing DACUM workshop on December 15 and 22, 2010. Seven (7) expert practitioners in the Collision Repair and Refinishing trade were asked to indentify retiring and emerging trends in the industry as well as the major competencies and related skills that are required by entry-level workers in the field. Participation was equally balanced between urban and rural practitioners.

The resulting Collision Repair and Refinishing DACUM identified the following emerging and retiring trends:

Emerging Industry Trends:

- Water borne bases
- New equipment in painting and refinishing
- More uses of HSS
- Hybrid cars - safety
- Coolant and braking systems
- Framework - more accuracy
- Quality plastic replacement
- Safety
- Quality Control
- Zinc spray
- Computerization
- SMC’s
- Induction heater

Retiring Industry Trends:

- Less gas welding
- Less soldering and solder-based paints
- Body fillers
- Plastic repair
- Solvent-based paints
- Oxyacetylene

3. Graduate Skills and Abilities Chart

Sandra Sukhan and Robert Richard facilitated the Graduate Skills and Abilities workshop, which was held on February 22, 2010. The faculty had an opportunity to review expectations of industry as indentified in the DACUM chart. Having attended the two-day DACUM workshop as observers, faculty had a good sense of industry expectations. After a detailed review of all the competencies and related skills, the faculty made some changes to the chart based on the length of the program and the level of skills required for entry-level technicians.

The outcome of this workshop was a single, composite chart that outlines the graduate skills and abilities. The chart is the cross-referencing of: 1) the competencies identified in the Industry Occupational Analysis (DACUM) Chart and the College Wide Learning Outcomes (CWLOs), and 2) the teaching faculty's assessment of what would constitute realistic learning expectations of the program. This chart serves as the focus for curriculum renewal and the basis for the development of program learning outcomes.

4. Graduate Profile

Sandra Sukhan and Robert Richard facilitated a faculty workshop to develop a Graduate Profile for the Collision Repair and Refinishing program. The Graduate Profile is a series of program learning outcome statements which are based on the *Graduate Skills and Abilities Chart.* The workshop was held on March 3, 2010.

5. Program Renewal Vision and Goals

The Program Renewal Vision and Goals are based on the results of a half-day workshop which was held on March 17, 2010 with the faculty and the Chair. Utilizing the results of this workshop, the Curriculum Consultants in collaboration with the Curriculum Validation Facilitator and the Chair, created a vision statement along with goals and objectives that will guide the program renewal activities over the next five years. This vision and the goals are as follows:

Vision:
The Collision Repair and Refinishing program will be recognized as a leader in the provision of training that produces graduates who are prepared for employment in the autobody repair and painting industry and who can continue to develop their skills in the trade as an apprentice.

Goals:
The following goals were identified to realize this vision:

Curriculum
- Update the curriculum and evaluation practices to ensure that the graduates' skills and abilities meet industry's requirements for a new technician.

Student Recruitment and Retention
- Develop and/or improve student recruitment, and retention processes to ensure student success.

In-Industry Training
- Align student in-industry training experiences to industry standards and program outcomes.

Faculty development
- Increase opportunities for faculty to grow professionally.

Facilities and Equipment
- Request budget to ensure that the facilities and equipment that are available to the program are sufficient to achieve its vision.

Budget
- Request budget for the program so that it is sufficient to achieve its vision.

6. Program Renewal Plan

The program renewal plan is the result of translating the preceding five deliverables into a coherent plan for the renewal of the program. The Program Renewal Plan will serve as the basis for the improvement of the Collision Repair and Refinishing program. The Chair and faculty are committed to renewing the program over the next 5-year period.

The following tasks (and timelines) were identified for completion by the end of June 2015.

- Update the curriculum and evaluation practices to ensure that the graduates' skills and abilities meet industry's requirements for a new technician.
  - Establish a Curriculum Committee to guide the ongoing curriculum renewal process.

        - Review all course outlines to ensure that there are standard learning outcomes and assessment practices for each course code. **(06/10 – 09/11)**
        - Review how/where the College-Wide Learning Outcomes are integrated into the curriculum to ensure that graduates leave the program with a clear understanding of the impact that their personal management skills have on their success in the workforce. **(01/11 – 09/11)**
    - Create more opportunities for students to master the practical skills by increasing the number of project-based work assignments. **(06/10 – 06/15)**
    - Work with the related Math, Science and Communications course instructors to increase the relevance of the content found in these courses to the core curriculum. **(09/13 – 06/15)**
    - In consultation with the Coordinator of related Math and Science courses, explore adopting the model used in the Heavy Duty Mechanic program. **(09/10 – 06/15)**
    - ***Use DesireToLearn*** to develop and deliver course content online. **(09/13 – 06/15**
    - Use ***Mind Manager*** and ***Power Point*** to present the curriculum electronically. **(09/12 – 06/15)**

- Develop and/or improve student recruitment and retention process to ensure student success.
    - Raise the profile of the program and implement strategies to recruit prospective students.
        - Work with high schools to promote the program to their students. **(06/10 – 06/15)**
    - Implement strategies to increase the academic readiness of incoming students.
        - Work with Student Services to implement practices to assist incoming students with ensuring their academic readiness. These practices will be similar to what is currently followed for the Heavy Duty Equipment Mechanic and will include: **(09/10 – 06/15)**
            - administering the Canadian Adult Achievement Test (CAAT) to incoming students,
            - providing academic counselling to at-risk students,
            - referring at-risk students to academic skills “upgrading” opportunities, and
            - referring at-risk students to peer tutoring.
    - Develop student retention and completion strategies.
        - Continue to offer program information sessions to prospective students. **(06/10 – 06/15)**
        - Continue to offer program orientation sessions to incoming students. **(06/10 – 06/15)**

        - Create an informational video that will be made available on the program's website to assist potential students with determining their suitability to enter the trade (e.g. working conditions, health considerations, employments opportunities and apprenticeship training). **(06/10 – 05/11)**

- Align student in-industry training experiences to industry standards and program outcomes.
    - Develop and/or revise evaluation checklists/task sheets for use by the in-industry training supervisor to assess the on-the-job performance of students. **(01/11 – 06/15)**
    - Consult with industry partners to determine the applicability of NAIT's in-industry training model to meeting the in-industry training requirements of the program. **(09/10 – 06/11)**

- Increase opportunities for faculty to grow professionally.
    - Introduce ***5S*** workplace organization methodology into the practical skill training of the program. **(09/10 – 06/15)**
    - Continue to arrange seminars for faculty on new products/equipment/industry practices. **(06/10 – 06/15)**
    - Work with Teacher Education to provide faculty with workshops/training related to developing assessment instruments/practices appropriate for evaluating practical skills (e.g. rubric development). **(09/10 – 06/15)**

- Ensure that the facilities and equipment that are available to the program are sufficient to achieve its vision. **(06/10 – 06/15)**

- Request budget for the program so that it is sufficient to achieve its vision. **(06/10 – 06/15)**

Appendix A – Environmental Scan

Environmental Scan

	RRC	ALGONQUIN	CENTENNIAL	FANSHAWE
College Address	Red River College Z1-10 2055 Notre Dame Ave Winnipeg Manitoba R3H 0J9	Algonquin College Woodroffe Campus 1385 Woodroffe Ave Ottawa, Ontario K2G 1V8 (613) 727-4723	Centennial College P.O. Box 631, Station A Toronto, Ontario M1K 5E9	Fanshawe College London Campus 1001 Fanshawe College Boulevard P.O. Box 7005 London, Ontario N5Y 5R6
Website	http://me.rrc.mb.ca/Catalogue/ProgramInfo.aspx?RegionCode=WPG&ProgCode=COLFF-CT	http://extraweb.algonquincollege.com/fulltime_programs/programOverview.aspx?id=0502X01FWO&	http://www.centennialcollege.ca/Programs/ProgramOverview.aspx?Program=8405&Calendar=2010-2011	http://www.fanshawec.ca/EN/motive/12132/autobody.asp R
Contact person	Neil Cooke	Jeremy Anderson (Chair)	Dave Samalea Program Coordinator	Reg Chavis Coordinator - Auto Body and Collision Damage Repairer
Telephone/Fax numbers	Tel: (204) 697-5920 Fax: (204) 697-0451	Ph: 613-727-7650 Fax: 613- 727-7643	Tel: (416) 289-5000 ext. 7298 Fax: 416-289-5028	Tel: (519) 452-4430 Fax: (519) 659-8539
Email address	Email: ncooke@rrc.mb.ca	Email: andersj@algonquincollege.com	Email: dsamalea@centennialcollege.ca	Email: rchavis@fanshawec.ca
Size of program Number of students	• 2 classes of 15 students in each class = 30 students.	• 20 students per class in Body Repair with 2 intakes per semester. Every other year will run an additional 20 students for Paint.	• 80 students per year	• 25 students per class
Size of program Number of Faculty	• 2 full time Instructors	• 3 – 4 staff depending upon size and number of classes • No full time staff, only part time.	• 6 Staff designated for both certificate and Apprenticeship programs	• 1 full time Instructor and 3 part time.

NAIT	NBCC	OKANAGAN	SIAST	VCC
Northern Alberta Institute of Technology (NAIT) Patricia Campus, 12204 - 149 Street, Edmonton, AB	New Brunswick Community College St John Campus P.O. Box 2270 950 Grandview Ave Saint John, NB E2L 3V1 Phone: (506) 658-6600 Toll Free: 1-800-416-4080 Fax: (506) 658-6792	Okanagan College Kelowna 1000 KLO Road Kelowna, BC V1Y 4X8 Tel: 250-762-5445 Toll Free: 1-877-755-2266	Saskatchewan Institute of Applied Science and Technology (SIAST) ***Kelsey Campus*** Idylwyld and 33rd St PO Box 1520 Saskatoon SK S7K 3R5 Phone: (306) 659-4300	Vancouver Community College *Downtown Campus* Level 1, 250 West Pender, Vancouver, BC V6B 1S9 Admissions Enquires: 604.443.8400 Toll free 1.866.565.7820
http://www.nait.ca/program_home_12867.htm	http://www.nbcc.nb.ca/programs/index.asp?view=program&id=2327	http://www.okanagan.bc.ca/departments/Trades/Trades_Departments___Program_Information/Collision_Repair/Collision_Repair/Pre-Apprenticeship_Programs.html	http://gosiast.com/	http://www.vcc.ca/programs-courses/detail.cfm?div_id=11&prog_id=9
Scott Sinclair Associate Chair Phone: (780) 453-5423 Fax: (780).453-5405 Email: scotts@nait.ca	Brian Rignanesi Department Head Phone;506-658-6395 Email: brian.rignanesi@gnb.ca	Randy Dewar Head Instructor Phone: 250-762-5445 ext. 4472 Fax: 250-862-5407 Email: rdewar@okanangan.bc.ca	Gerry Bonsal, Campus Director ***Kelsey Campus*** Bill Coulthard, Campus Director ***Wascana Campus*** PO Box 556 Regina SK S4P 3A3 Phone: (306) 775-7300 Dale Hawkins Program Head Phone: 306-775-7744 Fax: 306-798-0628 Email: bonsal@siast.sk.ca coulthard@siast.sk.ca hawkinsd@siast.sk.ca	
• 2 classes per year, 18 per class = 36 • 6 instructors	• 20 certificate students per school year, Sept – June intake • (3) Instructional Staff, (1) dedicated to Certificate, (2) for Apprenticeship	• 2 Foundation (certificate) classes per year, 18 per class = 36 students • 4 full time Instructors, 1 part time (2.5 designated for certificate)	• 24 certificate, 2 groups of 12. • 4 Full time Instructors plus Program Head	

	RRC	ALGONQUIN	CENTENNIAL	FANSHAWE
Credential issued	**Certificate**	**Ontario College Certificate**	**Certificate**	**Certificate**
Program features	**Length** • 1 year **Division of Academic year** • September entry date **Entrance Requirements** • Manitoba Grade 12	**Length** • Program length: 24 weeks **Division of Academic year** • Three levels – Basic, Intermediate and Advanced each consisting of eight weeks **Entrance Requirements** • Applicants must be formally registered as apprentices, must have obtained an Ontario Secondary School Diploma, must be currently employed in the trade, and must be released by employers to attend the College.	**Length** • 36 weeks **Division of Academic year** • 3 semesters - 12 weeks per semester – Fall start date **Entrance Requirements** • Ontario Secondary School Diploma (OSSD) or equivalent or be 19 years of age or older ▪ Compulsory English 12C or U, or skills assessment or equivalent	**Length** • 32-week program **Division of Academic year** • July start till Xmas (6 months) in school training with 8 weeks Work Experience till the end of Feb. • 1 intake of students per year **Entrance Requirements** • Ontario Grade 12 or equivalent; • 16 years or older and eligible to work in Ontario; • Advanced English language skills (if English is not first language) **PLAR/R/PL** • PLA – would apply to only Math and English.

NAIT	NBCC	OKANAGAN	SIAST	VCC
Certificate	**Certificate**	**Certificate**	**Certificate**	**Certificate**
Length • 12-weeks - 8 weeks of technical and 4 weeks shop practicum in a shop of student's choice.	**Length** • 1 year	**Length** • 36 weeks	**Length** • 30 weeks	**Length** • 8 months
Division of Academic year • 1st intake starts in Aug - Nov, full time in school then go out on 4 week work practicum • 2nd intake starts in Jan.	**Division of Academic year** • 40 week program, Sept-June annually • 3 semester/block system	**Division of Academic year** • No semester system, 36 weeks straight through • 1st class starts in Sept • 2nd class starts in Feb	**Division of Academic year** • Start date(s): Varies - August and October (Regina) and August (Saskatoon)	**Division of Academic year** • 2 terms \
Entrance Requirements • Applicants must have completed grade 10 including Math, Science and English.	**Entrance Requirements** • High School Diploma or Adult High School Diploma or GED Diploma of High School Equivalency	**Entrance Requirements** • B.C. secondary school graduation, or equivalent, or 19 years of age and out of secondary school for at least one year as of the first day of classes. • Satisfactory standing in basic mathematics and reading tests. • Grade 10 Math/English entrance requirement. Students are pre-tested (Able test) to see if they have mechanical aptitude for the trade.	**Entrance Requirements** • Grade 10. English is the language of instruction and examination at SIAST. If first or primary language is not English, applicant will need to provide evidence of having the English language skills in speaking, listening, reading and writing required to be successful in a SIAST program. The majority of SIAST programs have established ACCUPLACER© cut scores and Post-Secondary Success Requirements. Depending on the program, additional specific admission requirements may still need to be met.	**Entrance Requirements** • Graduation from an appropriate career preparation program or meet the English and Math requirements of: ▪ English 11 or Communications 12 or equivalent ▪ Math 10 or equivalent • Relevant trade experience is considered • This program is Canadian Language Benchmarked at Listening 7, Speaking 6, Reading 6, Writing 4
PLAR/R/PL • PLA for Math, Science and English	**PLAR/R/PL** • No PLAR	**PLAR/R/PL** • No PLAR	**PLAR/R/PL** • PLAR	

	RRC	ALGONQUIN	CENTENNIAL	FANSHAWE
Program features (cont'd)	**Special Admission Requirements** • Applicants who will be 19 years of age on or before September 30 in their year of registration, and who have been out of high school for a minimum of one year who do not meet the regular admission requirements may apply under the special admission requirements. Individuals applying as a special admission applicant must have successfully completed RRC Academic Foundations, or a minimum of one Science 20S/20G credit and one credit of Applied Math 20S, Pre-Calculus Math 20S or Consumer Math 30S. English 20S/20F is strongly recommended.	**Selection criteria** •Eligibility is determined by the Ministry of Training, Colleges and Universities	**Special Selection Process**: • No, Ontario Secondary School Diploma or equivalent or be 19 years of age or older.	**Special Selection Process**: • Students must have a grade 12 or equivalent credits and applicants are required to complete 2 tests, (1) on Mechanical Reasoning, (2) on Towes (Comprehension test). Once test scores have been totaled applicants then go through a personal interview with a selection committee. It is Fanshawe's goal to select only applicants that are most capable of succeeding in the program.
	Graduation requirements • 60% pass in all subject areas with a minimum of 2.0 Grade Point Average overall. • Level 1 accreditation awarded if students maintain a 3.0 GPA and meet guidelines from the Apprenticeship Branch. Must be working within 2 years of school graduation and be signed up as a Manitoba Apprentice and be currently employed in the Industry.	**Graduation requirements** • Do not have a certificate program, only do Apprenticeship training during the months of May, June, July and August. • Students must obtain a 70% pass in all both Theory and Practical.	**Graduation requirements** • Minimum D grade 50% in all subjects with an overall GPA of 2.0 (C grade) is required for graduation	**Graduation requirements** • 2.0 Grade

NAIT	NBCC	OKANAGAN	SIAST	VCC
Special Admissions Requirement • Student selection is competitive and based on criteria that may include academic achievement beyond the minimum prerequisites. The Career Investigation is a report applicants prepare as part of the application process for many full-time programs at NAIT. A Career Investigation is not required for this program but is advisable. **Graduation requirements** • 65% pass in both theory and practical, no rewrites allowed, 2.5 grade point	**Special Selection Process** • No special selection process, first 20 accepted if they have grade 12. • 60% pass in all subject areas, no accreditation in province for all trades	**Graduation requirements** • 60% pass, 2.0 GPA. Level 1 accreditation (based on 70% pass in all subjects). Students have to write and challenge level 1 exam. Have 3 years to validate. Level 1 Apprenticeship for both Automotive Collision Repair and Automotive Refinishing Prep Technician.	**Special Selection Process** • First come first served. • No special selection process	

	RRC	ALGONQUIN	CENTENNIAL	FANSHAWE
Curriculum Model	**Experiential Component** • Two mandatory industry work placements of 2 weeks each time = 4 weeks in duration. **Delivery Options** • Full-time • No distance education for this trade. • Leads into Apprenticeship Training	**Delivery Options** • Programs at Algonquin College are delivered using a variety of instruction modes. Courses may be offered in the classroom or lab, entirely online, or in a hybrid mode which combines classroom sessions with on-line learning activities. **Traditional Delivery methods**. • There is the possibility of doing some on line training in the near future.	**Experiential Component** • No work experience component **Program Majors/Streams** • Course leads into Apprenticeship training. **Delivery Options** • Full-time Curriculum has been modeled on the apprenticeship in-school program and has been structured to allocate about 40 per cent of schedule to hands-on practice time.	**Experiential Component** • Eight weeks of on-the- job training with area employers **Program Majors/Streams** • Leads into Apprenticeship program, runs from Nov. – April annually. **Delivery Options** • Full-time
Curriculum Content **Course titles**	**Credit Hours** • Basic Metal Working – Theory 1 • Basic Refinishing Preparation – Theory 1 • Estimating – Theory 1	**Hours** **Level: 01** (Basic) • Body and Frame Structure – 96 • Refinishing I - 40 • Applied Mechanical I – 32 • Applied Work Practices – 40	**Semester 1 (**12 weeks) • Applied Mechanical Systems 1 2 • Applied Work Practices and Procedures 1 2 • Body and Frame Repair 1 5	**Course Titles** 1) Academic Upgrading: 72 hours 2) Value Added Skills: 150 hours 3) Job Search Employability: 32 hours

NAIT	NBCC	OKANAGAN	SIAST	VCC
Experiential Component • 4-week shop practicum ▪1 week: Detailing ▪2 week: Prep ▪3 week: Body ▪4 week: Paint Work experience is done at the end of the program upon completion of all theory and practical training. **Program Majors/Streams** • Leads into Apprenticeship, students are allowed to challenge their level 1 as long as they have 70% in every subject area and have completed the required hours of work according to Apprenticeship Policy. **Delivery Options** • Full-time. 15 hours of classroom theory and 15 hours of shop work per week. • Classes operate Monday to Friday - 7:15 a.m. to 2:15 p.m.	**Experiential Component** • 1 – 2 week work experience practicum • Program is designed to set up students to enter into apprenticeship. • Delivery is by traditional methods, paper handouts, overheads, some computer. **Delivery Options** • No distance education in trades	**Experiential Component** • No work experience however students are placed at the end of the program for job placement together with the apprenticeship branch and the Okanagan College. **Program Majors/Streams** • Leads into Apprenticeship Training. **Delivery Options** • Full time. • Traditional Methods of Instruction. • Looked at Distance education but did not work.	**Experiential Component** • Two weeks work experience in an auto body repair shop. **Program Majors/Streams** • Leads into Apprenticeship for the trade. **Delivery Options** • Full-time The following learning methods are available for some of the courses in this program. • Classroom • Home Study • Online • Work Experience • Work-based Training	**Delivery Options** • Full-time
Credits • Industry Overview and Regulations 0.5 • Component Removal and Installation 1.0 • Substrate Preparation 2.0	• Customer Relations *(credits acquired after every 45 hours of successful completion).* • Mechanical and Electrical	**Hours** • Use Safe Work Practices – 30 • Use Safe Work Practices – 12 • Process Technical Information – (Math) 30	**Credit Units** • Safe working procedures 2.0 • Bench work 2.0 • Welding 7.0 • Plastic material repair 2.0 • Basic metal work 10.0	**Credit Hours** **Term 1** • Automotive Detailing 1 - 1.0 • Construction and Components 1- 2.0 • MIG Welding 1 2.0

	RRC	ALGONQUIN	CENTENNIAL	FANSHAWE
Curriculum Content **Course titles (cont'd)**	**Credit Hours** • Basic Metal Working – Practical 3 • Basic Refinishing Preparation – Practical 3 • Major Body Alignment, Weld-On Panel Replace-Theory 4 • Major Body Alignment, Weld-On Panel Replace-Practical 0 • Refinishing & Top Coating – Theory 2 • Vehicle Construction – Theory 0 • In-Industry Training – 1 3 • PC Fundamentals Training 1 • Collision Repair Project – Practical 1 • Safety 0 • AC-043 Accreditation for Level 1 0 • Hand tools/ Power tools 1 • Flexible Panel Repair (Plastics) – Practical 1 • Frame Damage Diagnosis – Practical 1 • Related Math 3 • Collision Repair Project –Theory 0 • Refinishing & Top Coating – Practical 4 • Vehicle Construction – Practical 3 • Flexible Panel Repair (Plastics) – Theory 0 • Frame Damage Diagnosis – Theory 0 • Hardware, Glass & Trim – Practical 1	**Hours** •Welding I – 32 **Level: 02** (Intermediate) • Plastics Repair – 32 • Body and Structure – 56 • Non-Structural Repair - 56 • Refinishing II – 32 • Applied Mechanical II – 32 Welding II 32 **Level: 03** (Advanced) • Damage Analysis and Estimating – 32 • Body, Frame and Structure – 64 • Refinishing III – 32 • Applied Mechanical III – 32 • Structural Panel Replacement – 64 •Alignment - 16	**Credits** •Mathematics for Autobody 2 •Occupational Health & Safety 3 •Refinishing 1 3 **Semester 2 (**12 weeks) •Applied Mechanical Systems 2 2 •Applied Work Practices and Procedures 2 3 •Body and Frame Repair 2 8 •Communication Skills for Autobody 1 2 •Refinishing 2 3 **Semester 3** (12 weeks) •Applied Mechanical Systems 3 2 •Applied Work Practices and Procedures 3 3 •Body and Frame Repair 3 8 •Communication Skills for Autobody 2 2 •Refinishing 3 3	4) Level 1 courses 360 hours (1.5 traditional hours) 5) Job Placement: 360 hours (over 8 weeks) **Total course hours 720**

NAIT	NBCC	OKANAGAN	SIAST	VCC
Credits • Industry Overview and Regulations 0.5 • Component Removal and Installation 1.0 • Substrate Preparation 2.0 • Welding 4.0 • Non-Structural Panel Repair 3.0 • Field Placement 2.5 • Shop 3.0 No related programs such as Math, Science, Communications or Computer. *Course outlines: http://www.nait.ca/12887.htm*	Component Repairs • Ozone Depleting Substances • Shop Practice • Preparation for Vehicle Delivery • Vehicle Construction 180 hours (*105 hours theory/75 hours practical) 4 credits* • Metal Repairs 1*80 hours (90 theory/90 practical) 4 credits* • Non-Structural Repairs *135 hours (75 theory/60 practical) 3 credits* • *Painting Equipment 90 hours (60 theory/30 practical) 2 credits* • Refinishing • Costing • Safety • WHMIS • Occupational Health and Safety • First Aid and CPR • Information Technology • Welding and Cutting • Work Experience *90 hours (In-Industry) 1 credit* • Reading and Writing Applications in the Workplace: *45 hours (45 theory) 1 credit.*	**Hours** • Process Technical Information – 6 • Tools and Equipment – 30 Tools and Equipment – 60 • Hardware and Trim – 24 • Hardware and Trim – 48 • Surface Preparation – 30 • Surface • Preparation – 110 • Oxy-Acetylene Welding – 10 • Oxy-Acetylene Welding – 20 • MIG Welding – 18 • MIG Welding – 72 • Sheet Metal Repair – 30 • Sheet Metal Repair – 174 • Plastics and Composites – 18 • Plastics and Composites – 30 • Undercoats – 10 • Undercoats – 50 • Topcoats – 18 • Topcoats – 72 • Panel Replacement – 20 • Panel Replacement – 44 • Mechanical Components – 18 • Mechanical Components – 12 • Pre-Delivery – 12 • Pre-Delivery – 30 • Preparation for Employment – 24 • Preparation for Employment – 6 • Collision Repair Level I Exam – 6 • Automotive Refinishing Prep Level I Exam – 6	**Credit Units** • Advanced metal work 8.0 • Door servicing 2.0 • Front sheet Metal 2.0 • Glass removal and installation 1.0 • Electrical systems 2.0 • Basic painting 7.0 • Advanced painting 8.0 • Industrial attachment (work experience) 0.0 • Industrial Mathematics 2.0 • Industry Communications 2.0 *http://www.siast.sk.ca/programs_courses_descriptions/ABTCERT.shtml*	**Credit Hours** • Occupational Skills and Safety 1- 1.0 • Oxy-Acetylene Welding - 1.0 • Plastics and Composites 1 - 1.0 • Sheet Metal Repair 1 - 5.0 • Surface Preparation 1 - 2.0 • Tools and Equipment 1 - 1.0 **Term 2** • Automotive Detailing 2 - 1.0 • Construction and Components 2 – 2 • MIG Welding – 2 • Occupational Skills and Safety - 1.0 • Oxy-Acetylene Welding 2 – 1 • Plastics and Composites 2 - 1 • Sheet Metal Repair 2 – 5 • Surface Preparation 2 – 2 • Tools and Equipment 2 - 1

	RRC	ALGONQUIN	CENTENNIAL	FANSHAW
Curriculum Content **Course titles (cont'd)**	**Credit Hours** • Hardware, Glass & Trim – Theory 0 • Hydraulics, Principles & Equipment – Practical 1 • Hydraulics, Principles & Equipment – Theory 0 • In-Industry Training – 2 3 • Advanced Metal Working & Rust Repair – Theory 1 • Advanced Metal Working & Rust Repair – Practical 3 • Communication 1 • Basic Autobody Electrical Principles 1 2 • Basic Autobody Electrical Principles 2 1 • Related Science 3 • WHMIS Workshop 0 • General Safety Training 0 • Gas Welding 3 • Mig Welding 1 Course Descriptions: http://me.rrc.mb.ca/Catalogue/ProgramPrint.aspx?ProgCode=COLFF-CT&RegionCode=WPG			
Student assessment	**Content Theory Assessment** • 1 hour/day theory training for the first term. Another 2 hours / day for Related programs, Math, Electrical, PC Fundamentals and Communications. • Assessment is by written tests and assignments for theory based training.	**Content Theory Assessment** • Assessment based on Provincial standards for Apprenticeship Training. • Theory Content: 60% • Practical Content: 40%	**Content Theory Assessment** • Approximately 60% theory 40% practical • Written test to achieve 50% pass, students are allowed a rewrite but more than 3 failures constitutes a course failure	**Content Theory Assessment** •70% Theory content •30% Practical

NAIT	NBCC	OKANAGAN	SIAST	VCC
Content Theory Assessment • Theory 65% minimum pass • Practical assessment done on a daily basis, 65% minimum pass	**Content Theory Assessment** • 40% theory based • 60% practical • 7 hours/day training for students	**Content Theory Assessment** • 40% theory based content • 60% practical • Theory assessment is by written tests, 60 % pass.	**Content Theory Assessment** • Students are in for 6 hours/day • 1 hour theory, 5 hour practical • 60% pass in all subject areas, no rewrites. • No accreditation for Level 1.	

	RRC	ALGONQUIN	CENTENNIAL	FANSHAW
Student assessment (cont'd)	**Skills Assessment** • Practical training is 4 hours/day for the first term (Sept. – Feb.) 2nd term (Feb. – June), no Theory training and some related programs (depending upon scheduling). The majority of training is spent on practical training. • Practical is 5.0 hours/day. Practical Assessment for first term is based on performance on assigned practical tasks. Students must successfully complete all tasks in order to receive a passing grade. 2nd term Assessment for practical is graded on Practical performance on live Customer Vehicles. All practical assessment consists of attendance and punctuality, attitude, quality of workmanship, completing practical tasks within specific time guidelines as outlined by Instructors and willingness to work with others. **Assessment Practices for any Experiential components** •Two Work Experience Practicum's. ▪ 1st practicum done in the first term, ▪ 2nd practicum done in 2nd	**Skills Assessment** • Students spend 6 hours/day or 30 hours/week for 8 week blocks. • No related programs such as Math, Communications or Science.	**Skills Assessment** • Practical Assessment, students have work projects to complete and pass for approximately the first ½ of the school term. The 2nd half is allocated to doing live school/customer vehicles. **Assessment Practices for any Experiential components** • No work experience component	**Skills Assessment** • 60% pass mark on written theory tests • Upon completion of program students that maintain 70% have the option to challenge Level 1. **Assessment Practices for any Experiential components** • Work Experience Component: ▪ Job Placement for 8 weeks

NAIT	NBCC	OKANAGAN	SIAST	VCC
Skills Assessment • Last ½ of practical training consists of working on live customer vehicles. **Assessment Practices for any Experiential components** • Utilizes the Smart Board or Learning Modules systems for training.	**Skills Assessment** • Students work on practical tasks and then customer work in later semesters **Assessment Practices for any Experiential components** • Assessment, 60% theory on written tests and 60% practical based on daily performances on practical tasks and mastery of skill.	**Skills Assessment** • Practical: exercises are done on small projects, constitutes about 1/3 of program. The duration is on Live Customer based jobs and vehicles. • Marking of practical is done physically on paper copy and students are graded on practical performances done within specific time restraints, 60% pass.	**Skills Assessment** • Rubric based model for practical assessment • Modularized training modules for theory. **Assessment Practices for any Experiential components** • 2 week work experience component	

	RRC	ALGONQUIN	CENTENNIAL	FANSHAW
Student assessment (cont'd)	term. Students attend for 2 weeks for each work practicum. Assessment is achieved following the same guidelines as outlined in practical outcomes.		.	
Current and coming challenges	• Delivery of theory presentations is done by Overheads, video's, whiteboard and Power Point Presentations. No difficulties in content, delivery or changes to Industry requirements to date. It is sometimes difficult to find supporting written and video's that compliment Theory and Practical based training.	• Hard for staff to remain current, would like to see I-CAR training adopted for both staff and students. • I-Car is becoming more known for the trade and being considered as industry requirements.	• Traditional methods of content delivery, Instructor's have Overheads, Power Point, White Boards and utilize Smart Classroom Methods.	• Changes to legislation or Manufacturing create many challenges. • Constantly having to train Staff to be current with Industry requirements. • There is a need to purchase new equipment and switch to new product lines to stay current with Industry trends. • In constant contact with Industry and Auto Body Associations to become aware of Industry requirements.
Curriculum Renewal	• (2) Annual meetings with Trade Advisory Committee. • Program Renewal is mandatory every 5 years. Minor changes are adopted yearly arriving from Trade Advisory Committee's recommendations.	• Have not had a curriculum update in many years. Hard to get industry together and training is dissolving.	• Just completed a course revision and renewal. • Program Advisory Committee meets 2-3 times per year for annual review, feedback and updates.	• Because the certificate program is a new program, 2 years old, there hasn't been a curriculum revision process.

NAIT	NBCC	OKANAGAN	SIAST	VCC
	• Difficulties in getting Industry dedication and input into trade or curriculum. No changes to industry requirements were requested. More feedback is required from Industry.	• No real current or coming challenges	• Have little say in the curriculum process. • Delivery is by traditional methods, modularized training packages, utilizes Power Point, overheads, etc. • Practical training consists of working on practice panels/projects and then graduate on to customer vehicles/jobs.	
• Advisory Board meetings once annually where any curriculum modifications are recommended and then implemented.	• Program was renewed in 2006 and implemented in 2007. • First time in 20 years the program was updated and curriculum revisions were made. Renewal was achieved by Trade Advisory Committee but is not governed.	• Ongoing updates to curriculum. Meet with Trade Advisory Board 3 times/year. • No real process for renewal, typically follow input from Apprenticeship.	• Trade Advisory Board meets once/year typically without the college. • Program gets renewed every 5 years.	

	RRC	ALGONQUIN	CENTENNIAL	FANSHAW
Partnerships	**High Schools/Post-secondary** • Manitoba Education and Training	**High Schools/Post-secondary** • Ontario Youth Apprenticeship Programs • Work together with High Schools to find Apprentices	**High Schools/Post-secondary** • Work with Industry through a Program Advisory Committee for placement of students entering the workplace.	**High Schools/Post-secondary** • No partnerships with High Schools or Post Secondary.
			Business & Industry Canadian Automotive Repair and Service Council (CARS) National Accreditation Board endorsed the program's full compliance with the national industry standards on February 1, 2001 and the program re-accredited until April 30, 2014.	**Business & Industry** • Do have some partnerships with Industry that provide Equipment and Supplies.
	Government • Graduates can obtain trades certification by joining the apprenticeship program and becoming a qualified journeyperson in either body repairing and painting or just painting. Upon employment as an apprentice, graduates may be granted up to one level of in-school training towards the Body Repairer or Body Repairer (Paint) apprenticeship. Time credit, reducing the length of your apprenticeship, is at the discretion of the employer and the Apprenticeship Branch, Manitoba Competitiveness, Training and Trade.		**Government** • Courses approved by the Ministry of Training, Colleges and Universities. Graduates may have an opportunity for credit toward their apprenticeship requirements	
		Union • No Trade Unions	**Union** • No Trade Union affiliations	

NAIT	NBCC	OKANAGAN	SIAST	VCC
• Partnerships with the Private Industry Sector, 1 high school. **Government** • Graduates of the program who choose to apprentice as an auto body technician can receive Alberta Apprenticeship and Industry Training's accreditation for the technical training component of First Period Auto Body Technician training.	• 6 High schools in Province, only 2 have Auto Body programs. **Union** • No Union	**Government** • Apprenticeship Education and Training for accreditation.	**High Schools/Post-secondary** • No other partnership associations **Government** • Trade time and academic credit may be available for graduates who find employment in the trade and register as apprentices. **Union** • College is Unionized but not Industry	

	RRC	ALGONQUIN	CENTENNIAL	FANSHAW
Partnerships (cont'd)				
Other	• Seeing more females enroll in Certificate Programs in both Body and Paint. Also witnessing a slight increase in students withdrawing from the program due to personal reasons			
Comments	• Would like to see a screening process for selection of students into this Program. In Certificate we lose too many students every year that likely should have been screened out perhaps by the selection process. Higher standards are required for accreditation, with the current system of blending marks it is not very accurate for the students' abilities. Related programs need to compliment the core subject areas more and for today's trade expectations.	•Program is struggling to survive. Only offered during the summer months and numbers of students are diminishing. Painters are only done every second year and the last intake was cancelled.		

NAIT	NBCC	OKANAGAN	SIAST	VCC
	International • Working towards NATEF.			
	• Seeing a change in student body enrollment with more females entering the Auto Body Trade.	• Put a lot of value on Pre-testing students as it leads to very few withdrawals or failures in the program. Also leads to a higher percentage of students that are successful towards accreditation and receive their level 1. *Concern:* • Number of apprentices are declining rapidly however the certificate programs numbers are increasing.		

Appendix B – Industry Occupational Analysis (DACUM) Chart

RED RIVER COLLEGE
OF APPLIED ARTS, SCIENCE AND TECHNOLOGY

COLLISION AND REPAIR REFINISHING DACUM

Facilitated by Sandra Sukhan and Gene Semchych
December 15th, 2009

DACUM Skill Rating Scale

1 - Can perform some parts of this skill satisfactorily but requires assistance and/or supervision to perform the entire skill.
2 - Can perform this skill satisfactorily but requires periodic assistance and/or supervision.
3 - Can perform this skill competently without assistance or supervision.
4 - Can perform this skill competently without assistance with more than acceptable quality, and with initiative/adaptability to unique situations.

ANALYZE A VEHICLE
A

Identify type of vehicle (year, make, model) A1				Clean vehicle for inspection A2				Consult with customer A3				Inspect for damage A4				Create a workplan A5				Prepare estimate A6			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Determine viability of repair A7				Prepare vehicle for transportation A8				Transport vehicle A9			
1	2	3	4	1	2	3	4	1	2	3	4

ESTIMATE DAMAGE
B

Estimate repair requirements B1				Set timelines B2				Compare replacement and repair costs B3				Determine availability of replacement parts B4				Disassemble damaged parts B5				Document with photographs B6			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Prepare a written estimate B7				Acquire customer approval for repairs B8				Perform temporary repairs B9			
1	2	3	4	1	2	3	4	1	2	3	4

PREPARE VEHICLE FOR REPAIRS
C

Order parts C1				Select appropriate tools and equipment C2				Dismantle vehicle C3				Revise estimate C4				Organize sublet repairs C5				Organize parts C6			
1	2	3	4	1	2	**3**	4	1	2	**3**	4	**1**	2	3	4	**1**	2	3	4	1	**2**	3	4
Fasten vehicle to frame C7																							
1	2	3	4																				

PERFORM VEHICLE DETAILING
D

Perform exterior cleaning D1				Perform interior cleaning D2				Perform vacuuming procedures D3				Perform spot removal D4				Reset vehicle option controls D5				Perform glass cleaning procedures D6			
1	2	3	**4**	1	2	3	**4**	1	2	3	**4**	1	2	**3**	4	1	**2**	3	4	1	2	3	**4**

PERFORM A VARIETY OF REPAIR PROCEDURES
E

Perform mechanical repairs E1				Perform frame repairs E2				Perform various measurements and calibrations E3				Perform remove and install procedures E4				Replace damaged components E5				Align parts for repair procedures E6			
1	2	3	4	**1**	2	3	4	**1**	2	3	4	1	2	**3**	4	1	2	**3**	4	1	**2**	3	4
Perform suspension repairs E7				Perform electronic repairs E8				Perform composite repairs E9				Perform welding procedures E10				Perform interior repairs E11				Perform SRS repairs E12			
1	2	3	4	**1**	2	3	4	1	2	**3**	4	1	2	**3**	4	**1**	2	3	4	**1**	2	3	4
Apply corrosion protection and undercoating E13				Perform wheel alignments E14				Perform glass repair E15				Perform rust repairs E16				Perform sheet metal repairs E17				Perform plastics repairs E18			
1	2	**3**	4	**1**	2	3	4	**1**	2	3	4	1	**2**	3	4	1	2	**3**	4	1	**2**	3	4
Perform electrical repairs E19				Perform bonding procedures E20				Perform final assembly E21				Apply decals, striping and graphics E22				Perform paintless dent removal E23				Apply tire and wheel replacement procedures E24			
1	2	3	4	1	**2**	3	4	1	2	**3**	4	1	**2**	3	4	**1**	2	3	4	1	2	**3**	4

REFINISH VEHICLE
F

Wash vehicle for refinishing F1				Identify substrate F2				Perform sanding procedures F3				Utilize masking procedures F4				Apply primer F5				Use final sanding techniques F6			
1	2	3	**4**	1	2	3	**4**	1	2	**3**	4	1	2	**3**	4	1	2	**3**	4	1	2	**3**	4
Identify paint codes and variants F7				Mix paint F8				Prepare inside (inner) replacement part F9				Prepare area for paint blends F10				Prepare spray equipment F11				Prepare vehicle for paint application F12			
1	**2**	3	4	1	2	**3**	4	1	2	3	**4**	1	**2**	3	4	1	2	**3**	4	1	2	**3**	4
Follow manufacturers' application procedures F13				Apply top coat F14				Utilize appropriate drying procedures F15				Apply polishing procedures F16											
1	2	**3**	4	1	**2**	3	4	1	2	**3**	4	1	**2**	3	4								

APPLY COMMUNICATION SKILLS
G

Use e-mail G1				Prepare various documents G2				Use fax and telephone G3				Use digital cameras G4				Read (manuals. etc.) G5				Participate in meetings G6			
1	2	**3**	4	**1**	2	3	4	1	2	**3**	4	1	2	**3**	4	1	2	**3**	4	1	2	**3**	4
Advocate on behalf of client G7				Demonstrate verbal and non-verbal communication skills G8				Demonstrate active listening skills G9				Demonstrate empathy G10				Write instructions (documents and on parts/vehicle) G11				Use industry specific software G12			
1	2	3	4	1	2	**3**	4	1	2	**3**	4	1	2	**3**	4	1	**2**	3	4	1	**2**	3	4
Apply industry specific research skills G13				Interpret trade terminology G14																			
1	**2**	3	4	1	2	**3**	4																

EMPLOY SAFE WORK PRACTICES
H

Use protective equipment H1				Follow safe working procedures H2				Locate MSDS sheets H3				Apply government codes and regulations H4				Apply organizational regulations H5				Acquire fork lift certification H6			
1	2	3	**4**	1	2	3	**4**	1	2	3	**4**	1	2	**3**	4	1	2	**3**	4	1	**2**	3	4
Apply WHMIS H7				Maintain clean work environment H8				Follow vehicle safety procedures H9				Perform maintenance checks H10				Follow manufacturer's safety procedures re: tools and equipment H11				Acquire first aid training H12			
1	2	**3**	4	1	2	3	**4**	1	**2**	3	4	1	2	**3**	4	1	2	**3**	4	1	2	**3**	4
Dispose of hazardous waste as required H13				Complete accident reports H14				Assess surroundings for risk H15				Use safe storage procedures H16				Prepare an evacuation plan H17				Follow evacuation procedures H18			
1	2	3	**4**	1	**2**	3	4	1	2	**3**	4	1	2	3	**4**	**1**	2	3	4	1	2	3	**4**
Analyze products for compatibility H19																							
1	2	3	4																				

APPLY PROFESSIONAL SKILLS
I

Maintain currency within field I1				Maintain certification/ qualifications I2				Build professional relationships I3				Acquire advanced training I4				Demonstrate a professional attitude I5				Maintain membership in trade organizations I6			
1	**2**	3	4	1	**2**	3	4	1	**2**	3	4	**1**	2	3	4	1	2	**3**	4	1	**2**	3	4
Relate to others professionally at various levels I7				Demonstrate respect for others I8				Demonstrate pride in own work I9				Demonstrate integrity I10				Represent employer/ employee in a positive way I11				Maintain hygiene and appearance I12			
1	2	3	4	1	2	3	**4**	1	2	**3**	4	1	2	3	**4**	1	2	**3**	4	1	2	3	**4**
Apply basic math skills I13																							
1	2	**3**	4																				

USE A VARIETY OF TOOLS AND EQUIPMENT
J

Use a variety of hand tools J1				Use spray equipment J2				Use structural repair equipment J3				Use welding equipment J4				Use air tools J5				Use electric tools J6			
1	2	**3**	4	1	2	**3**	4	**1**	2	3	4	1	2	**3**	4	1	2	**3**	4	1	2	**3**	4
Use lifting equipment J7				Use diagnostic equipment J8				Use measuring equipment J9				Use recycling equipment J10				Use air conditioning recovery equipment J11				Use housekeeping equipment J12			
1	**2**	3	4	**1**	2	3	4	1	**2**	3	4	1	2	**3**	4	**1**	2	3	4	1	2	3	**4**
Use curing and drying equipment J13				Use headlight aiming equipment J14				Use specialty hydraulic equipment J15				Operate fork lift J16				Use office equipment J17				Use cleaning equipment (pressure washers, spray guns etc.) J18			
1	**2**	3	4	1	**2**	3	4	**1**	2	3	4	1	**2**	3	4	1	**2**	3	4	1	2	**3**	4
Use sand blasting equipment J19				Use cutting equipment J20				Maintain equipment as required J21				Use wheel alignment equipment J22											
1	2	**3**	4	1	2	**3**	4	1	2	**3**	4	**1**	2	3	4								

MANAGE TIME
K

Work within timelines K1				Delegate responsibilities K2				Communicate organizational expectations K3				Prepare work schedule K4				Follow work schedules K5				Prioritize work/work flow K6			
1	**2**	3	4	**1**	2	3	4	1	**2**	3	4	**1**	2	3	4	1	2	**3**	4	1	**2**	3	4
Demonstrate punctuality K7				Maintain job focus K8				Negotiate with co-workers for use of equipment or facility K9															
1	2	3	**4**	1	2	3	**4**	1	2	**3**	4												

CONDUCT QUALITY CONTROL
L

Perform final inspection L1				Perform road test L2				Adhere to quality standards of the organization L3				Manage inventory L4				Check trouble codes L5				Check fluids L6			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Conduct customer surveys L7				Advise customer on how to maintain repaired area L8				Maintain records L9			
1	2	3	4	1	2	3	4	1	2	3	4

Appendix C – Graduate Skills and Abilities Chart

RED RIVER COLLEGE
OF APPLIED ARTS, SCIENCE AND TECHNOLOGY

COLLISION AND REPAIR REFINISHING DACUM
Graduate Skills and Abilities Chart

Facilitated by: Sandra Sukhan & Robert Richard
Date: February 22, 2010

DACUM Skill Rating Scale:

1 Can perform some parts of this skill satisfactorily but requires assistance and/or supervision to perform the entire skill.
2 Can perform this skill satisfactorily but requires periodic assistance and/or supervision.
3 Can perform this skill competently without assistance or supervision.
4 Can perform this skill competently without assistance, with more than acceptable quality, and with initiative/adaptability to unique situations.

Indicates skill rating.
DACUM Committee Skill deleted.
Skill or Competency added by Faculty or DACUM wording changed.

Grey shaded Box = General Areas of Competency (GAC)
Unshaded Box = Specific skill within GAC
Capitalized text in CWLOs = General Area of Competency (GAC)
Normal text in CWLOs = Specific skills within GAC

Industry DACUM	Faculty Expectations	College-Wide Learning Outcomes (CWLOs)
ANALYZE A VEHICLE A	**ANALYZE A VEHICLE A**	
Identify type of vehicle (year, make, model) A1	Identify type of vehicle (year, make, model) A1	
1 2 3 **4**	1 2 3 **4**	
Clean vehicle for inspection A2	Clean vehicle for inspection A2	
1 2 3 **4**	1 2 3 **4**	
Consult with customer A3	Consult with customer A3	
1 2 3 4	**1** 2 3 4	
Inspect for damage A4	Inspect for damage A4	**D1** - assess situations and identify problems
1 2 3 4	**1** 2 3 4	
Create a workplan A5	Create a workplan A5	**G3** - be innovative and resourceful: identify and suggest alternative ways to achieve goals and get the job done
1 2 3 4	**1** 2 3 4	

Prepare estimate A6 1 2 3 4	Prepare estimate A6 1 2 3 4	
Determine viability of repair A7 1 2 3 4	Determine viability of repair A7 1 2 3 4	
Prepare vehicle for transport A8 1 2 3 4	Prepare vehicle for transport A8 1 2 3 4	
Transport vehicle A9 1 2 3 4	Transport vehicle A9 1 2 3 4	

ESTIMATE DAMAGE B	INTERPRET ESTIMATES B	
Estimate repair requirements B1 1 2 3 4	Verify repair requirements B1 1 2 3 4	**C3** - make estimates and verify calculations
Set timelines B2 1 2 3 4	Verify timelines B2 1 2 3 4	**F2** - plan and manage time, money and other resources to achieve goals
Compare replacement and repair costs B3 1 2 3 4	Verify new, used or after-market replacement parts B3 1 2 3 4	
Determine availability of replacement parts B4 1 2 3 4	Determine availability of replacement parts B4 1 2 3 4	
Disassemble damaged parts B5 1 2 3 4	Disassemble damaged parts B5 1 2 3 4	

Document with photographs B6 1 2 3 4	1 2 3 4	
Prepare a written estimate B7 1 2 3 4	1 2 3 4	
Acquire customer approval for repairs B8 1 2 3 4	1 2 3 4	
Perform temporary repairs B9 1 2 3 4	Perform temporary repairs B6 1 2 3 4	

PREPARE VEHICLE FOR REPAIRS **C**	**PREPARE VEHICLE FOR REPAIRS** **C**	
Order parts C1 1 2 3 4	Confirm parts order C1 1 2 3 4	
Select appropriate tools and equipment C2 1 2 3 4	Select appropriate tools and equipment C2 1 2 3 4	**K4** - select and use appropriate tools and technology for a task or project
Dismantle vehicle C3 1 2 3 4	Dismantle vehicle C3 1 2 3 4	
Revise estimate C4 1 2 3 4	Confirm estimate revisions C4 1 2 3 4	**C3** - make estimates and verify calculations
Organize sublet repairs C5 1 2 3 4	Confirm sublet repairs internally C5 1 2 3 4	**G3** - be innovative and resourceful: identify and suggest alternative ways to achieve goals and get the job done

Organize parts C6 1 **2** 3 4	Organize parts C6 1 **2** 3 4	**K4** - select and use appropriate tools and technology for a task or project
Fasten vehicle to frame C7 **1** 2 3 4	Fasten vehicle to frame equipment C7 **1** 2 3 4	
PERFORM VEHICLE DETAILING D	PERFORM VEHICLE DETAILING D	
Perform exterior cleaning D1 1 2 3 **4**	Perform exterior cleaning D1 1 2 **3** 4	
Perform interior cleaning D2 1 2 3 **4**	Perform interior cleaning D2 1 **2** 3 4	
Perform vacuuming procedures D3 1 2 3 **4**	Perform vacuuming procedures D3 1 2 **3** 4	
Perform spot removal D4 1 2 **3** 4	Perform stain removal D4 1 **2** 3 4	
Reset vehicle option controls D5 1 **2** 3 4	Reset vehicle option controls D5 1 **2** 3 4	
Perform glass cleaning procedures D6 1 2 3 **4**	Perform glass cleaning procedures D6 1 2 3 **4**	

1	2	3	4	1	2	3	4	
Replace damaged components E5				Replace damaged components E5				
1	2	3	4	1	2	3	4	
Align parts for repair procedures E6				Align parts for repair procedures E6				
1	2	3	4	1	2	3	4	
Perform suspension repairs E7				Perform suspension repairs E7				
1	2	3	4	1	2	3	4	
Perform electronic repairs E8				Perform electronic repairs E8				
1	2	3	4	1	2	3	4	
Perform composite repairs E9				Perform composite repairs E9				
1	2	3	4	1	2	3	4	
Perform welding procedures E10				Perform welding procedures E10				
1	2	3	4	1	2	3	4	
Perform interior repairs E11				Perform interior repairs E11				
1	2	3	4	1	2	3	4	
Perform SRS repairs E12				Perform SRS repairs E12				
1	2	3	4	1	2	3	4	
Apply corrosion protection and undercoating E13				Apply corrosion protection and undercoating E13				
1	2	3	4	1	2	3	4	

Perform welding procedures E10 1 2 **3** 4	Perform welding procedures E10 1 **2** 3 4	
Perform interior repairs E11 **1** 2 3 4	Perform interior repairs E11 **1** 2 3 4	
Perform SRS repairs E12 **1** 2 3 4	Perform SRS repairs E12 **1** 2 3 4	
Apply corrosion protection and undercoating E13 1 2 **3** 4	Apply corrosion protection and undercoating E13 1 **2** 3 4	
Perform wheel alignments E14 **1** 2 3 4	Perform wheel alignments E14 **1** 2 3 4	
Perform glass repair E15 **1** 2 3 4	Perform glass repair E15 **1** 2 3 4	
Perform rust repairs E16 1 **2** 3 4	Perform rust repairs E16 1 **2** 3 4	
Perform sheet metal repairs E17 1 2 **3** 4	Perform sheet metal repairs E17 1 **2** 3 4	**G2** - carry out multiple tasks or projects
Perform plastics repairs E18 1 **2** 3 4	Perform plastics repairs E18 1 **2** 3 4	**D6** - readily use science, technology and mathematics as ways to think, gain and share knowledge, solve problems and make decisions
Perform electrical repairs E19 **1** 2 3 4	Perform electrical repairs E19 **1** 2 3 4	

Perform bonding procedures E20 1 **2** 3 4	Perform bonding procedures E20 **1** 2 3 4	**D6** - readily use science, technology and mathematics as ways to think, gain and share knowledge, solve problems and make decisions
Perform final assembly E21 1 2 **3** 4	Perform final assembly E21 1 **2** 3 4	
Apply decals, striping and graphics E22 1 **2** 3 4	Apply decals, striping and graphics E22 1 **2** 3 4	**G2** - carry out multiple tasks or projects
Perform paintless dent removal E23 **1** 2 3 4	 1 2 3 4	
Apply tire and wheel replacement procedures E24 1 2 **3** 4	Apply tire and wheel replacement procedures E23 1 **2** 3 4	
REFINISH VEHICLE F	REFINISH VEHICLE F	
Wash vehicle for refinishing F1 1 2 3 **4**	Wash vehicle for refinishing F1 1 2 3 **4**	
Identify substrates F2 1 2 3 **4**	Identify substrates F2 1 **2** 3 4	
Perform sanding procedures F3 1 2 **3** 4	Perform sanding procedures F3 1 **2** 3 4	
Utilize masking procedures F4 1 2 **3** 4	Utilize masking procedures F4 1 **2** 3 4	

Apply primers F5 1 2 **3** 4	Apply primers F5 1 **2** 3 4	
Use final sanding techniques F6 1 2 **3** 4	Use final sanding techniques F6 1 **2** 3 4	
Identify paint codes and variants F7 1 **2** 3 4	Identify paint codes and variants F7 1 **2** 3 4	
Mix paint F8 1 2 **3** 4	Mix paint products F8 1 **2** 3 4	
Prepare inside (inner) replacement part F9 1 2 3 **4**	Prepare inners F9 1 **2** 3 4	
Prepare area for paint blends F10 1 **2** 3 4	Prepare area for blending F10 1 **2** 3 4	**D5** - be creative and innovative in exploring possible solutions
Prepare spray equipment F11 1 2 **3** 4	Prepare and maintain spray equipment F11 1 **2** 3 4	**J7** - lead or support when appropriate, motivating a group for high performance
Prepare vehicle for paint application F12 1 2 **3** 4	Prepare vehicle for paint application F12 1 **2** 3 4	
Follow manufacturers' application procedures F13 1 2 **3** 4	Follow manufacturers' application procedures F13 1 2 **3** 4	
Apply top coat F14 1 **2** 3 4	Apply top coat F14 1 2 3 4	

Utilize appropriate drying procedures F15 1 2 **3** 4	Utilize appropriate drying and curing procedures F15 1 **2** 3 4	
Apply polishing procedures F16 1 **2** 3 4	Apply polishing procedures F16 1 **2** 3 4	
APPLY COMMUNICATION SKILLS G	APPLY COMMUNICATION SKILLS G	
Use e-mail G1 1 2 **3** 4	Use e-mail G1 1 2 **3** 4	**A1** - read and understand information presented in a variety of forms (e.g. words, graphs, charts, diagrams) **A4** - share information using a range of information and communications technologies (e.g. voice, e-mail, computers)
Prepare various documents G2 **1** 2 3 4	Prepare various documents G2 **1** 2 3 4	**B1** - locate, gather and organize information using appropriate technology and information systems
Use fax and telephone G3 1 2 **3** 4	Use fax and telephone G3 1 2 **3** 4	**A4** - share information using a range of information and communications technologies (e.g. voice, e-mail, computers)
Use digital cameras G4 1 2 **3** 4	Use digital cameras G4 **1** 2 3 4	**K4** - select and use appropriate tools and technology for a task or project
Read (manuals. etc.) G5 1 2 **3** 4	Read (manuals. etc.) G5 1 2 **3** 4	**A1** - read and understand information presented in a variety of forms (e.g. words, graphs, charts, diagrams) **C2** - observe and record data using appropriate methods, tools and technology **D6** - readily use science, technology and mathematics as ways to think, gain and share knowledge, solve problems and make decisions
Participate in meetings G6 1 2 **3** 4	Participate in meetings G6 **1** 2 3 4	**A3** - listen and ask questions to understand and appreciate the points of view of others **D4** - identify the root cause of a problem **E2** - deal with people, problems and situations with honesty, integrity and personal ethics **H4** - identify and access learning sources and opportunities **J1** - understand and work within the dynamics of a group **J6** - contribute to a team by sharing information and expertise

Advocate on behalf of client G7		
1 2 3 4	1 2 3 4	
Demonstrate verbal and non-verbal communication skills G8	Demonstrate verbal and non-verbal communication skills G7	**A2** - write and speak so others pay attention and understand **A4** - share information using a range of information and communications technologies (e.g. voice, e-mail, computers) **D4** - identify the root cause of a problem **J6** - contribute to a team by sharing information and expertise **J7** - lead or support when appropriate, motivating a group for high performance **J8** - understand the role of conflict in a group to reach solutions
1 2 3 4	1 2 3 4	
Demonstrate active listening skills G9	Demonstrate active listening skills G8	**A3** - listen and ask questions to understand and appreciate the points of view of others **J9** - manage and resolve conflict when appropriate
1 2 3 4	1 2 3 4	
Demonstrate empathy G10	Demonstrate empathy G9	**A3** - listen and ask questions to understand and appreciate the points of view of others **J5** - accept and provide feedback in a constructive and considerate manner **J9** - manage and resolve conflict when appropriate
1 2 3 4	1 2 3 4	
Write instructions (documents and on parts/vehicle) G11	Write instructions (documents and on parts/vehicle) G10	**A2** - write and speak so others pay attention and understand
1 2 3 4	1 2 3 4	
Use industry-specific software G12	Use industry-specific software G11	**B1** - locate, gather and organize information using appropriate technology and information systems
1 2 3 4	1 2 3 4	
Apply industry-specific research skills G13	Apply industry-specific research skills G12	**A5** - use relevant scientific, technological and mathematical knowledge and skills to explain or clarify ideas **B1** - locate, gather and organize information using appropriate technology and information systems
1 2 3 4	1 2 3 4	
Interpret trade terminology G14	Interpret trade terminology G13	**C2** - observe and record data using appropriate methods, tools and technology
1 2 3 4	1 2 3 4	

EMPLOY SAFE WORK PRACTICES H	EMPLOY SAFE WORK PRACTICES H	
Use protective equipment H1	Use protective equipment H1	**E4** - take care of your personal health **I1** - be aware of personal and group health and safety practices and procedures, and act in accordance with these
1 2 3 **4**	1 2 **3** 4	
Follow safe working procedures H2	Follow safe working procedures H2	**E4** - take care of your personal health **I1** - be aware of personal and group health and safety practices and procedures, and act in accordance with these
1 2 3 **4**	1 **2** 3 4	
Locate MSDS sheets H3	Locate MSDS sheets H3	**F3** - assess, weigh and manage risk
1 2 3 **4**	1 2 **3** 4	
Apply government codes and regulations H4	Apply government codes and regulations H4	**F3** - assess, weigh and manage risk **K3** - work to agreed quality standards and specifications
1 2 **3** 4	1 2 **3** 4	
Apply organizational regulations H5	Apply organizational regulations H5	**F4** - be accountable for your actions and the actions of your group **G4** - be open and respond constructively to change **K3** - work to agreed quality standards and specifications
1 2 **3** 4	1 2 **3** 4	
Acquire fork lift certification H6		
1 **2** 3 4	1 2 3 4	
Apply WHMIS H7	Obtain WHMIS certification H6	
1 2 **3** 4	1 2 **3** 4	
Maintain clean work environment H8	Maintain clean work environment H7	
1 2 3 **4**	1 2 **3** 4	
Follow vehicle safety procedures H9	Follow vehicle safety procedures H8	**I1** - be aware of personal and group health and safety practices and procedures, and act in accordance with these
1 **2** 3 4	1 **2** 3 4	

Perform maintenance checks H10 1 2 **3** 4	Perform equipment maintenance checks H9 1 **2** 3 4	
Follow manufacturer's safety procedures re: tools and equipment H11 1 2 **3** 4	Follow manufacturer's safety procedures re: tools and equipment H10 1 2 **3** 4	
Acquire first aid training H12 1 2 **3** 4	Acquire first aid training H11 1 2 **3** 4	
Dispose of hazardous waste as required H13 1 2 3 **4**	Dispose of hazardous waste as required H12 1 **2** 3 4	**F5** - be socially responsible and contribute to your community
Complete accident reports H14 1 **2** 3 4	Complete accident reports H13 1 **2** 3 4	**A2** - write and speak so others pay attention and understand **B2** - access, analyze and apply knowledge and skills from various disciplines (e.g. the arts, languages, science, technology, mathematics, social sciences, and the humanities) **C2** - observe and record data using appropriate methods, tools and technology **G5** - learn from your mistakes and accept feedback **F4** - be accountable for your actions and the actions of your group
Assess surroundings for risk H15 1 2 **3** 4	Assess surroundings for risk H14 1 **2** 3 4	**D3 -** recognize the human, interpersonal, technical, scientific and mathematical dimensions of a problem **D4** - identify the root cause of a problem **D5** - be creative and innovative in exploring possible solutions **G4** - be open and respond constructively to change **J2** - ensure that a team's purpose and objectives are clear
Use safe storage procedures H16 1 2 3 **4**	Use safe storage procedures H15 1 2 **3** 4	
Prepare an evacuation plan H17 **1** 2 3 4		
Follow evacuation procedures H18 1 2 3 **4**	Follow evacuation procedures H16 1 2 **3** 4	

Analyze products for compatibility H19 1 2 3 4	Verify product compatibility H17 1 2 3 4	**A5** - use relevant scientific, technological and mathematical knowledge and skills to explain or clarify ideas **D1** - assess situations and identify problems **G5** - learn from your mistakes and accept feedback
APPLY PROFESSIONAL SKILLS I	APPLY PROFESSIONAL SKILLS I	
Maintain currency within field I1 1 2 3 4	Maintain currency within field I1 1 2 3 4	**D2** - seek different points of view and evaluate them based on facts **E5** - Show interest, initiative and effort **H2** - assess personal strengths and areas for development **H3** - set your own learning goals **H5** - plan for and achieve your learning goals
Maintain certification/ qualifications I2 1 2 3 4	Maintain certification/ qualifications I2 1 2 3 4	**E5** - Show interest, initiative and effort **H2** - assess personal strengths and areas for development **H5** - plan for and achieve your learning goals
Build professional relationships I3 1 2 3 4	Build professional relationships I3 1 2 3 4	**A1** - read and understand information presented in a variety of forms (e.g. words, graphs, charts, diagrams) **D5** - be creative and innovative in exploring possible solutions **E2** - deal with people, problems and situations with honesty, integrity and personal ethics **H4** - identify and access learning sources and opportunities **J1** - understand and work within the dynamics of a group **J9 -** manage and resolve conflict when appropriate
Acquire advanced training I4 1 2 3 4	Acquire advanced training I4 1 2 3 4	**D9** - check to see if a solution works, and act on opportunities for improvement **H1** - be willing to continuously learn and grow **H3** - set your own learning goals **H4** - identify and access learning sources and opportunities **H5** - plan for and achieve your learning goals
Demonstrate a professional attitude I5 1 2 3 4	Demonstrate a professional attitude I5 1 2 3 4	**E1** - feel good about yourself and be confident **E5** - Show interest, initiative and effort **G5** - learn from your mistakes and accept feedback **J4** - recognize and respect people's diversity, individual differences and perspectives **J5** - accept and provide feedback in a constructive and considerate manner **J8** - understand the role of conflict in a group to reach solutions
Maintain membership in trade organizations I6 1 2 3 4	Maintain membership in trade organizations I6 1 2 3 4	**E2** - deal with people, problems and situations with honesty, integrity and personal ethics **H2** - assess personal strengths and areas for development

Relate to others professionally at various levels I7 1 2 3 4	Relate to others professionally at various levels I7 1 2 3 4	**E3** - recognize your own and other people's good efforts **H1** - be willing to continuously learn and grow **J1** - understand and work within the dynamics of a group **J2** - ensure that a team's purpose and objectives are clear **J8** - understand the role of conflict in a group to reach solutions
Demonstrate respect for others I8 1 2 3 4	Demonstrate respect for others I8 1 2 3 4	**E3** - recognize your own and other people's good efforts **F5** - be socially responsible and contribute to your community **J3** - be flexible: respect, be open to and supportive of the thoughts, opinions and contributions of others in a group **J4** - recognize and respect people's diversity, individual differences and perspectives J5 - accept and provide feedback in a constructive and considerate manner
Demonstrate pride in own work I9 1 2 3 4	Demonstrate pride in workmanship I9 1 2 3 4	**E1** - feel good about yourself and be confident **H3** - set your own learning goals
Demonstrate integrity I10 1 2 3 4	Demonstrate integrity I10 1 2 3 4	**D3** - recognize the human, interpersonal, technical, scientific and mathematical dimensions of a problem **E1** - feel good about yourself and be confident **H1** - be willing to continuously learn and grow
Represent employer/ employee in a positive way I11 1 2 3 4	Represent employer/ employee in a positive way I11 1 2 3 4	**E3** - recognize your own and other people's good efforts **F5** - be socially responsible and contribute to your community **J2** - ensure that a team's purpose and objectives are clear
Maintain hygiene and appearance I12 1 2 3 4	Maintain hygiene and appearance I12 1 2 3 4	**E4** - take care of your personal health **J4** - recognize and respect people's diversity, individual differences and perspectives
Apply basic math skills I13 1 2 3 4	Apply basic math skills I13 1 2 3 4	**A5** - use relevant scientific, technological and mathematical knowledge and skills to explain or clarify ideas **B2** - access, analyze and apply knowledge and skills from various disciplines (e.g. the arts, languages, science,technology, mathematics, social sciences, and the humantiies) **C1** - decide what needs to be measured or calculated

USE A VARIETY OF TOOLS AND EQUIPMENT J	USE A VARIETY OF TOOLS AND EQUIPMENT J	
Use a variety of hand tools J1	Use a variety of hand tools J1	**K4** - select and use appropriate tools and technology for a task or project
1 2 **3** 4	1 **2** 3 4	
Use spray equipment J2	Use refinishing equipment J2	
1 2 **3** 4	1 **2** 3 4	
Use structural repair equipment J3	Use structural repair equipment J3	
1 2 3 4	**1** 2 3 4	
Use welding equipment J4	Use welding equipment J4	
1 2 **3** 4	1 **2** 3 4	
Use air tools J5	Use air tools J5	
1 2 **3** 4	1 **2** 3 4	
Use electric tools J6	Use electric tools J6	**C1** - decide what needs to be measured or calculated
1 2 **3** 4	1 **2** 3 4	
Use lifting equipment J7	Use lifting equipment J7	
1 **2** 3 4	1 **2** 3 4	
Use diagnostic equipment J8	Use diagnostic equipment J8	
1 2 3 4	**1** 2 3 4	
Use measuring equipment J9	Use measuring equipment J9	**C1** - decide what needs to be measured or calculated

Use recycling equipment J10	Use recycling equipment J10	**K1** - plan, design or carry out a project or task from start to finish with well-defined objectives and outcomes
1 2 **3** 4	1 **2** 3 4	
Use air conditioning recovery equipment J11		
1 2 3 4	1 2 3 4	
Use housekeeping equipment J12	Use housekeeping equipment J11	
1 2 3 **4**	1 2 **3** 4	
Use curing and drying equipment J13	Use curing and drying equipment J12	
1 **2** 3 4	1 **2** 3 4	
Use headlight aiming equipment J14	Use headlight aiming equipment J13	
1 **2** 3 4	1 **2** 3 4	
Use specialty hydraulic equipment J15	Use specialty hydraulic equipment J14	
1 2 3 4	**1** 2 3 4	
Operate fork lift J16		
1 **2** 3 4	1 2 3 4	
Use office equipment J17	Use office equipment J15	
1 **2** 3 4	1 **2** 3 4	
Use cleaning equipment (pressure washers, spray guns etc.) J18	Use cleaning equipment (pressure washers, spray guns etc.) J16	
1 2 **3** 4	1 **2** 3 4	
Use sand blasting equipment J19	Use sand blasting equipment J17	
1 2 **3** 4	1 **2** 3 4	

Use cutting equipment J20 1 2 **3** 4	Use cutting equipment J18 1 **2** 3 4	
Maintain equipment as required J21 1 2 **3** 4	Maintain equipment as required J19 1 2 **3** 4	
Use wheel alignment equipment J22 **1** 2 3 4	 1 2 3 4	

MANAGE TIME K	MANAGE TIME K	
Work within timelines K1 1 **2** 3 4	Work within timelines K1 1 **2** 3 4	**F2** - plan and manage time, money and other resources to achieve goals **K1** - plan, design or carry out a project or task from start to finish with well-defined objectives and outcomes
Delegate responsibilities K2 **1** 2 3 4	 1 2 3 4	
Communicate organizational expectations K3 1 **2** 3 4	Communicate organizational expectations K2 **1** 2 3 4	**D7** - evaluate solutions to make recommendations or decisions **D9** - check to see if a solution works, and act on opportunities for improvement **G4** - be open and respond constructively to change **G6** - cope with uncertainty **K5** - adapt to changing requirements and information **K6** - continuously monitor the success of a project or task and identify ways to improve
Prepare work schedule K4 **1** 2 3 4	Prepare work schedule K3 **1** 2 3 4	**D9** - check to see if a solution works, and act on opportunities for improvement **G4** - be open and respond constructively to change **G6** - cope with uncertainty **K1** - plan, design or carry out a project or task from start to finish with well-defined ob jectives and outcomes **K2** - develop a plan, seek feedback, test, revise and implement

Follow work schedules K5 1 2 **3** 4	Follow work schedules K4 1 **2** 3 4	**F1** - set goals and priorities balancing work and personal life **G1** - work independently or as a part of a team **J6** - contribute to a team by sharing information and expertise
Prioritize work/work flow K6 1 **2** 3 4	Prioritize work/work flow K5 1 **2** 3 4	**D1** - assess situations and identify problems **D7** - evaluate solutions to make recommendations or decisions **F1** - set goals and priorities balancing work and personal life **G2** - carry out multiple tasks or projects **G6** - cope with uncertainty **K2 -** develop a plan, seek feedback, test, revise and implement
Demonstrate punctuality K7 1 2 3 **4**	Demonstrate punctuality K6 1 2 **3** 4	**D8** - implement solutions **F1** - set goals and priorities balancing work and personal life
Maintain job focus K8 1 2 3 **4**	Maintain job focus K7 1 2 **3** 4	**F3** - assess, weigh and manage risk **G3** - be innovative and resourceful: identify and suggest alternative ways to achieve goals and get the job done **G6** - cope with uncertainty **K6** - continuously monitor the success of a project or task and identify ways to improve
Negotiate with co-workers for use of equipment or facility K9 1 2 **3** 4	Negotiate with co-workers for use of equipment or facility K8 1 2 **3** 4	**D2** - seek different points of view and evaluate them based on facts **D3** - recognize the human, interpersonal, technical, scientific and mathematical dimensions of a problem **D8** - implement solutions **F4** - be accountable for your actions and the actions of your group **G1** - work independently or as a part of a team **J7** - lead or support when appropriate, motivating a group for high performance
CONDUCT QUALITY CONTROL L	CONDUCT QUALITY CONTROL L	
Perform final inspection L1 **1** 2 3 4	Perform final inspection L1 1 **2** 3 4	
Perform road test L2 **1** 2 3 4	Perform road test L2 **1** 2 3 4	**D7** - evaluate solutions to make recommendations or decisions **D9** - check to see if a solution works, and act on opportunities for improvement

Adhere to quality standards of the organization L3 1 2 **3** 4	Adhere to quality standards of the organization L3 1 2 **3** 4	**D2** - seek different points of view and evaluate them based on facts **K2** - develop a plan; seek feedback, test, revise and implement **K3** - work to agreed quality standards and specifications **K5** - adapt to changing requirements and information **K6** - continuously monitor the success of a project or task and identify ways to improve
Manage inventory L4 1 **2** 3 4	Manage inventory L4 **1** 2 3 4	**G1** - work independently or as a part of a team
Check trouble codes L5 **1** 2 3 4	Check trouble codes L5 **1** 2 3 4	
Check fluids L6 1 2 **3** 4	Check fluids L6 1 **2** 3 4	
Conduct customer surveys L7 **1** 2 3 4		
Advise customer on how to maintain repaired area L8 1 **2** 3 4	Advise customer on how to maintain repaired area L7 **1** 2 3 4	**D8** - implement solutions **K5** - adapt to changing requirements and information
Maintain records L9 1 **2** 3 4	Maintain records L8 1 **2** 3 4	

Appendix D – Graduate Profile

The Collision Repair and Refinishing Graduate:

A Inspects vehicle damages and gathers vehicle information to determine repair procedures.

B Uses industry tools and technologies to dismantle and evaluate vehicle to make repair decisions.

C Details vehicle by performing interior and exterior cleaning and defect removal.

D Performs various collision repairs (e.g. part replacement, sheet metal damage, mechanical, electrical, safety restraints) and corrosion protection.

E Prepares and applies undercoats and topcoats by operating and maintaining spray equipment.

F Communicates to the level of the audience using appropriate tools (e.g. verbal, non-verbal, visual, written, and active listening).

G Employs safe work practices and procedures by complying with all codes and regulations and by maintaining safety/health certification.

H Demonstrates professionalism through a positive attitude, ethical behaviour, integrity, confidence, respect for workplace culture, valuing diversity, and continuous learning.

I Uses, maintains, and troubleshoots hand and power tools and industry-specific equipment

J Manages timelines by balancing workflow, and demonstrating reliability, accountability and punctuality.

Appendix E – Program Renewal Plan

Program Renewal Plan

The program renewal plan is the result of translating the Curriculum Validation – Program Renewal deliverables into a coherent plan for the renewal of the program. The Program Renewal Plan will serve as the basis for the improvement of the Collision Repair and Refinishing program. The Chair and faculty are committed to renewing the program over the next 5-year period.

The following tasks (and timelines) were identified for completion by the end of June 2015.

- Update the curriculum and evaluation practices to ensure that the graduates' skills and abilities meet industry's requirements for a new technician.
  - Establish a Curriculum Committee to guide the ongoing curriculum renewal process.
    - Review all course outlines to ensure that there are standard learning outcomes and assessment practices for each course code. **(06/10 – 09/11)**
    - Review how/where the College-Wide Learning Outcomes are integrated into the curriculum to ensure that graduates leave the program with a clear understanding of the impact that their personal management skills have on their success in the workforce. **(01/11 – 09/11)**
  - Create more opportunities for students to master the practical skills by increasing the number of project-based work assignments. **(06/10 – 06/15)**
  - Work with the related Math, Science and Communications course instructors to increase the relevance of the content found in these courses to the core curriculum. **(09/13 – 06/15)**
  - In consultation with the Coordinator of related Math and Science courses, explore adopting the model used in the Heavy Duty Mechanic program. **(09/10 – 06/15)**
  - ***Use DesireToLearn*** to develop and deliver course content online. **(09/13 – 06/15**
  - Use ***Mind Manager*** and ***Power Point*** to present the curriculum electronically. **(09/12 – 06/15)**

- Develop and/or improve student recruitment and retention process to ensure student success.
  - Raise the profile of the program and implement strategies to recruit prospective students.
    - Work with high schools to promote the program to their students. **(06/10 – 06/15)**
  - Implement strategies to increase the academic readiness of incoming students.
    - Work with Student Services to implement practices to assist incoming students with ensuring their academic readiness.

These practices will be similar to what is currently followed for the Heavy Duty Equipment Mechanic and will include: **(09/10 – 06/15)**

- administering the Canadian Adult Achievement Test (CAAT) to incoming students,
- providing academic counselling to at-risk students,
- referring at-risk students to academic skills "upgrading" opportunities, and
- referring at-risk students to peer tutoring.

– Develop student retention and completion strategies.
  - Continue to offer program information sessions to prospective students. **(06/10 – 06/15)**
  - Continue to offer program orientation sessions to incoming students. **(06/10 – 06/15)**
  - Create an informational video that will be made available on the program's website to assist potential students with determining their suitability to enter the trade (e.g. working conditions, health considerations, employments opportunities and apprenticeship training). **(06/10 – 05/11)**

- Align student in-industry training experiences to industry standards and program outcomes.
  – Develop and/or revise evaluation checklists/task sheets for use by the in-industry training supervisor to assess the on-the-job performance of students. **(01/11 – 06/15)**
  – Consult with industry partners to determine the applicability of NAIT's in-industry training model to meeting the in-industry training requirements of the program. **(09/10 – 06/11)**

- Increase opportunities for faculty to grow professionally.
  – Introduce ***5S*** workplace organization methodology into the practical skill training of the program. **(09/10 – 06/15)**
  – Continue to arrange seminars for faculty on new products/equipment/industry practices. **(06/10 – 06/15)**
  – Work with Teacher Education to provide faculty with workshops/training related to developing assessment instruments/practices appropriate for evaluating practical skills (e.g. rubric development). **(09/10 – 06/15)**

- Request budget to ensure that the facilities and equipment that are available to the program are sufficient to achieve its vision. **(06/10 – 06/15)**

- Request budget for the program so that it is sufficient to achieve its vision. **(06/10 – 06/15)**

Appendix F – Program Renewal Plan Timelines (Gantt chart)