



PROGRAM REVIEW REPORT

on the

**AUTOMOTIVE SERVICE TECHNICIAN
PROGRAM**

JULY 1998

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SUMMARY

The Automotive Service Technician Review Committee is pleased to provide a report of our findings on this program. When reading this report, it is important to note that most of the responses received were from Kamloops students and this report should be reviewed bearing that in mind.

Generally, students have been very impressed with the Automotive Service Technician Program's quality of instruction, its focus on hands on work, its focus on safety awareness and its emphasis on teamwork.

This is the second review of the Automotive Service Technician Program, the first review having been conducted in 1993. Several of the recommendations from the previous report have not been carried out, and it is the committee's hope that this review serves as the catalyst to do so.

In order to improve on the program's success and productivity, the Committee recommends several changes. Structural changes include shifting to two six-month block intakes, formalizing instruction and adding a short work experience component to the program. Another area requiring improvement is that of liaising with various groups, including Program Advisory Committees, industry, peer institutions and within the department.

The committee has also suggested several changes and/or improvements to the program's entrance requirements, facilities, and curriculum. These include the addition of a basic personal tool set requirement, a reassessment of the use of facilities and an updating and expansion of curriculum. The committee also recommended the development of a student orientation session to establish program direction for new students. Furthermore, it was noted that potential liability issues need to be addressed in order to protect both UCC and its clients.

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**AUTOMOTIVE SERVICE TECHNICIAN
PROGRAM REVIEW**

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AUTOMOTIVE TECHNICIAN
EVALUATION COMMITTEE MEMBERS

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Service Manager, Kamloops Lincoln Mercury

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Chairperson, Mechanical Trades

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Dean, Trades and Technology

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Director, Institutional Research & Planning

Heather Shand
Research Analyst

1998 AUTOMOTIVE SERVICE TECHNICIAN PROGRAM REVIEW CHRONOLOGY

The review of the Automotive Service Technician Program was begun on December 15, 1997. A planning meeting between Grant White, (Instructor, Automotive Service Technician Program), Alastair Watt (Associate Director, Institutional Research and Planning) and Heather Shand (Research Analyst, Institutional Research and Planning) was held at that time to discuss program review procedures and questionnaire design, with further meetings held on January 7, 22, 28 and Feb 12 to refine and finalize the questionnaire design.

Current Automotive students in Kamloops were surveyed in class on February 17, and students in Williams Lake were surveyed in class the following week. Using student lists generated from Colleague (UCC's student information system), the Office of Institutional Research and Planning sent questionnaires to former students, faculty, advisory committee and employers on February 19.

A second mailing was initiated on March 16, 1998 and sent to former students, members of the advisory committee and employers who had not returned their questionnaires to date. Telephone communication took place between March 27 and 30, contacting non-responding former students, employers and members of the advisory committee.

The cut-off date for all responses was May 8, and the Automotive Service Technician Evaluation Committee met on June 8 & 9 to analyze the data and formulate its report on the program.

PROGRAM BACKGROUND, CONTENT AND LENGTH

Program Description:

This course is intended to prepare people for employment as apprentices in the Automotive Mechanical Repair trade. Employment is normally indoors and may be anywhere from a small repair shop or service station doing general mechanical repairs to the complex service department of a large automotive dealership.

History of the Program:

The Automotive Service Technician program (formerly known as the Automotive Mechanical Repair Trade Entry Program) was one of the original "vocational" programs to be offered at Cariboo when B and C blocks opened in 1972. At that time it was a six month pre-apprenticeship program controlled by the Apprenticeship Branch/Ministry of Labour.

During the period 1977-81, a related program, General Mechanics, was offered in addition to the Automotive Pre-apprenticeship Program. The General Mechanics Program prepared students for entry into a variety of mechanical repair trades, including automotive, heavy duty and small engines. Its delivery spanned nine months.

Trade Access (TRAC) programs replaced the Ministry of Labour controlled Pre-apprenticeship Programs in 1982. The Automotive Programs have retained the self-paced, competency-based, open-entry/exit features of the TRAC program since then.

Because of industry dissatisfaction with the graduates of a variety of TRAC programs, the TRAC name was discontinued in 1991.

The duration of the program, because of its self-paced, competency-based, open-entry/exit format, varies with each student, depending on the individual student's ability, previous experience and motivation. Highly talented, experienced and motivated students can complete the program in five months, while others may require up to nine months. On exit, students have achieved competency in the skills they require to operate in the industry at the second year apprentice level.

Program Content:

General shop practice, automotive fundamentals, engines - air and liquid-cooled, basic test equipment, electrical systems, running gear, clutches, transmissions, anti-spin and conventional rear axles, steering systems and braking systems, applied mathematics and safety education will be covered.

Program Length:

This is a competency based training program. The length of the program depends, in large measure, upon the entry level skills of the student. Usually, seven or eight months are required to complete the program. Work experience components may be awarded to students who have demonstrated the ability to perform successfully in the industry. Evaluation of the work term will be performed by industry and the program instructor. The results of the work term will become part of the student record.

ADMISSIONS DATA AND PERFORMANCE STATISTICS

Admissions Requirements:

Educational Requirements

- 1) BC Grade 10, but Grade 12 strongly recommended, or mature student status;
- 2) Successful completion of CAT 19 test.

NOTE: Students considering enrolling in the Automotive, Heavy Duty and Commercial Transport Vehicle Mechanics programs should be aware that it has been recommended that entry requirements for apprenticeships in these programs be raised from Grade 10 to Grade 12. The minimum entry pre-requisite for the province is currently successful completion of B.C. Grade 10 or equivalent. However, the Provincial Apprenticeship & Training Board recommends that the minimum education requirements for entry into apprenticeships in these trades be successful completion of Grade 12 or equivalent including English 12, or ENGL 060, Math 11, or MATH 051, or Trades Math 11 and Physics 11, or PHYS 050, or Science and Technology 11.

General Requirements

- 1) Good health;
- 2) Mechanical aptitude;
- 3) Must have safety boots and glasses;
- 4) Interview with Program Instructor.

Program Capacity:

The Automotive Service Technician program is funded for 35.0 FTE's (Full-time equivalents) per annum, with 25.0 FTE allocated to Kamloops and 10.0 FTE allotted to Williams Lake.

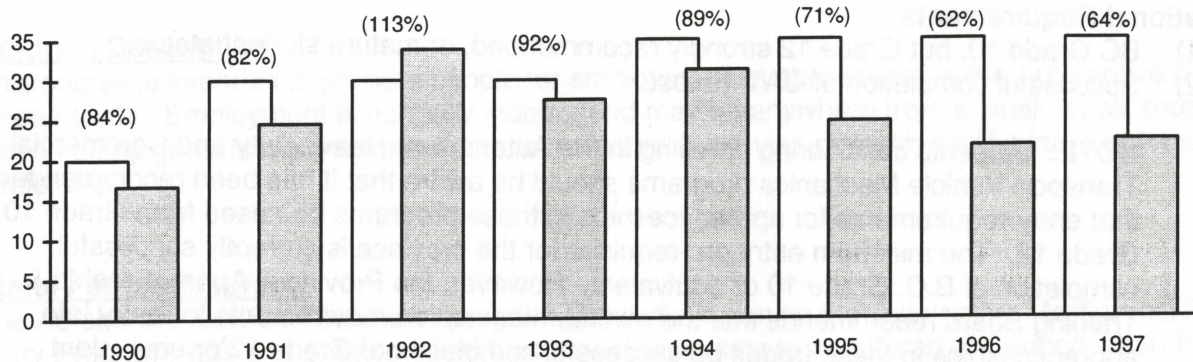
Utilization Rates: 1990-1997

	1990	1991	1992	1993	1994	1995	1996	1997*
Funded FTE:	20.0	30.0	30.0	30.0	35.0	35.0	35.0	35.0
Actual FTE:	16.7	24.6	33.9	27.5	31.2	24.7	21.6	22.3
Utilization Rate:	83.5%	82.0%	113.0%	91.7%	89.1%	70.6%	61.7%	63.7%

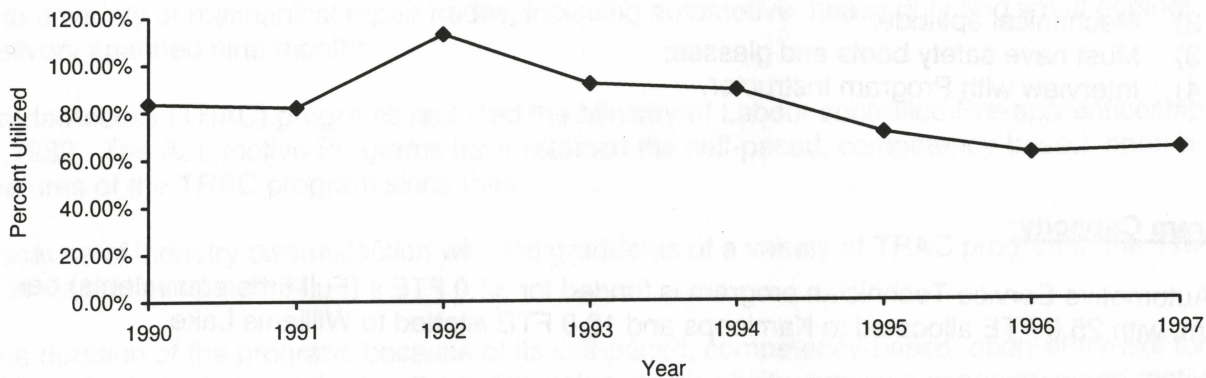
*1997 FTE figures are unaudited at printing date

"Program utilization rate" is the number of actual registrations divided by the number of funded seats. The Ministry of Education, Skills and Training sets great store in utilization rates as measures of efficiency.

Automotive Service Technician FTE's: Funded vs. Actual



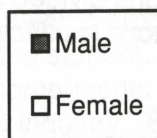
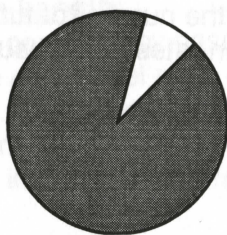
Automotive Service Technician FTE Utilization



Gender Ratio:

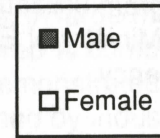
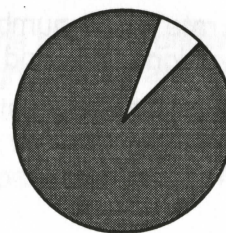
1994-1996 Program Intakes:

Female	7	8%
Male	78	92%
Total:	85	100%



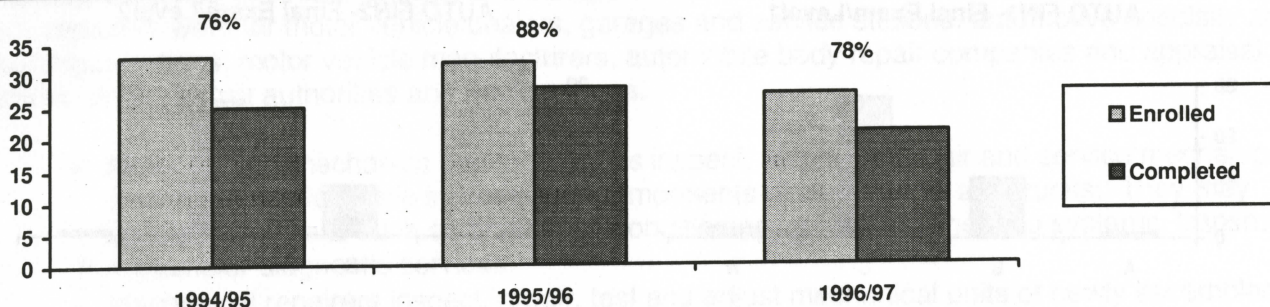
1994-1997 Program Graduates:

Female	5	7%
Male	67	93%
Total:	72	100%



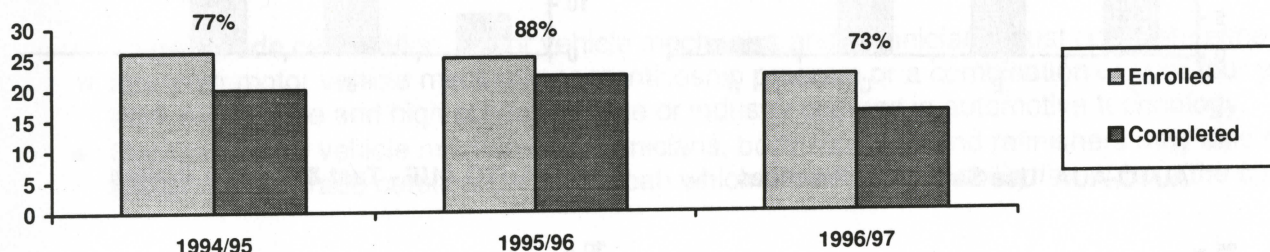
COMPLETION RATES:

Year	1994/95	1995/96	1996/97
Enrolled	33	32	27
Completed	25	28	21
Completion Rate	76%	88%	78%



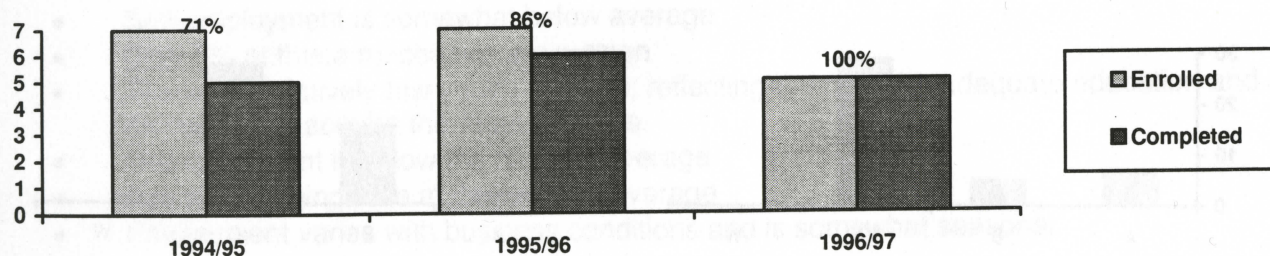
Kamloops:

Year	1994/95	1995/96	1996/97
Enrolled	26	25	22
Completed	20	22	16
Completion Rate	77%	88%	73%



Williams Lake:

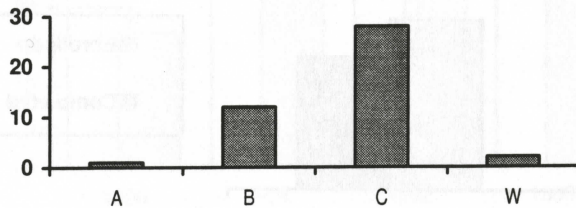
Year	1994/95	1995/96	1996/97
Enrolled	7	7	5
Completed	5	6	5
Completion Rate	71%	86%	100%



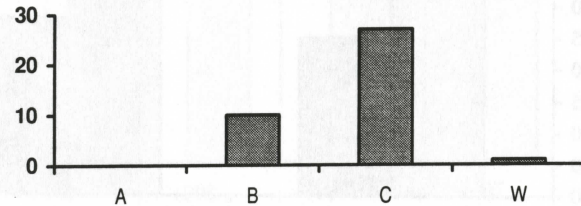
*Please note: due to the continuous entry nature of the program, there may be overlap between academic years/intakes.

**GRADE DISTRIBUTION: SELECTED COURSES,
AUTOMOTIVE SERVICE TECHNICIAN PROGRAM
95/FA through 97/FA**

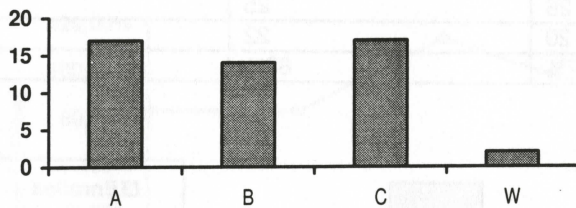
AUTO FIN1- Final Exam/Level1



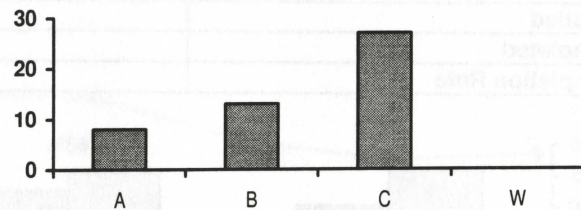
AUTO FIN2- Final Exam/Level2



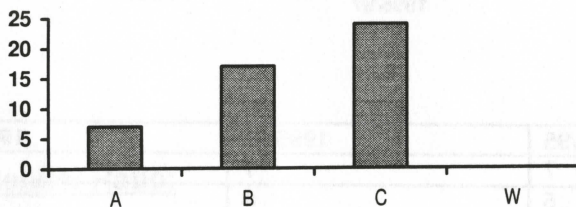
AUTO CCB - Solving Math Problems



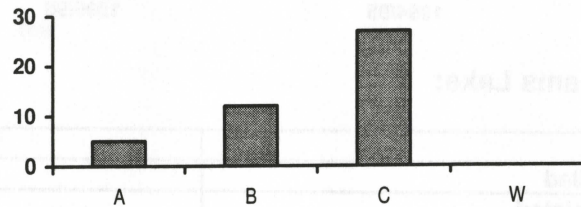
AUTO CCC - Apply Science Concepts



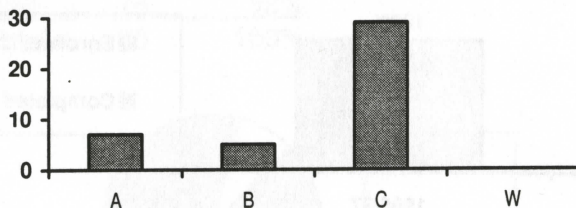
AUTO-AUA Use Safe Work Practices



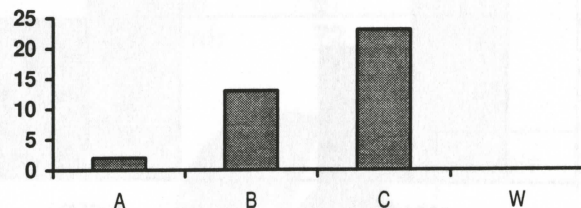
AUTO AUF - Test & Service Brakes



AUTO AUL - Test/Serv Engine Lubr.



AUTO AUQ - Test/Service Emission



EMPLOYMENT PROSPECTS

(Source: Job Futures - Volume 1 - Occupational Outlooks)

At Work

Automotive service technicians, truck and transport mechanics, mechanical repairers and motor vehicle body repairers work for motor vehicle dealers, garages and service stations, automotive specialty and retail organizations, motor vehicle manufacturers, automobile body repair companies and appraisal centres, public transit authorities and trucking firms.

- Motor vehicle mechanics and technicians inspect, diagnose, repair and service mechanical, electrical and electronic systems and components of cars, buses and trucks. They may specialize in areas such as brakes, air conditioning, cooling and heating systems, transmission systems or diagnostic services.
- Mechanical repairers inspect, repair, test and adjust mechanical units of newly assembled motor vehicles. Metal repairers repair vehicle body damage in assembly plants.
- Motor vehicle body repairers and refinishers repair and restore damaged motor vehicle parts and the interior finish of vehicles.

Education, Training and Experience

People in this occupational group usually have a high school diploma.

- To gain trade certification, motor vehicle mechanics and technicians must complete either a four-year motor vehicle mechanic apprenticeship program or a combination of over four years' work experience and high school, college or industry courses in automotive technology.
- Qualified motor vehicle mechanics, technicians, body repairers and refinishers may also obtain interprovincial trade certification (Red Seal) which provides job mobility throughout the country.

About this occupation

163,000 workers were employed in this occupation in 1994. Employment declined by 3% over the 1984-94 period while economy-wide employment grew by 17%. Recent employment trends in these occupations are unfavorable.

- Automotive service technicians make up 79% of this occupational group
- 95% work full-time
- Self-employment is somewhat below average
- Only 5% of these mechanics are women
- There are relatively few young workers, reflecting the need for adequate education and hands-on training to acquire the requisite skills.
- Unemployment is below the national average
- Full-time earnings are at the national average
- Employment varies with business conditions and is somewhat seasonal.

Current labour market conditions in this occupation are fairly good despite weaknesses remaining from the 1991-2 recession.

Work Prospects

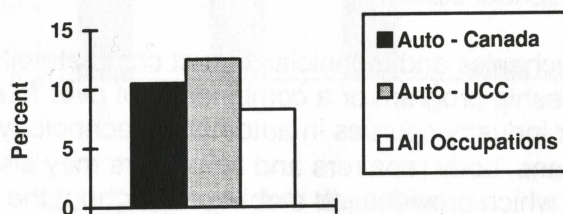
Labour market conditions are predicted to remain stable in this group over the 1995 to 2000 period.

Looking to the Year 2000

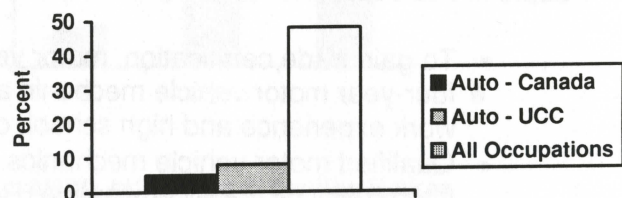
Labour market conditions in this occupation are expected to remain fairly good through the year 2000.

- Demand for higher skilled workers will grow as automotive systems become more complex (e.g., computerized electronics), favouring certified mechanics and those with higher technical knowledge, acquired mostly through apprenticeship.
- Retail trade should continue to be the major job generator for this group over the next five years, although overall growth is expected to be slow. The motor vehicle and parts industry is also expected to require more workers as are most other industries related to the transportation industry.

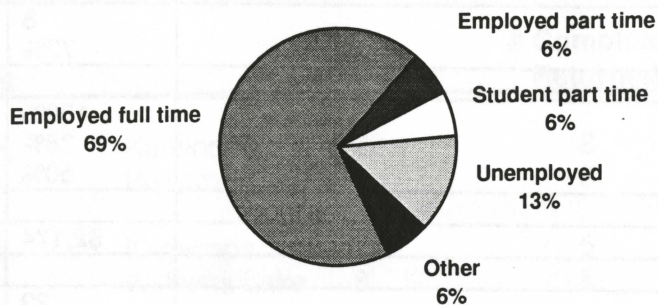
Unemployment Rates



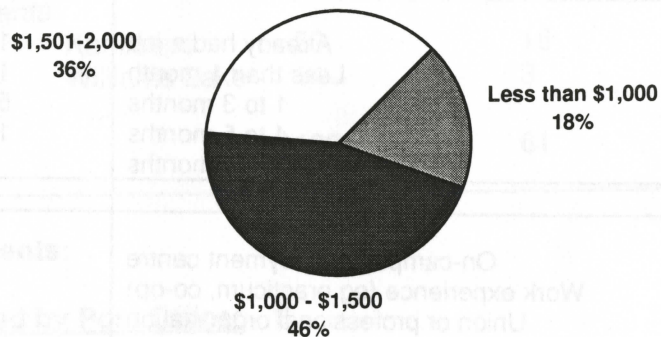
% of Women



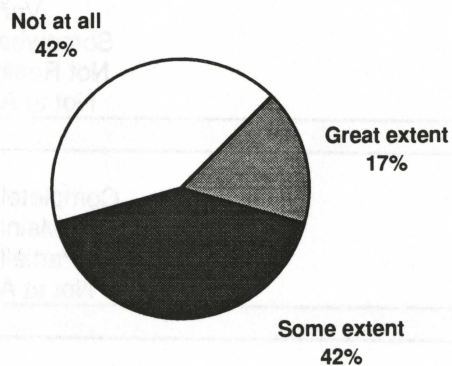
Employment Rates of Former Students:



Current Salaries:



Training in Relation to Employment:



STUDENT OUTCOMES DATA*

	1997	1996
Number of Respondents	8	17
Response Rate	73%	81%
Percent in labour force	100%	94%
Percent in permanent job	38%	56%
Percent in training-related job	50%	69%
Gross salary (full time)	\$2,174	\$1,667
Median age	23	21
Of those in labour force:		
Employed full-time training-related	50%	63%
Employed full-time non training-related	13%	13%
Employed part time	13%	0%
Unemployed	25%	19%
Length of job search:		
Already had a job	17%	18%
Less than 1 month	17%	64%
1 to 3 months	50%	9%
4 to 5 months	17%	0%
More than 5 months	0%	9%
How did you find your main job:		
On-campus employment centre	0%	0%
Work experience (eg practicum, co-op)	0%	10%
Union or professional organization	0%	0%
Advertisement/posting/employment centre off campus	0%	0%
Instructor	0%	0%
Friends or relatives	50%	40%
Found job on my own	50%	50%
Other	0%	0%
Of those in a <u>very</u> or <u>somewhat</u> related job, how job ready were you:		
Very	67%	56%
Somewhat	33%	44%
Not Really	0%	0%
Not at All	0%	0%
Satisfied with studies?		
Completely	38%	24%
Mainly	50%	65%
Partially	0%	6%
Not at All	13%	6%
Attained objective?		
Completely	57%	24%
Mainly	29%	65%
Partially	14%	6%
Not at All	0%	6%

* Student Outcomes data are collected annually by program as a joint effort between the Ministry and BC institutions.

TABULAR SUMMARY OF QUESTIONNAIRE RESPONSES **AUTOMOTIVE TECHNICIAN PROGRAM REVIEW**

The categories and quantities of responses are tabled below:

Recipient		# Sent	# Completed & Returned	% Returned
Employer:	Kamloops	20	8	40%
	Williams Lake	8	5	63%
Advisory:	Kamloops	7	5	71%
	Williams Lake	8	6	75%
Faculty:		2	2	100%
Current Students:				
	Kamloops	16	15	94%
	Williams Lake	4	1	25%
Former Students:				
	Kamloops	50	16	32%
	Williams Lake	14	3	21%
TOTAL		129	61	47%

Former Students:

Returned by Post Office: 9

Non-Respondents: 25

SUMMARY OF QUESTIONNAIRE RESPONSES

1. Current Students:

A total of 16 of 20 students were surveyed at both campuses, and of these only one of four Williams Lake students was available for comment. Therefore the current student results mainly reflect the Kamloops program.

Students rated safety awareness, teamwork, ability to work independently, technical skills, work habits and fairness of evaluation highly, and credited the instructor and the availability of live, hands on work as being the major strengths of the program. Conversely, they found deficiencies in resume writing skills, learning materials, facilities, equipment and the Learning Resource Centre. They also had much to say about the noise level and lack of space in the shop area, and the difficulties in obtaining and dealing with the tool crib attendant.

Students further recommended more opportunity for problem diagnosis be made available, that an Apprenticeship program be offered, and that a wall be built between the Heavy Duty and Automotive shops to reduce noise levels.

2. Former Students:

a) Kamloops

Only sixteen out of fifty former students responded to the questionnaire, resulting in a low 32% response rate; therefore, caution must be exercised in interpreting the results.

A few interesting demographic trends to note are: low participation by females in the program (6%), the majority of respondents had a Grade 12 education before entering the program, the average income of former students is roughly \$1,500, and fully one-third of former students have furthered their education by enrolling in Apprenticeship programs.

Of the 11 (69%) of respondents employed full time, 62% report they are in training related jobs. Of the students employed in full or part time jobs, 59% reported that their training helped them get their jobs, and 58% note their UCC studies help them perform their jobs, in which knowledge of basic mechanical concepts (safety, math, physics, etc.) is rated one of the highest skills acquired that is still used in their jobs.

Students rated highly safety awareness, theoretical knowledge, technical skills, quality of work and work habits. They perceived that the program provides appropriate knowledge and skills for current industry needs, felt their work was fairly and consistently evaluated, made extensive use of the Learning Resource Centre, and were generally satisfied with the program. On the other hand, resume writing skills, customer relations and oral communications received low ratings, and time limitations and the resultant rush jobs were noted as cause for concern.

Students suggest that the program be run more like a professional shop, and that shop repairs should be scheduled according to the syllabus of the program. Students also pointed out that the tests and modules contained inaccuracies and were incomplete, and that they often had difficulties in obtaining the correct tools from the toolcrib attendant.

b) Williams Lake

Due to the low response rate of former Williams Lake students (21%), it is not possible to confidently identify any trends from the students that did respond. The lack of enthusiasm in both the former and current Williams Lake students was concerning to the evaluation committee.

3. Advisory Committee Survey:

a) Kamloops

Five of seven (71%) Advisory Committee members completed questionnaires. They felt that the equipment and facilities, emphasis on safety awareness, instructor, and hands on training were all strengths of the program. They felt that continuous entry, lack of work experience/contact with industry, current goals, resume writing skills, and technical skills were limitations of the program.

Members recommend making several changes to the program. These include having the program more like an apprenticeship course, with a block intake rather than continuous entry, adding a work experience component, and simulating a shop environment with repair orders, time punches and work explanations.

The majority (60%) of Advisory Committee respondents predict that demand for graduates will increase over the next two to three years.

b) Williams Lake

The Williams Lake Advisory Committee has not met very often (reportedly once in the past two years) and as a result there is an unusually high proportion of "Don't Know" responses. As they have not been able to regularly review the goals and objectives of the program, and indeed some are not familiar with them, it is difficult to interpret the data with confidence. However, those that did respond with an opinion echoed the Kamloops Advisory Committee in many respects. They noted that safety awareness and quality of work are strengths of the program, with customer relations, low entry requirements and work rate as limitations. Of particular interest is that all of the survey questions related to the Advisory Committee function received very low scores (between 2.25 and 2.50 on a 4.0 point scale) which in itself questions the functionality of the Committee.

The Committee suggests that the program emphasize technological advances as industry is expecting more of mechanics, and that students should enter the program with a solid Grade 12 education that includes math, English and science.

50% of respondents feel demand for graduates will increase over the next two to three years, while 50% didn't record an opinion.

4. Employer Survey:

A total of 8 out of 20 (40%) employers responded in Kamloops and 5 out of 8 (63%) responded from the Williams Lake sample. Most respondents from both areas were from dealerships.

In Kamloops, employers feel the strengths of the program lie in safety awareness, basic work habits, oral communication skills and the ability to work with others. In Williams Lake the strengths were identified as being theoretical knowledge, technical skills, quality of work and initiative.

In rating graduates' performance in specific areas, both Kamloops and Williams Lake employers scored service and adjust steering, troubleshoot electrical systems, service/tune-up gas engines and troubleshoot electronic gas engines particularly low, with scores ranging between 1.5 and 2.6 on a 4.0 point scale.

Employers also pointed out that students are unfamiliar with the operations of an actual shop and lack on the job training.

In the next 3-5 years, employers foresee electronics, computerization and alternate fuels becoming the standard, and suggest students become well versed in these areas.

5. Faculty Survey:

Both faculty members agreed on many of the strengths and weaknesses of the Automotive Service Technician program. They felt that the objectives of the program were well stated and clear, that curriculum is determined by the program's goals and objectives and that the modules follow a logical sequence from Trade Entry to Level 1 Apprentice. Similarly, they both agree that resume writing and customer relation skills are not highly stressed, the shop facilities are not satisfactory, class sizes are too large and the curriculum is not regularly reviewed or updated. They further do not feel that departmental meetings are regular and productive, or that communications with the Dean and other institutions are satisfactory.

There are, however, several items which the instructors disagreed upon. They are split on the issue of preferring a block intake versus continuous entry, that the brochures are accurate and that the tests and projects are appropriate and allow students to demonstrate what they actually know. They further disagree that supplies and materials are sufficient to maintain an effective program and that sufficient professional development funds are available. Regarding program structure and organization, there is disagreement that the knowledge and experience of faculty are effectively utilized, that the program is well planned and well organized and that the student success rate is satisfactory.

The instructor's overall ratings of the program are between good and average; however, both are pleased with the graduates.

STRENGTHS OF THE PROGRAM

The following strengths have been identified in the Automotive Service Technician Program by the Evaluation Committee:

1. *Quality of Instruction:*

One of the most obvious strengths of the Automotive Service Technician Program is the quality of instruction. Students consistently attributed their success in the program to their instructor. The vast majority (94%) of respondents 'agreed' or 'strongly agreed' that instruction was satisfactory, and written comments confirmed that students consider instruction a major strength of the program.

2. *Practical Component:*

Students consistently praised the live, hands on work which complemented their training. Many expressed appreciation for the opportunity to gain experience on many different aspects of automotive mechanics – all current and former students rated technical skills 3.0 or higher on a 4-point scale. Indeed, along with instruction, most students perceive the practical component to be a major strength of the program.

3. *Safety Awareness:*

It is extremely important that, in a trade such as Automotive Mechanics, safety awareness be of paramount concern to all parties involved. It is clearly a strength of the Automotive Service Technician Program as all constituents -- current and former students, faculty, employers and advisory committee -- rated safety awareness highly (between 3.0 and 4.0 on a 4-point scale).

4. *Teamwork:*

The ability to work as a team member is a very important asset for any prospective employee to possess. The Automotive Service Technician Program presently promotes teamwork, as evidenced by the fact that current students' ratings of teamwork attained a mean of 3.38 on a 4-point scale, placing it among the highest of qualities emphasized in the program.

5. *First Year Apprentice Equivalency:*

Upon successful completion of the Automotive Service Technician Program, and if indentured as an apprentice, students have the opportunity to challenge Year One of the BC Apprenticeship Program and proceed directly to Year Two.

6. *Demand for the Program:*

The Automotive Service Technician Program has no difficulties in achieving capacity enrollments. In addition, it consistently has large numbers of students on waitlists (often between 25-35 students) which indicates both the popularity and the continuing community interest in the program.

AREAS OF THE AUTOMOTIVE PROGRAM WHICH CAN BE IMPROVED (WITH RECOMMENDATIONS)

The Evaluation Committee identified the following aspects of the Automotive program as being in need of improvement. Recommendations are prioritized.

1. STRUCTURAL CHANGES

Block Intake:

In the last review (1993), it was recommended that the Dean, Applied Industrial Technology, the Chair, Mechanical Trades, and Automotive Faculty evaluate the pros and cons of block intake versus continuous intake. This has not been done, and it is all the more urgent, some five years later, that this issue be addressed. We believe that two six-month block intakes will solve many operational and structural problems at the Kamloops Campus at this time. The Williams Lake Campus should remain with the present continuous intake system to maintain student levels. The committee recommends:

- (a) **that the Kamloops campus Automotive Service Technician program move to two six-month block intakes;**

**ACTION: Dean, Trades and Technology;
Chair, Mechanical Trades**

Formal Instruction:

Once a block intake format has been implemented, training and comprehension can be improved with structured lesson plans, course outlines, and learning objectives. This can be enhanced by establishing a schedule of repairs which is tied to the curriculum rather than an 'on demand' system because it is difficult for instructors to teach to competency levels when vehicles are brought in on an as needed basis. Classroom instruction should be augmented and supported with homework assignments to make better use of time so that students come to class prepared and ready to progress with the course outline. The committee therefore recommends:

- (b) **that daily classroom sessions with structured lesson plans, outlines and learning objectives be established;**

**ACTION: Dean, Trades and Technology;
Automotive Instructors**

- (c) **that the Automotive Instructors implement a schedule of practical work which is closely tied to the daily classroom sessions;**

ACTION: Automotive Instructors

- (d) **that the program include homework assignments to complement the daily classroom and practical sessions;**

ACTION: Automotive Instructors

Work Experience:

Many of the former students suggested adding a work experience component to the program. Though a long practicum is not feasible, the committee felt a two or three-day assignment in conjunction with local employers would be highly beneficial to both parties. Students would get an idea of what is required in the workplace in terms of skill level, customer demands and work production as well as make future employment contacts. Conversely, potential employers will be afforded an opportunity to observe how students perform in the shop environment. The committee recommends:

- (e) **that a two or three-day work experience component, in cooperation with local dealerships, be integrated into the program;**

ACTION: Automotive Instructors**FTE Alignment with Actual Enrollments:**

As per a memo sent to the VP, Instruction & Student Services from the Dean, Trades and Technology dated May 8, 1997 (see Appendix B), FTE's (Full Time Equivalents) need to be reassigned in several of the mechanical programs. Currently the Automotive Service Technician program's FTE allocation is too high, and results in the program showing lower enrollments than funded for and subsequently inaccurate utilization figures. The committee therefore recommends:

- (f) **that the 35.0 FTE's currently allocated to the Automotive Service Technician program be reduced to 28.0 (20.0 Kamloops, 8.0 Williams Lake), with the remaining 7.0 FTE's left as unassigned FTE;**

**ACTION: VP, Instruction & Student Services;
VP, Administration & Finance;
Dean, Trades & Technology****2. LIAISON AND ARTICULATION****Program Advisory Committee Renewal:**

It has been observed that the Program Advisory Committees (PACS), particularly Williams Lake, are not functioning as well as they could be. Many members are unsure of their role, and meetings are not held on a regular basis. Support is available to instructors from the Dean's office in organizing and rejuvenating the committees. Arrangement should be made with the appropriate webmaster to provide an Internet source for sharing of minutes and recommendations/suggestions which can be shared by both locations. In order to maximize the expertise of both the Kamloops and Williams Lake Program Advisory Committees, and to encourage more frequent liaising and more information sharing among and between the two PACs, the committee recommends:

- (a) **that a website system be implemented whereby information can be shared between Kamloops and Williams Lake Program Advisory Committees;**

**ACTION: Dean, Trades and Technology;
Automotive Instructors**

- (b) that the Dean, Trades and Technology and the Dean, Williams Lake Campus, provide support and guidance to improve and revitalize the Williams Lake Program Advisory Committee by ensuring that meetings are held on a regular basis and that members are fully apprised of their role on the committee;

**ACTION: Dean, Trades and Technology;
Dean, Williams Lake Campus**

Better Liaison with Industry:

Due to time constraints, the Automotive faculty have not been able to maintain regular contact with local employers. This is an essential component in a successful program as it creates linkages between the students and employers and promotes the overall credibility of the program. Furthermore, the automotive industry is going through massive change in the way it does business. Many major dealerships provide Interactive Television training for their employees, with which UCC students may be able to enhance their training. We therefore recommend:

- (c) that Automotive Instructors and the Chair, Mechanical Trades encourage and promote industry liaison by making regular contact with the Program Advisory Committee members outside of regular meetings;

**ACTION: Chair, Mechanical Trades;
Automotive Instructors**

Curriculum Articulation with other Institutions:

It is important to share curriculum and ideas with others in the teaching/instruction areas. Ideas such as the use of and appropriateness of technology in teaching, continuous versus block intake, and course requirements/entrance levels, are all areas that can be shared with peer institutions. The committee recommends:

- (d) that the Chair, Mechanical Trades and Automotive instructors liaise with Automotive program faculty at peer institutions on a regular basis to facilitate sharing of information and ideas;

**ACTION: Chair, Mechanical Trades;
Automotive Instructors**

Guest Speaker Series:

To ensure students are aware of modern industry demands, and to enable connections to be made between what is being studied and what is happening in industry, guest speakers should be invited to visit the students several times in the program to give them a sense of customer demands, industry changes and employment opportunities. The committee recommends:

- (e) that guest speakers from industry be invited to discuss topics relevant to the current and specific themes of the curriculum;

ACTION: Automotive Instructors

Increase Representation, Assistance and Sensitivity from Department Chair:

We understand that two separate programs must share the same working area which can lead to allocation inequities. A process needs to be developed which allows both areas to co-exist in a way that benefits both parties. The committee recommends:

- (f) that the Dean, Trades and Technology and the Chair, Mechanical Trades conduct a needs assessment of programs sharing work areas;

**ACTION: Dean, Trades and Technology;
Chair, Mechanical Trades**

Increased Intra-Departmental and Divisional Communication:

Faculty members expressed a desire for more frequent communication with the Dean, Trades and Technology, Mechanical Trades department, and each other. The committee recommends:

- (g) that there be more frequent communication with Dean/department in the form of regular meetings, e-mails, newsletters, website, etc.;

**ACTION: Dean, Trades and Technology;
Chair, Mechanical Trades;
Automotive Instructors**

3. ADMISSIONS

Entry Level Requirements:

Change entry level requirements from Grade 10 to minimum Grade 12, with preference given to students with Math 11, Physics 11 and English 12. This will not affect many students as most (80% of current students and over 92% of former students) possess Grade 12 or higher when they enter the program. Further, a new system of determining entrance to the program should replace the CAT 19 test as it is an ineffective test for this purpose. The industry requires students with more skills than what was traditionally required, and these new requirements will allow students to succeed in the program and the new market. The committee therefore recommends:

- (a) that the entry requirements be changed from Grade 10 to Grade 12, with preference given to students with Math 11, Physics 11 and English 12;

**ACTION: Chair, Mechanical Trades
Automotive Instructors**

- (b) that the Dean, Trades and Technology, the Chair, Mechanical Trades and the Automotive instructors investigate the possibility of replacing the CAT 19 test as part of the admissions requirements with a more suitable test;

**ACTION: Dean, Trades and Technology
Chair, Mechanical Trades
Automotive Instructors**

Basic Personal Tool Requirements:

Former students suggested adding a basic personal tool requirement to the program. They found that when they graduate they often had difficulty providing their own tools when they secured employment in the Automotive field. This investment in one's education, not unlike purchasing textbooks in academic subjects, would foster a deeper level of commitment by students to the program. The committee recommends:

- (c) that possession of a basic personal tool set be added to the entry requirements of the program.

**ACTION: Dean, Trades & Technology;
Chair, Mechanical Trades;
Automotive Instructors**

4. FACILITIES

Shop and Classroom Space:

Many current students consider lack of space and high noise levels in the Automotive shop to be major limitations of the program. They attest to the fact that their work space is cramped and cluttered and that it is often impossible to hear the instructor over the revving of engines in the Heavy Duty/Commercial Transport shops beside them. Furthermore, they do not have a dedicated classroom, and while this is not possible, it is necessary that regular classroom sessions be held in pre-assigned rooms. The committee recommends:

- (a) that the Dean, Trades and Technology reassess and reallocate the Automotive shop space in conjunction with the Chair, Mechanical Trades and the Instructor;

**ACTION: Dean, Trades & Technology;
Chair, Mechanical Trades;
Kamloops Automotive Instructor**

- (b) that the Dean, Trades and Technology investigate feasibility of placing a sound barrier wall between the Heavy Duty and Automotive shops;

**ACTION: Dean, Trades & Technology;
Chair, Mechanical Trades;
Kamloops Automotive Instructor**

- (c) that the Dean, Trades and Technology schedule regular classrooms to be available for formal instructional sessions for Automotive students (see also Recommendation 1b).

**ACTION: Dean, Trades & Technology;
Chair, Mechanical Trades;
Kamloops Automotive Instructor**

5. CURRICULUM IMPROVEMENTS:

Engine Overhaul Component:

Students have expectations that engine rebuilding and overhaul will be done during the course. This rarely occurs due to limited program time and a very low demand from employers for this skill. Most engines that require rebuilding are not done in dealerships but sent out, and the majority of the employers for this program are dealerships. The committee recommends:

- (a) that the engine overhaul component be removed from brochures, calendar, and course outlines;**

**ACTION: Chair, Mechanical Trades
Automotive Instructors**

Electronic Diagnostic Component:

Cars are becoming more dependent on sensors and computers for their operation. Students should be comfortable with basic electronics and electrical troubleshooting for what is occurring and about to occur in the industry. The committee therefore recommends:

- (b) that the electronic diagnostic component be enhanced and expanded;**

ACTION: Automotive Instructors

Vehicle-Specific Training:

Many employers indicated that they require students familiar with specific makes and models of vehicles. While this is impossible to cover in an entry level training program such as this, it is possible to familiarize students with various makes of cars while providing training by utilizing the training media (videos, CD-ROMs, etc.) regularly provided by major automotive companies to their employees. The committee recommends:

- (c) that the instructors solicit training aids (videos, CD-ROMs, etc.) from local dealerships directly or through their Program Advisory Committee;**

ACTION: Automotive Instructors

Service Shop Simulation:

In order to provide students with better overall skills to progress into the workplace, a simulated service shop environment – with work orders, parts lists, time estimates, customer interactions (demands and requests), report writing and presentations to customers – should be integrated into the practical component of the curriculum. If students leave the program not only with sound mechanical skills but also with good business operations experience, they will surely have an edge over other applicants when competing for jobs. The committee therefore recommends:

- (d) that a service shop environment (including work orders, parts lists, time estimates, customer interactions, report writing and presentations to customers) be simulated where feasible;**

ACTION: Automotive Instructors

- (e) that resume writing and oral communication skills be included in structured classroom sessions;

ACTION: Automotive Instructors

Instructor Checklist of Student Competencies in Practical Objectives:

To further enhance structured lesson plans, students should be given feedback throughout the program utilizing an organized competency checklist. With this system, students know exactly where they stand in regard to their skill levels and where their competencies and deficiencies are in regard to practical objectives. This further provides the instructor with a better idea of where students are exceeding expectations and where they require more work. The committee recommends:

- (f) that the instructors maintain a checklist of student competencies in practical objectives, and make this accessible to students throughout the program;

ACTION: Automotive Instructors

Computer / Information Technology Literacy:

Computer use (i.e. word processing) and information technology such as the Internet and use of CD-ROM's, etc. should be an essential component of all students' education. In the Automotive field, technicians today require more information technology skills. Encouraging the use of various media will make students more competitive in the marketplace. The committee recommends:

- (g) that a computer / information technology literacy component, including word processing, Internet, and searching CD-ROMs be added to the program;

ACTION: Automotive Instructors

Tool Identification:

Both former and current students from this review as well as the previous (1993) Automotive review noted certain difficulties in dealing with the toolroom attendant. In part, the cause of these complaints stem from students' inability to identify correctly the tools they require. To alleviate this problem it is recommended:

- (h) that the Chair, Mechanical Trades, supervise the creation of a tool chart for the new toolroom in the Trades and Technology building, listing tools by their recognizable names and corresponding shelf numbers, and that copies of this chart be placed in each student tool box. (This is a repeat of Recommendation 6(d) of the Commercial Transport Technician Review and 5(b) of the Heavy Duty Mechanics Review [January 1997]);

**ACTION: Chair, Mechanical Trades;
Automotive Instructors**

Opportunity to Challenge First Year Automotive Apprenticeship Exam:

Students should be afforded the opportunity to challenge the first year Automotive Apprenticeship exam to give them a jump start on the apprenticeship program if they decide to make this industry their career. The committee recommends:

- (i) **that program administration encourage and ensure students are aware of the opportunity to challenge the first year Automotive Apprentice exam.**

**ACTION: Chair, Mechanical Trades;
Automotive Instructors**

6. FURTHER EDUCATION

Extension Services Opportunities:

Some students expressed disappointment in not being able to continue their Automotive Training in Kamloops. We suggest that the department work with Extension Services to offer specialization courses (ABS, Air Conditioning, Propane Conversion etc.). This adds to the credibility of UCC and the program and allows students to further their education and make themselves more marketable to employers. The committee recommends:

- (a) **that the Chair, Mechanical Trades work with the Director, Business, Industry and Government Services to explore the possibility of offering specialization courses through Extension Services.**

**ACTION: Chair, Mechanical Trades;
Director, Business, Industry and
Government Services**

7. LIABILITY/WCB IMPLICATIONS

Liability Issues

As with any service industry, certain liability issues arise when dealing with the public. For this reason and for the protection of all parties concerned, it is recommended that the program obtain a legal opinion regarding liability issues of repairs. To further safeguard UCC and its clients, it is essential that the instructors check every repair that is done by students before the vehicle is released to the owners. The committee recommends:

- (a) **that a legal opinion be sought regarding liability issues and repairs;**

**ACTION: Dean, Trades & Technology;
Chair, Mechanical Trades;
Automotive Instructors;
Divisional Safety Committee**

- (b) **that instructors implement a method of verifying that jobs are complete before the vehicle leaves the shop;**

**ACTION: Chair, Mechanical Trades;
Automotive Instructors**

WCB Implications:

New Worker's Compensation rules have recently been introduced. The Automotive program needs to discover what, if any, implications arise from the new rules. An analysis and opinion needs to be articulated to all members of the program, including Instructors, Chairs and Deans, and Divisional Safety Committee. The committee recommends:

- (c) **that an analysis and opinion regarding the new WCB rules be sought and if necessary, changes implemented;**

**ACTION: Dean, Trades & Technology;
Chair, Mechanical Trades;
Divisional Safety Committee;
Automotive Instructors**

8. GENERAL COMMUNICATION IMPROVEMENTS FOR STUDENTS

Student Orientation:

To ensure students do not have false expectations regarding the program, it is essential that the student orientation is clear on job prospects, course expectations and financial aid deadlines. A student orientation session at the beginning of the course should be able to set expectations and directions. The committee recommends that:

- (a) **the student orientation process be expanded to include clear, concise information on job prospects, course expectations and financial aid deadlines;**

ACTION: Automotive Instructors

Graduate Follow-up:

It is important for the institution to stay in touch with their graduates as they give appropriate feedback for industry changes and may be potential employers. The committee recommends:

- (b) **that a system of tracking graduates be implemented by the Automotive instructors;**

ACTION: Automotive Instructors.

APPENDIX A

METHODOLOGY

The data were collected in the following ways:

- 1) Consultation took place with Grant White, Instructor, Automotive Program on the design of the questionnaires, and these were reviewed by David Schalm, Instructor, Automotive Program (Williams Lake).
- 2) Questionnaires were administered to Automotive former students, employers, faculty, current students and Advisory Committee members. All data were processed using SPSS for Windows to achieve mean responses. Verbal comments for each group were recorded separately and anonymously.
- 3) "Descriptive Data" on the Automotive Program's objectives, course outlines, etc., were solicited from Grant White, Instructor, Automotive Program.
- 4) Data on annual FTE utilization, graduation rates, gender and grade distributions were provided by the Office of Institutional Research.
- 5) The following people associated with the program participated in the review process or were interviewed:
 - Lynda Wilson, Dean, Williams Lake Campus
 - Henry Hanson, former Kamloops student
 - Dean Ruyter, former Williams Lake student

APPENDIX B

MEMO



Applied
Industrial
Technology

TO: Neil Russell
FROM: Ralph Finch
DATE: May 8, 1997
RE: The directive to merge Commercial Transport and Heavy Duty Entry Level Training Programs.

With regards to our meeting on May 1, 1997, we all agreed that Heavy Duty Mechanics Trade Entry will remain a Continuous Intake Program and Commercial Transport Mechanics will remain a Block Intake Program.

If we were to convert Commercial Transport Entry Level Mechanics to Continuous Intake, it would in fact require more sessional instructor relief.

The following is a breakdown of the FTE allocations, as were discussed.

Presently, Heavy Duty Mechanics in Kamloops and Williams Lake jointly have 30 assigned FTEs.

I recommend that we assign 8 FTEs to Heavy Duty Mechanics Trade Entry in Williams Lake, and 20 FTEs to Heavy Duty Trade Entry in Kamloops.

This would leave 2 FTEs unassigned.

Presently, Commercial Transport Mechanics has 24 assigned FTEs.

I recommend that Commercial Transport Mechanics be assigned 18 FTEs. This will leave 6 unassigned FTEs.

In addition to the above reallocation of FTEs, we would reassign the 35 FTEs in the Automotive Service Technician Program Trade Entry in Kamloops and Williams Lake to reflect the following.

I recommend that we assign 8 FTEs to Automotive Service Technician Trade Entry Program in Williams Lake and 20 FTEs to Automotive Service Technician Trade Entry Program in Kamloops.

This will leave 7 unassigned FTEs.

Dave Wharf and I will work with Carey Miggins to re-allocate the support dollars to reflect the 15 unassigned FTEs.

I trust that you will find this explanation satisfactory. Please contact me if you have any questions or concerns.

Regards,


Ralph R. Finch
Dean, Trades and Technology Division

cc: Cliff Neufeld, Lynda Wilson, Carey Miggins, Dave Wharf, Vlasta Dusil

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