PROGRAM REVIEW REPORT

on the

MARINE/SMALL ENGINE REPAIR PROGRAM

THE UNIVERSITY COLLEGE OF THE CARIBOO

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JANUARY

1993

OFFICE OF INSTITUTIONAL RESEARCH & PLANNING

SUMMARY

The Marine/Small Engine Repair Program is the only one of its type in the Interior of B.C., and has established a thriving "market niche" since its inception in its current form in 1987. In 1989 and 1990, its enrolments were affected by uncertainties in Federal funding support for students. In the last two years, however, enrolments have improved dramatically to 88% and 83% utilization levels, and the growing number of applicants for the program augurs well for its future.

The main recommendation of the Marine/Small Engine Repair Program Evaluation Committee is that the program be started in July and run to the following April so that its finish coincides with the peak hiring period for small engine repairmen and marine and golf course mechanics.

The Committee recommends the hiring of a lab demonstrator or toolroom attendant to alleviate tool crib lineups at 8:00 a.m., 11:15 a.m. and 3:15 p.m., and provide tool maintenance capacity. It notes that the problems of tool repair/maintenance and distribution/retrieval are not new, having been identified in the Heavy Duty Mechanics Program Review Report of July, 1990.

Like other programs in the Mechanical Trades Department, Marine/Small Engine Repair has outgrown its accommodations. Instructional and storage space is now at a premium with the increase in program enrolment from 16 to 20 students. The Evaluation Committee endorses the need for relocation of the program to the proposed Applied Industrial Technology Centre, and as an interim measure to relieve overcrowding, suggests either leasing of shop space in Southgate Industrial Park or co-operative accessing of School District No. 24 vocational shop space. The Health and Safety Officer has been requested to report on air quality and ventilation in classrooms C202 and B101, about which students have complained vociferously.

Revitalization of the Advisory Committee, more robust marketing and promotion, and minor adjustments to the program's curriculum number among other recommendations made by the Evaluation Committee.

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THE PROGRAM EVALUATION COMMITTEE

COMMITTEE CHAIRPERSON	**Robert MacKinnon,** Instructor, Geography
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EXTERNAL REPRESENTATIVE	**Bruce Whitehouse,** Manager, Timberland Supply, Kamloops
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DIVISIONAL DEAN	**Earl Bloor,** Dean, Applied Industrial Technology
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GRAPHICS & ANALYSIS	**Larry Xiong,** Research Analyst
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INTRODUCTION

The evaluation of the Marine/Small Engine Repair Program was begun on August 13, 1992. Several meetings on questionnaire design and evaluation were conducted between the Office of Institutional Research, Leno Zanier (Instructor, Marine/Small Engine Repair), and Earl Bloor (Dean, Applied Industrial Technology). Questionnaires were mailed to former students, faculty, Advisory Committee members and employers on September 17. The current Marine/Small Engine Repair class was surveyed on November 9, 1992.

Follow-up letters were sent to former students and employers on October 9. Telephonic contact with non-returnees was undertaken between October 29 and November 6. The cut-off date for all responses was December 11, 1992. The Evaluation Committee met to examine and analyze the summarized data on December 16 and 17, 1992.

BACKGROUND

The Marine/Small Engine Repair Program has been offered at UCC in its present form since September, 1987. Its predecessor was the Small Engine Repair Program, which was offered at UCC from 1973 to 1987, apart from a hiatus during the early 80's when the program was closed for budgetary reasons.

The purpose of the current program is to prepare workers to function as apprentices in the Inboard/Outboard Marine Engines and Small Engines trades. Special emphasis is placed on tune-up and troubleshooting, plus the maintenance and installation of accessories used on pleasure craft and snowmobiles. It also includes servicing of the "Engine Support Systems" such as fuel, electrical, lube, and cooling, plus power trains and drives, related to these products. It is the only program in the interior of B.C. which prepares students for entry into these trades.

ADMISSIONS DATA AND PERFORMANCE STATISTICS

Admissions Requirements:

a) Educational Requirements:

1. Grade 10 minimum; however Grade 12 recommended or mature student status.

2. Completion of CAT-19 with achievement of stanine of 5 on Norms Table 10 in the following measures: reading, vocabulary and comprehension, and Math computation and application.

3. Applicants must also demonstrate a mechanical aptitude via the Mechanical Reasoning element of the Differential Aptitude Test (DAT).

4. Prospective students are provided with an orientation interview with the instructor as part of the admission criteria and as insurance that they understand the demands of the program.

b) General Requirements:

1. Good health

2. Mechanical aptitude

3. Must have safety-toed shoes

4. Interview with Program Instructor

Program Capacity/Program Demand over past six years:

Student demand for this program has grown in the last two years. Since the minimum entry requirement for this program is grade 10 completion, it is an attractive training option for unemployment insurance recipients, displaced workers, WCB rehabilitation workers and career changers. Therefore, enrolments have been subject to the vagaries of the UI Act. Enrolments, for example, suffered in 1990 during the Bill C-21 debate in the Senate. Several prospective students were unable to attend that year because of suspension of Section 26 fee payer support. Almost half the registrants in the last two years have been CEC or WCB sponsored.

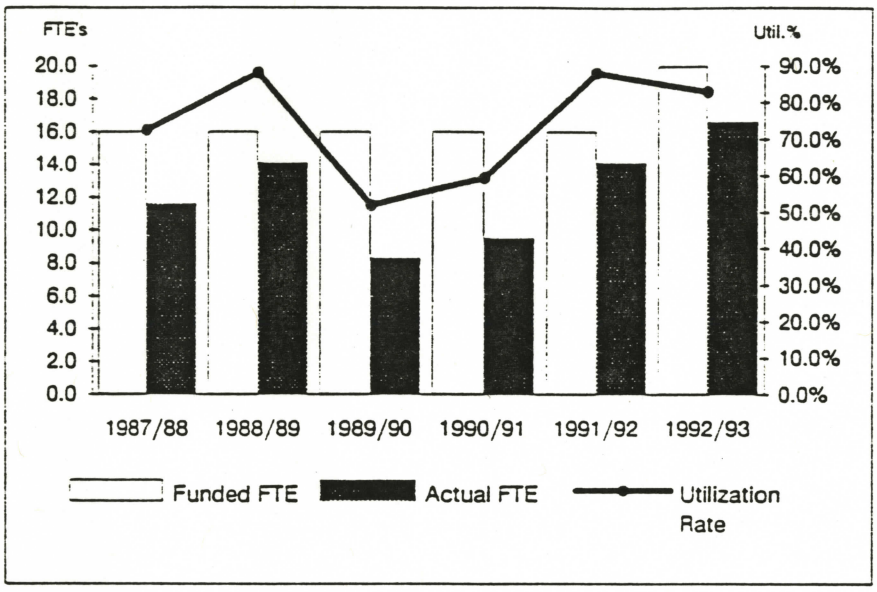
Program capacity for 1987-91 was 16 FTE; for 1992, 20 FTE.

Program Capacity/Program Demand over past six years (cont.):

The following chart illustrates the relationship between funded and actual FTEs over the six year period, 1987-92.

Marine/Small Engine Repair Program FTE Utilization

	Funded FTE	Actual FTE	Utilization Rate
1987/88	16.0	11.6	72.5%
1988/89	16.0	14.1	88.1%
1989/90	16.0	8.3	51.9%
1990/91	16.0	9.5	59.4%
1991/92	16.0	14.1	88.1%
1992/93	20.0	16.6	83.0%



Completion & Attrition Rates:

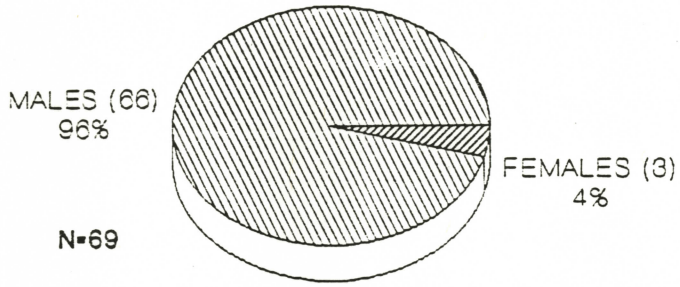
The following table presents the demand and completion rates for the program since its inception in 1987.

YEAR	APPLICANTS*	STARTING STUDENTS	COMPLETING STUDENTS	EMPLOYED IMMEDIATELY
87/88	16	14	12	9
88/89	17	17	14	10
89/90	11	10	9	7
90/91	11	11	10	7
91/92	24	17	16	12
92/93	32	20		

*Number of students who applied and qualified for admission.

Gender Ratio:

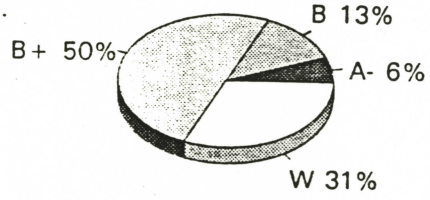
Of 69 former students surveyed (1987-92), 66 were men and 3 were women for a ratio of 22:1.



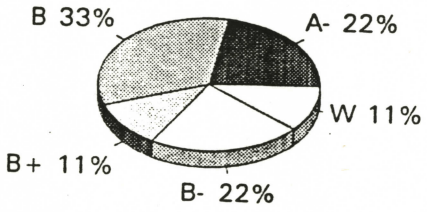
Grade Distribution:

Grade distributions for the Marine/Small Engine Repair Program (1987-91) are illustrated below. Please note that the small class sizes tend to magnify the percentages.

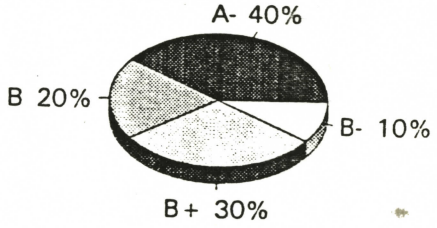
MR101 Course Grades: 1987 - 1991



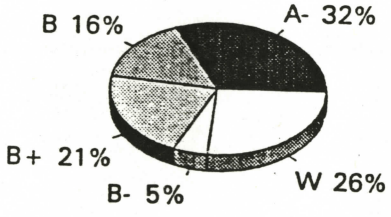
FALL 1988 (N = 16)



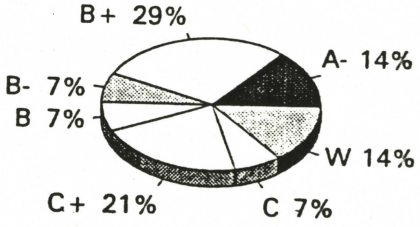
FALL 1989 (N = 9)



FALL 1990 (N = 10)



FALL 1991 (N = 19)



FALL 1987 (N = 14)

TABULAR SUMMARY OF QUESTIONNAIRE RESPONSES

The categories and quantities of responses are tabled below:

Recipient		# Sent	# Completed and Returned	% Return
Advisory Committee		6	5	83%
Employers		20	11	55%
Faculty		1	1	100%
Students:	Current	17	17	100%
	Former	69	20	29%
TOTAL		113	54	48%

Former Students:

Returned by Post Office: 24 (35%)

Former Students Non-Respondents: 25 (36%)

As at December 11, 1992

SUMMARY OF QUESTIONNAIRE DATA

The following trends were detected in the questionnaire responses:

1. Advisory Committee:

Five Advisory Committee members completed and returned their questionnaires for a response rate of 83%. Their concerns were in the following areas:

- Confusion about the Committee's role and function, and a consequent sense of dissatisfaction about participation and effectiveness;
- Irregularity of meetings;
- Ambivalence as to whether the program is effectively fostering oral and written communication skills;
- Dissatisfaction with the level of funding needed to sustain an effective program.

The Advisory Committee was reasonably satisfied that graduates were finding training-related employment. One committee member would like to see younger people taking the program; another urged more emphasis on customer relation skills and computer literacy.

2. Employers:

Of 20 employers surveyed, 11 responded for a response rate of 55%. They projected an aggregate of 7 full-time and 3 part-time jobs becoming available in their businesses in the next year. Responses indicated some dissatisfaction about the availability of **qualified** Marine/Small Engine Repairpersons in the region. (This is partly attributable to ignorance of the fact that the program is merely pre-apprenticeship, and in no way produces graduates who can operate at journeyman level).

Seven respondents were happy with their level of contact with the Marine/Small Engine Repair Program; two indicated they would like more contact.

As to graduate skills and behaviours, employers rated work habits highly (4.13 on a 5 point scale), but were less complimentary on practical/technical skills (3.13), theoretical knowledge (3.25), problem-solving skills (3.0), written communication skills (3.38) and decision-making skills (3.38). Graduates were perceived as being particularly well prepared in basic servicing, engine tune-ups and preventive maintenance. Employers indicated they would prefer more preparation of students in servicing power-train drive systems, and trouble-shooting (problem diagnosis). As with the Advisory Committee, there was some desire for the inclusion of basic computer instruction in the program, and two employers indicated a preference for more instruction in golf course equipment maintenance.

The overall rating for the program was 3.44, and for its graduates 3.38--but extremely high standard deviations of 1.01 and 1.30 respectively were recorded for these scores, indicating a wide spread in the ratings.

SUMMARY OF QUESTIONNAIRE DATA (cont.):

3. **Faculty:**

The program instructor expressed the following concerns:

- Dissatisfaction with the amount of time and resources for curriculum development;
- Dissatisfaction with shop and classroom facilities;
- Insufficient articulation with other colleges offering similar programs;
- Some frustration about the lack of attendance, cohesion and drive at Advisory Committee meetings.

4. **Current Students:**

Of 20 current students enrolled in September, 17 were surveyed on November 9, 1992, for a response rate of 100%. Three had already left the program.

47% of the current intake are over 40 and an additional 6 (35%) are between 30 and 40, making for a very mature intake (age-wise) in 1992-93. Sponsorship by CEC and WCB covers 41% of the class, a continuation of the trend of previous years.

As indicated by high standard deviations of 1.00 to 1.63, a sizable minority were extremely critical of the program. Concerns were expressed about the following:

- Lack of financial aid information in the admission's package sent out by the College (comments);
- Insufficient career advice about apprenticeship program (mean 2.75);
- Dissatisfaction with the lack of variety in learning activities (2.71), the lack of opportunity for practical experience (2.65) and the lack of challenge in the program (2.71);
- The program's instructional facilities (1.94) and the quality of supplies and equipment (2.06) also came under fire. Students criticized the cramped, crowded shop floor, the poor tool control system, the worn out condition of many of the tools, and the lack of equipment to work on. Bookstore prices for manuals and technical publications were felt to be too high (comments and interviews).

To put these ratings in context, the composition of the class was skewed 82% towards the 30 and over age group, some of whom had considerable field experience and were somewhat frustrated by the theoretical part of the program, which seemed niggling and unnecessary to them. They wanted more hands-on experience than they were getting at this point in the semester. Secondly, only a minority of students gave the program consistently low ratings; the mode ratings were 3.0 on a scale of 5, which indicates adequacy rather than dissatisfaction.

SUMMARY OF QUESTIONNAIRE DATA (cont.):

5. Former Students:

Of 69 former students surveyed, 20 replied for a response rate of 29%. Responses came mainly from the 1991-92 intake (45%). 55% of the respondents between 1987-92 were sponsored by CEC or WCB.

In marked contrast to current students, former students were glowing in their assessment of the program. Most are still using the skills they were taught: mechanical concepts, servicing engines and electrical and hydraulic systems; problem diagnosis and engine overhaul.

The only four items that were rated less than 4.0 on a scale of 5 were the amount of career counselling by faculty (3.26), the perceived effectiveness of the program as career preparation (3.53), the facilities for instruction (3.26), and the quality of supplies and equipment (3.63). Former students were very satisfied with the quality of instruction, attributing epithets such as "excellent", "fantastic", and "the tops" to Leno Zanier.

There were, however, complaints about Bookstore prices and the fact that recommended manuals could be purchased more cheaply from Overwaitea; about the tool crib service (six mentions); and about the hazardous nature of the smoke and diesel fumes in classroom C202.

Tour of Instructional Facilities:

The Evaluation Committee inspected the shop and classroom facilities on December 16, 1992, and noted the following :

- The shop floor area was crowded and busy to the point where students were a potential hazard to each other when moving items such as outboard motors;
- The shop floor area lacked storage space: engines and other items took up more than one third of the instructional area space;
- Engine noise caused interference in classroom C202;
- Smoke and diesel fumes were not being effectively ventilated from the Heavy Duty Mechanics shop floor and were polluting the air quality in C202 to what may be a hazardous level.

EMPLOYMENT PROSPECTS

Types of Employment:

According to Job Futures: British Columbia: an Occupational Outlook to 1995 (Statistics Canada, 1989), occupations in this group include: furnace repairer, locksmith, lawnmower repairer, vending machine mechanic, bicycle repairer, and general maintenance worker.

Program graduates from the Marine/Small Engine Repair Program repair and maintain small engines, e.g. lawn mowers, snowmobiles and marine engines, finding employment at golf courses, marinas, repair shops, etc., all over the province.

Main Industries of Employment 1986 Census:

Business and Misc. Services	23%
Retail Sales	22%
Various Manufacturing	22%
Other	33%

Job Opportunities Projection:

According to Job Futures, British Columbia, An Occupational Outlook to 1995, (1989 edition), the employment outlook for these occupations calls for improved employment prospects with an average rate of growth through to 1995. Several of the occupations in this field offer opportunities for self-employment.

B.C. Employment Trends & Projections:

(These figures include jobs such as furnace repairer, locksmith, lawnmower repairer, vending machine mechanic, bicycle repairer, and general maintenance worker.)

	1981	**1987**	**1995**
Number employed	2,510	2,430	2,750

Annual Growth 1987-95: 1.5%

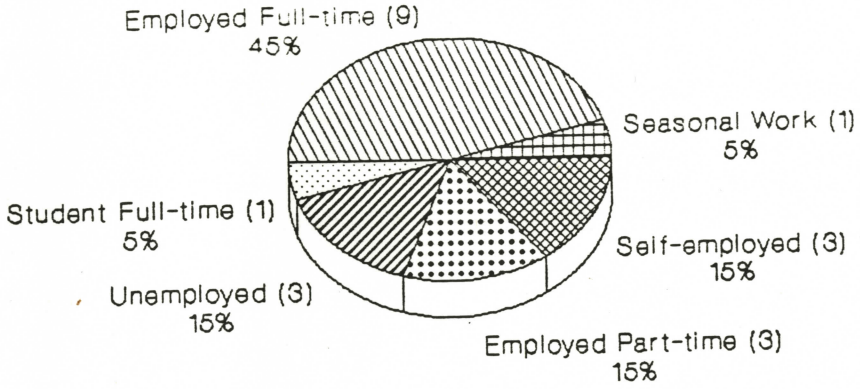
Estimated Job Openings in B.C. 1987-95

Growth (Net)	Attrition	Total
310	430	740

Employment Rates of Former Students:

Of 20 former student respondents, 9 (45%) reported being in full-time employment; 3 (15%) reported being employed part-time; 3 (15%) reported being unemployed; 1 (5%) reported being a student full-time; 1 (5%) was working seasonally and 3 (15%) reported being self-employed.

FORMER STUDENTS (1987-92)
PRESENT MAIN ACTIVITY

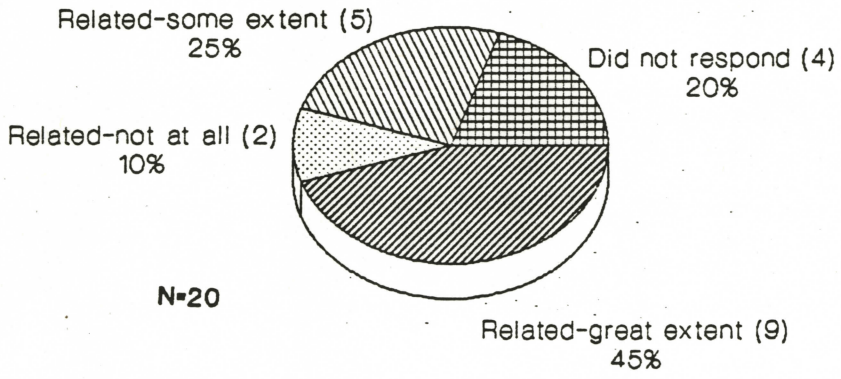


N=20

Relationship of Training to Employment:

Of the 20 former student respondents, 9 (45%) reported that their job was in the area for which they had been trained; 5 (25%) indicated that their employment was to some extent related to their training; 2 (10%) indicated that they were working in areas unrelated to their training, and 4 (20%) did not respond to this item.

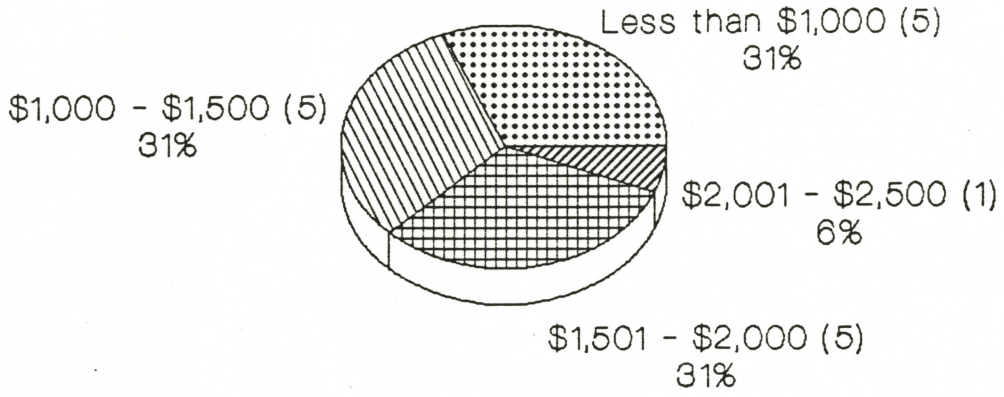
FORMER STUDENTS
RELATIONSHIP OF TRAINING TO EMPLOYMENT



Current Salaries:

Of the 16 former Marine/Small Engine Repair students who divulged information about their current salary, 5 (31%) were earning less than $1,000/month, 5 (31%) were earning between $1,000 and $1,500/month, 5 (31%) were earning between $1,501 and $2,000/month, and 1 (6%) was earning between $2,001 and $2,500/month.

CURRENT SALARIES OF FORMER STUDENTS (1987-92)



N=16

Further Education Opportunities:

If a graduate of the Marine/Small Engine Repair Program desires further education, he/she can take apprenticeship courses at BCIT. There are also dealer service schools for updating mechanics in the field. Some provide upgrading certification. To keep up with improved technology, mechanics and repairers must continually study the repair books and technical manuals that accompany new equipment.

Curriculum for Marine and Small Engine Apprenticeship Programs has been constructed and is currently under review. The Skills Development Branch of the MAETT has designated UCC to offer apprenticeship level training when it is approved.

STRENGTHS OF THE PROGRAM

The Evaluation Committee identified the following strengths in the Marine/Small Engine Repair Program:

1. **Accessibility:**

   The fact that it is the only Marine Inboard/Outboard and Small Engine Program in the Interior of B.C. means that it is less costly for students than migrating to the Lower Mainland to take a similar program. The program is well suited for older students who want to retrain for lighter work due to injuries sustained in the logging industry and for those who wish to be self-employed.

2. **Student Demand:**

   After a period in the doldrums, student demand for the program has grown in the last two years due to the instructor's and chairperson's efforts in promotion and referrals from former students. This augurs well for the program.

3. **Work Experience:**

   The two week work experience built into the ten month program allows students to get a foot in the door of Marine/Small Engine shops in the region to prove their competency with prospective employers.

4. **Educational Portability:**

   Students successfully completing the program will be granted the first year towards their journeyman certificate in Marine Inboard/Outboard or Small Engine (or both).

5. **Employability:**

   The program prepares students for work in dealerships which carry boats, snowmobiles, lawnmowers, and golf course power products. 80% of former student respondents report being self-employed, or employed full-time or part-time, and 70% are working in the area for which they were trained.

6. **Quality of Instruction:**

   Advisory Committee members and former students express great satisfaction with the quality of instruction provided in the program. The instructor's expertise has been provincially recognized with his development of the provincial apprenticeship curriculum and the trade qualification (TQ) test bank for Small Engine Repair.

AREAS WHICH CAN BE IMPROVED (WITH RECOMMENDATIONS)

The following areas were identified by the Marine/Small Engine Repair Program Evaluation Committee as being in need of improvement. Recommendations are listed in order of priority.

1. TIMING OF PROGRAM ENTRY:

Under the present dispensation, the Marine/Small Engine Repair Program runs from September to June, when local repair shops, golf courses and marinas have already completed their hiring for the season. This decreases program graduates' chances of employment. A move to an earlier start and earlier finish would not pose administrative problems at UCC and would be welcomed by employers.

The Program Evaluation Committee accordingly recommends that:

(i) **effective July, 1994, the Dean, Applied Industrial Technology, move the commencement date of the Marine/Small Engine Repair Program from September to July and the completion date to April 30 of the following year, so as to coincide with the peak hiring time at golf courses, marinas and small engine repair shops and thereby enhance graduates' chances of employment.**

2. STAFFING:

Considerable frustration exists among students about the time it takes to obtain tools from and return them to the tool crib during "bottleneck" periods (8:00-8:30 a.m., 11:15-11:30 a.m. and 3:15 p.m.). This concern was also noted in the **Heavy Duty Mechanics Program Review Report** (July, 1990, p. 18).

The ideal solution to this problem is the hiring of a full-time lab demonstrator or toolroom attendant, whose primary responsibilities would be:

- to assist the Marine/Small Engine instructor in the shop;
- to assist the toolroom attendant during peak use times;
- to assist with the maintenance of equipment and training aids;
- to assist other instructors in the Mechanical Trades Department as time permits.

If the Divisional budget will not permit this solution, an alternative is the hiring of a part-time toolroom attendant to assist the full-time toolroom attendant during peak traffic periods.

A third, less desirable solution is hiring work study students to assist the toolroom attendant during peak traffic periods. However, the time required to train these students to become proficient in the recognition and distribution of tools may place even greater demands on the toolroom attendant.

The Program Evaluation Committee recommends that:

(i) **the Dean, Applied Industrial Technology, and the Vice-President, Instruction, hire a full-time lab demonstrator or toolroom attendant, effective September, 1993; failing that, a part-time toolroom attendant; failing that, work study students.**

3. FACILITIES AND EQUIPMENT:

Instructional Space:

Shop floor space, hitherto adequate for the program, is now at a premium for the following reasons:

- program enrolment increased from 16 to 20 in 1992, causing overcrowding;
- engines and testing equipment encroach upon the instructional area because there is no appropriate storage space for them.

The result is a congested and potentially hazardous shop floor.

To relieve this situation, the Program Evaluation Committee recommends that:

(i) **the Dean, Applied Industrial Technology, and the Chairperson, Mechanical Trades, explore the possibility of obtaining a larger shop for this program on an interim basis until a UCC Applied Industrial Technology Centre is completed. Possibilities include either renting shop space in the Southgate Industrial Park adjacent to the southwest corner of the UCC campus, or acquiring the use of shop space in a local high school (possibly Westsyde or NorKam).**

If the UCC budget will not allow either of these solutions, then, at the very least, more suitable and accessible storage space needs to be created for the engines and equipment currently occupying instructional space.

Storage Space:

Because only half of the program's inventory of engines can be stored in the outside storage shed, much valuable shop space is devoted to storage. This reduces the floor and bench space for students. Furthermore, bench space is cluttered by parts and tools required for ongoing projects.

The Program Evaluation Committee recommends that:

(ii) **the Dean, Applied Industrial Technology, explore funding possibilities for the construction of additional storage space for the engines and other equipment currently stored in the existing shop area;**

(iii) **the instructor, Marine/Small Engine Repair Program, and the Chairperson, Mechanical Trades, request Plant or the Carpentry instructor to have tool and equipment cupboards installed underneath the work benches. This would significantly reduce bench-top congestion.**

Classrooms:

Both classrooms used for the Marine/Small Engine Repair Program (B101 and C202) are very poorly ventilated. Room C202, which is situated above the Heavy Duty Mechanics and Commercial Transport shops, is very noisy and potentially hazardous when vehicles and engines are in operation. The heating/air conditioning unit does not work properly, and the strong smell of carbon-monoxide vapours has earned the room the nickname, "the Gas Chamber". Room B101's ventilation problems began when recent renovations closed off the return air vents between the classroom and the hallway. Students indicate that these conditions make for a very unpleasant learning environment.

Classrooms (cont.):

The Program Evaluation Committee recommends that:

(iv) **the Health and Safety Officer conduct air quality tests in classroom C202 to determine whether or not there are any health hazards associated with the fumes that periodically seep into the room. He should also examine the air flow problem in B101. The Health and Safety Officer should correct these problems immediately, or request those in authority to do so, i.e., the Assistant Director, Facilities Services, or the Vice President, Administration.**

Equipment:

Students identified the outside pressure washing facility as a bottleneck. To ease this situation, the Program Evaluation Committee recommends that:

(v) **the Division purchase an electric pressure washer (1,000 P.S.I.) for use in the Marine/ Small Engine Repair Shop.**

4. CURRICULUM:

While the curriculum is generally sound, some stakeholders (i.e., current students, former students, Advisory Committee members, industry representative) identified areas for improvement. A basic understanding of computerized inventory control and keyboarding skills are increasingly demanded by industry, as are good written and oral communication skills.

The Program Evaluation Committee recommends that:

(i) **the instructor, Marine/Small Engine Repair, add a significant computer component, including computer literacy, keyboarding skills and parts and inventory control to the program curriculum;**

(ii) **the instructor continue to emphasize oral and written communication skills both in the classroom and in the shop;**

(iii) **the instructor continue to cover power-train drives and problem diagnosis;**

(iv) **welding instruction time be doubled to two weeks (as in the past).**

In addition, former and current students indicate that career advice and information about the requirements of the Apprenticeship Branch are extremely important aspects of this program. One suggestion made was that apprenticeship requirements be discussed earlier in the program so that students understand precisely what is involved in obtaining a trade qualification in Marine Engine Repair (there is no T.Q. available at present in Small Engine Repair).

4. CURRICULUM (cont.):

The Program Evaluation Committee accordingly recommends that:

(v) **the instructor continue the practice of inviting representatives from local industry to speak to the students about employment possibilities in this field, and that an Apprenticeship Branch representative be invited to address the students about apprenticeship requirements at an earlier date than is currently the practice.**

5. BOOKSTORE PRICES:

Current and former students, particularly those from the 1991 intake, felt that the prices charged by the UCC Bookstore for technical manuals are much higher than those in competing retail outlets such as Overwaitea and Laser Publishing (Alberta). Students evinced a sense of indignation that commercial outlets could retail more cheaply than an educational bookstore.

The Program Evaluation Committee recommends that:

(i) **the Chairperson, Mechanical Trades, and the Marine/Small Engine Repair instructor, consult with the manager of the UCC Bookstore to determine whether books and technical manuals for the program can be retailed at more competitive rates.**

6. ADVISORY COMMITTEE:

All five respondents suggest that the committee is not functioning as effectively as it might. All five committee members were dissatisfied with their performance. Some felt that meetings should be held on a more regular basis and that clearer terms of reference should be outlined. The Program Evaluation Committee noted the absence of program graduates on the Advisory Committee as well as weak representation from the marine engine sector. It accordingly recommends that:

(i) **the Dean, Applied Industrial Technology, and the Chairperson, Mechanical Trades, in consultation with the Marine/Small Engine Repair Instructor, reconsider the membership of the Advisory Committee and invite at least one former student and one representative of the houseboat industry to join it;**

(ii) **the Dean, Applied Industrial Technology, ensure that Advisory Committee meetings are held on a regular basis (a minimum of two meetings per year); that sub-committee meetings are held independent of other Advisory Committee meetings in the Division; and that committee members be fully apprised of their role and function. The Advisory Committee should consider holding at least one of its annual meetings in either Sicamous or Salmon Arm to ensure inboard/outboard marine repair representation from those areas;**

(iii) **the Chairperson and the Marine/Small Engine instructor ensure that Advisory Committee members are informed of meeting times and places by mailed agenda and telephone followup. All agenda materials, including course outlines, budget information and reports (from the Dean, the instructor, C.E.C., etc.) should be made available to Advisory Committee members in advance of each meeting.**

7. MARKETING AND PROMOTION:

The Marine/Small Engine Repair Program has attracted a preponderance of older students (over 30) in recent years. While the Committee acknowledges that this program provides retraining for workers from other sectors (especially the logging industry), it feels that a larger representation of students in the under 30 age group would be beneficial both to the program and to the industry it serves. Employers would be more willing to provide additional training to younger graduates entering the workforce because they are seen as less of an investment risk than older graduates for whom retirement looms. Recruiting high school graduates would also communicate to employers that this is a **pre-apprenticeship** program which requires some on-the-job experience before the trade qualification can be earned.

The Program Evaluation Committee recommends that:

(i) **the Dean, Applied Industrial Technology, the Chairperson, Mechanical Trades, and the Marine/Small Engine Repair instructor make efforts to promote the program at high schools throughout the region in an effort to attract younger students;**

(ii) **the Dean, Applied Industrial Technology, the Chairperson, Mechanical Trades, and the Marine/Small Engine Repair instructor increase their efforts to familiarize employers and potential employers in the region with the pre-apprenticeship nature of the program and emphasize that employers should not expect journeyman-level performances from its graduates.**

8. PROFESSIONAL DEVELOPMENT:

While the Committee recognizes that the Marine/Small Engine Repair instructor has several commercial certificates in marine engine repair (e.g. Mercury and O.M.C. inboard/outboard certificates), it believes that completing the Marine Trade Qualification would set an example for students and encourage their continuation to Marine Apprenticeship level.

The Program Evaluation Committee recommends that

(i) **the Marine/Small Engine Repair instructor complete his Trade Qualification in Marine Engine repair as soon as possible.**

9. ARTICULATION WITH OTHER COLLEGES:

A greater degree of articulation and consultation with other institutions offering similar programs to the Marine/Small Engine Repair Program would assist in long-term planning, curriculum alterations, and in general, would promote UCC's program beyond the Interior of B.C.

The Program Evaluation Committee recommends that:

(i) **the Marine/Small Engine Repair instructor avail himself of articulation funds in his annual budget to liaise with B.C.I.T. and Malaspina College, which offer similar programs.**

10. REGISTRATION INFORMATION PACKAGE:

Several students indicated the desirability of having information on financial aid and CEC funding included in the Marine/Small Engine Repair Program registration information package.

The Committee endorses this and recommends that:

(i) **the Marine/Small Engine Repair instructor, the Chairperson, Mechanical Trades, and Dean, Applied Industrial Technology, consult with the Registrar to assess the feasibility of this proposal.**

APPENDIX A

METHODOLOGY

The data were collected in the following ways:

1) Standard questionnaires were administered to Marine/Small Engine Repair former students, Advisory Committee members, employers, faculty, and current students. All data were processed with an SPSSX software program to achieve mean, median, and standard deviation responses. Verbal comments for each group were recorded separately and anonymously.

2) "Descriptive Data" on the Marine/Small Engine Repair Program's history, description, objectives, budget, etc. were solicited from Earl Bloor, Dean, Applied Industrial Technology, via the standard "Data Required from Dean/Chairperson/ Program Co-ordinator" form, along with course outlines.

3) Statistical data on annual FTE, attrition rates, graduation rates, and grade distribution were provided by the Office of Institutional Research.

4) Leno Zanier, Instructor, Marine/Small Engine Repair, and Earl Bloor, Dean, Applied Industrial Technology, were consulted on the design of the questionnaires.

5) The Evaluation Committee interviewed the following people on aspects of the Marine/Small Engine Repair Program:

    Les Batchelor, Chairperson, Mechanical Trades;
    Barry Manfield, UCC Health and Safety Officer;
    Layton Crozier, Marine/Small Engine Repair student, 1992 intake;
    Russell Cochrane, Marine/Small Engine Repair student, 1992 intake.

Appendix B

MARINE/SMALL ENGINE REPAIR PROGRAM
1987 - 1992 CAPITAL REQUESTS

1988	No requests		
1989	1 used boat hull & trailer	$8,000	
	Tool replacement	5,000	
			$13,000
1990	Specialty tools	1,000	
			$1,000
1991	2 used snowmobiles	2,500	
	2 power steering system assemblies	1,250	
			$3,750
1992	2 used snowmobiles[1]	5,500	
	4 used chainsaws	1,200	
	1 - 4 cylinder Volvo marine engine	2,800	
	2 used outboards (90 & 200 H.P.)	3,800	
	1 marine conversion kit	1,000	
			$14,300

[1]Note: Only 1990 and 1992 (Item 1) requests approved.

Appendix C

MARINE/SMALL ENGINE REPAIR PROGRAM
5 YEAR CAPITAL REQUESTS
1992 - 1997

1992/93

1	4 cylinder Volvo marine (inboard/outboard) engine assy.	$4,000
4	Chainsaws	2,000
2	Used outboards (90 & 200 H.P.)	6,000
1	Marine conversion kit (for 350 cu. in. engine)	1,200
		$13,200

1993/94

4	V-twin O.H. valve engines	$3,500
2	Used personal water vehicles	2,500
4	Trans-axle assemblies	4,000
4	New 2 stroke lawnmowers	3,500
1	New E.F.I. liquid cooled snowmobile	6,000
		$19,500

1994/95

1	Hydrostatic drive tractor (with hydraulic drive grass cutting attachments)	14,000
4	Used 9.9 H.P. outboard motors	4,800
2	3 K.W. generator set	4,000
		$22,800

1995/96

2	2 & 3 cyl. marine diesel engines (with marine gears)	15,000
4	Hydraulic drive motors	3,000
		$18,000

1996/97

1	Small engine/snowmobile dynomoter	5,500
4	Chainsaws	3,000
4	Stern drive assemblies	8,000
		$16,500