AUTOMOTIVE SERVICE SPECIALIST
A.A.S. Degree

Hegis Code - 5306
SCCC Curriculum Code - 369

Ammerman Campus

Review Period:
1999 - 2000 Academic Year

Committee Membership:

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PREFACE

The review of the Automotive Service Specialist Program began during the Spring, 1999, Academic Semester and the data provided by the Office of Institutional Resources were collected in April, 1999. The Student Surveys used in this Review were collected during the Spring, 2000, Semester. The vitae and lists of resources are current.

One of the reasons for the delay in completing the Review by the end of the Spring, 2000, Semester was the fact that the Automotive Service Specialist Program was also undergoing “accreditation” by National Automotive Technicians Educational Foundation (NATEF). Given the number of the faculty in the program and the importance of the review by NATEF, the bulk of the energies of the Department went into the completion of the NATEF review.

The final form of this Review is the product of the work of both the committee members as well as that of other members of the Automotive Service Specialist Program.
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REPORT

I. Program Goals

The goals of the Automotive Service Specialist Program are quite clear and, on the surface, limited. The Program is "... Designed to prepare automotive technicians to responsible positions in either General Motors Dealerships ... or in independent shops..."

Specifically, graduates of the program will be able to:

1. describe the operating systems of the modern motor vehicle and their interdependence
2. diagnose malfunctions of these systems and be able to perform the procedures used in their maintenance and repair
3. understand the physical and mathematical principles which govern the function of these systems
4. accurately analyze and communicate information relating to the above topics both orally and in writing to supervisors, colleagues and customers.¹

These goals are attained by a combination of classroom and practical training. Approximately half of the students time is spent at the college, the remaining training takes place at the sponsoring dealership.

Given the nature of the program, the clearest indication of its success in meeting these goals is indicated by the following:

1. continuing support of General Motors and General Motors Dealerships for the program and the acceptance of students from the program as interns in the dealerships.
2. The addition of a Toyota sponsored component to the program beginning in the Fall, 2000, Semester.
3. The recent (Spring, 2000) accreditation of the program by National Automotive Education Technical Foundation.

The survey of “former students” reveals that this program succeeded in preparing them for their current position (100% responded Extremely or Moderately Well²). The majority also reported that having this AAS Degree was helpful in obtaining their current position and that they are still in an

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¹ Appendix A
² Appendix B
occupation related to automotive technology.\textsuperscript{3}

The Automotive Service Specialist Program is currently in a separate academic department; in the past it has been merged with Engineering and some other departments. The faculty and administrators associated with the Automotive Service Specialist Program feel strongly that the College's decision to make the program a separate department has strengthened the program's relationship with both manufacturers and the local dealers and service facilities where students complete their internships. To a large extent, knowing that the college administrators with whom they are dealing are intimately involved with the program has made corporate relationships more effective. The recent expansion of the program to include Toyota was made easier by this direct relationship.

\footnote{Appendix B}
II. CURRICULUM

The Automotive Service Specialist Program is a career program whose graduates are qualified to begin careers as automotive service technicians.

The curriculum of the ASEP program operates on two levels; the academic and technical courses which are taught within the context of the academic calendar and the work experience which is located at the dealership and is accomplished during the intersession and summer.

The technical courses begin with Integrated Automotive Systems (AT12) which provides an overview of the basic operating systems in a modern motor vehicle. This is followed by courses which concentrate on specific systems such as starting and charging, electronics and air conditioning. These systems courses continue throughout the four semesters. During the practicum (work experience) courses (one each semester) the student is expected to put the knowledge gained in these courses to immediate use. Surveys of "Graduates or Former Students" as well as current first year students and current second year students indicate they are satisfied to highly satisfied with the technical courses in the program. This is true of both the lecture and the laboratory components of the courses. On the whole the comments of current and former students indicate overall satisfaction with the program and the faculty. The things that come in for the most criticism deal with the actual amount of "hands-on" time in the courses.

Courses in the Liberal Arts & Sciences have been chosen to complement the technical and practical courses. These courses will meet the fourth goal of the program (accurately analyze and communicate information relating to the above topics both orally and in writing to supervisors, colleagues and customers).

The science/mathematics courses begin with Algebra II (MA27), or equivalent, during the first semester and continues with College Physics I (PH53) in the second semester. Although the curriculum specifies MA27 and PH53 as the mathematics and science courses, most students take MA41 (Technical Math

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4 Appendix B
5 Appendix C
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\(^4\) Appendix B  
\(^5\) Appendix C  
\(^6\) Appendix D  
\(^7\) Appendix G
I) and PH15 (Automotive Physics)\textsuperscript{8}.

English Composition (EG 11) is required during the second semester and is followed in the third semester by Elements of Economics (EK11) and Applied Psychology (PC15). Technical Writing (EG 21) and Supervision: Concepts and Practices (BA29) complete this sequence in the fourth semester.

Comments & Results of Former Students or Graduates\textsuperscript{9} tend to rate the usefulness of the mathematics, sciences and liberal arts, and business courses lower than the automotive technology courses. The surveys of the current students\textsuperscript{10} tend to be less useful since many of the students have not completed these courses. The course that rates the highest among the second year students is BA29\textsuperscript{11}.

The effectiveness of the curriculum in meeting the goals of the program is best measured by the input of the "outside agencies." This Program is constantly under review of both the sponsoring manufacturers (GM and Toyota) but also of the NATEF organization. Additionally, students in the program must pass state and manufacturer tests to receive their licenses. There is also a faculty training aspect to this outside review; faculty must participate in review courses in order to maintain their certification to teach in the program.

\begin{itemize}
  \item \textsuperscript{8} Appendix C
  \item \textsuperscript{9} Appendix B
  \item \textsuperscript{10} Appendices C and D
  \item \textsuperscript{11} Appendix D
\end{itemize}
III. STUDENTS

Student Body
The basic make-up of the student body has not changed substantially since the 1995 Curriculum Review. Data collected during the Spring, 1999, Semester\textsuperscript{12} show the students are still:

1. primarily full-time \((86.8\%)\)
2. primarily male \((98.1\%)\)
3. primarily young \((69.3\% \text{ less than 23 years old})\) and
4. primarily non-Hispanic white \((88.7\%)\)

Reports reaching the Program Administrators indicate that this program is often overlooked by College representatives during recruitment activities. There is no "hard" verification of these reports, but if they are correct then this could, in part, account for the fact that most of the students are young, white males.

Student Preparation
Students admitted to the program are well prepared for college-level study\textsuperscript{13}. The percentage of students enrolled in developmental courses is quite low:

1. 0.7\% in Developmental Reading
2. 1.2 \% in Developmental Math
3. 0.5\% in Developmental English

Over the last ten years, the scores in the College Placement Test in Math increased somewhat Algebra scores have remained the same. On the other hand, the scores in Reading and English have decreased. Most of the drop in the these two was in the class entering in the Fall, 1998, Semester\textsuperscript{14}. Further study will reveal whether this is a one-time event or a trend.

Graduation Rate
The Graduation Rate\textsuperscript{15} for this program has stayed in the neighborhood of the 30\% to 35\%. The exception is the cohort that entered in 1995; the graduation rate for that group is 42.9\%. On the whole, very few of those entering the Automotive Service Specialist Curriculum transfer to and graduate from other curricula within the College. Responses from former students show that few transfer to other colleges when they leave Suffolk.

\textsuperscript{12} Appendix F, Tables 1, 2, and 3

\textsuperscript{13} Appendix F: Table 4

\textsuperscript{14} Appendix F: Tables 5 & 6

\textsuperscript{15} Appendix E: Table 7
This Graduation Rate is comparable to the College-Wide Graduation Rate\textsuperscript{16} with one variation: students in the Automotive Service Specialist Curriculum tend to complete the program within the two year framework. An additional component of the Graduation Rate that does not show in Appendix 7 is that the Graduation Rate for the students in the GM component is substantial higher than that for students in the non-manufacturer specific section. The Graduation Rate for students admitted to the GM sponsored component is closer to 60%.

**Program Size**
From 1988 through 1995 the size of this program stayed fairly stable at about 35 students. This enrollment represented about 20 first-year students and about 15 second-year students. In 1996, total enrollment jumped into the mid-50s\textsuperscript{17}. This increase in enrollment is correlated with the opening of the Automotive Technology Facility on the Ammerman Campus and the expansion of the curriculum to include a track for Independent Automobile Shops.

**Summary**
Overall the students enrolling in this curriculum have proven to represent a fairly consistent subgroup of the College’s students\textsuperscript{18}: the high school averages, college GPA’s, and time taken to graduate have stayed constant over the past ten (10) years.

\textsuperscript{16} Appendix F: Table 8 and 9
\textsuperscript{17} Appendix F: Table 10
\textsuperscript{18} Appendix F: Table 11
IV. RESOURCES & ORGANIZATION

Facilities
The opening of the Automotive Technology Building has provided the program with sufficient space to house the laboratories, faculty offices, etc. The one area which may need attention soon is the enlargement of the secure storage facility for automobiles supplied by the manufacturers. As the program expands to include other manufacturers, more cars will have to be stored on site.

Instructional Materials
At the moment the instructional materials and equipment are sufficient.\textsuperscript{19}

Funding
The Program receives funding from two distinct sources: the College and the manufacturers. At the moment the College supplies monies to cover salaries, utilities, building maintenance, office supplies; the amount of money the College supplies to cover instructional materials (computer programs, AV materials, etc.) and instruction equipment is kept relatively low because of support from GM and Toyota.

GM, Toyota, and other corporations provide both materials and funds to support the Program. The vast majority of the specialized testing and diagnostic equipment used by the students has been donated to the program by one or more of the corporations associated with the program. Some of these corporations also provide monies to support student testing, recruiting, advisory board meetings, faculty travel to training programs and industry meetings. Until recently, it has been difficult to access these funds due to the accounting and budgetary constraints of the College and County. Recently the College has moved towards establishing a special fund that will allow easier access to these funds.

\textsuperscript{19} See Appendix G
Administrative Structure

It is imperative that the Automotive Department remain as an independent department at the college. The Academic Chair has responsibilities which encompasses a broad range of items:

1. Scheduling classes and making teaching assignments.
2. Recruiting which includes having high schools visit the college, visiting high schools, setting up and attending various automotive shows at the Nassau Coliseum and Jacob Javits Center in New York City.
3. Attending advisory board meetings at eastern Suffolk BOCES and Nassau BOCES.
4. Meet with every student that enrolls in the automotive program and hosting an orientation session for every new incoming class.
5. Conducting building tours for corporations and other interested parties.
6. Constant dealer visits to monitor the students' progress.

Last, but not least, a constant positive contact must be maintained with the corporations that are actively involved with the automotive program. They include General Motors, Raytheon Corporation, Toyota, Chrysler, Hunter Wheel Alignment Inc., Snap-On Tool Corp, and the Greater New York Automotive Dealers Association. This interaction provides the Program College with vehicles, updates for our software, and publicity. These corporations also supply funds to support the required training and retraining classes for our faculty. It is sometimes difficult for those of us in an academic setting to realize that corporations are used to working without all of the constraints to which we are accustomed; industry representatives find it difficult to understand why things at the College proceed as slowly and with as many checks and balances as they do. Having one person with whom they can interact helps maintain the positive relationship necessary for their continuing support.
V. STAFFING

Teaching Faculty
There are currently three (3) full-time classroom faculty in the Program. At the moment, there are two (2) adjuncts used on occasion.

Professional Assistants
There is currently one (1) full-time PA assigned to the Program.

Secretarial & Clerical
The staffing and support are currently sufficient.

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See Appendix H
VI. MAJOR FINDINGS

Goals:
The Goals of the Automotive Service Specialist Curriculum are stated clearly and in a manner which permits assessment.

Curriculum:
The curriculum is designed to provide both a technical and liberal arts/science component. The fact that the majority of the students take MA41 and PH15 (Appendix E) instead of MA27 and PH53 could raise some questions about the commitment to the “Liberal Arts and Sciences” components of the curriculum.

Both current and former students rate the technical course higher than the liberal arts and sciences courses and the business course.

Student Body Make-up:
The students in this program are a very homogeneous subset of the total student body of SCCC. There are almost no females admitted each year and relatively few students of from “minority” ethnic groups.

Student Preparation:
Based on placement in developmental courses, the students admitted to this program are prepared to college-level work.

Recruitment/Admissions:
The faculty and administrators associated with this Program feel that the Admissions Faculty are not clear about the purposes of the Program and may not be encouraging students to consider enrollment in the Program.
Graduation Rate:
The Graduation Rate for this program has stayed fairly constant and is consistent with rates for the College as a whole. What is somewhat different is that a very high proportion of the graduates complete the program within two years. This is not true for many of the other programs at the College.

Resources:
At the moment the resources are adequate; this is due to the direct support from industry which supplements the College's funding. It is important that the College complete the establishment of a mechanism which allows the Program relatively quick access to funds provided by industrial sponsors while still maintaining oversight which is not intrusive.

Organization:
Due to the specialized nature of this Program and its somewhat "out-of-the-way" location on campus, it is recommended that this Program stand as a separate department on the Ammerman Campus. Joining with another department would dilute the attention necessary for the continuing success of the Program.

Staffing
The staffing is currently adequate; should the program expand, the staffing level will have to be reviewed and re-evaluated.
VII. Recommendations

Goals:
There are no major changes that need to be changed with respect to the goals. As with any other program, the goals need to be constantly reviewed in light of changes in the industry.

Curriculum:
Careful consideration should be given to making the "published" curriculum consistent with the math and physics courses actually taken by the students. Additionally, it is important that the potential value of the "non-automotive" courses to the students be better emphasized.

Student Body Make-up:
Given the nature of this program, it is probable that it will continue to attract more males than females. However, it would be nice to see an increase in the ethnic and sexual diversity among the students. The faculty and admissions personnel should actively recruit students in under-represented groups.

Student Preparation:
The scores on the College Placement Tests need to be monitored carefully so careful advisement of incoming students will occur.

Recruitment/Admissions:
The faculty and administrators associated with this Program and the Admissions Faculty need to develop a closer working relationship to ensure that the nature of the Program is understood.

Governance:
Given the special relationship between the Program and the automobile manufacturers and service facilities, it is recommended that the Program continue to housed in a separate department.
Assessment & Future Program Review:
Although this Program does not have accreditation from the sort of "outside agency" with which colleges normally deal, the Program is closely monitored by both industrial and licensing agencies. Based on the latest review (Fall, 2000), the Program is meeting its goals as well as the industry standards. As long as this review process by outside agencies continues, we recommend that the Program be treated the same as other Programs at the College that are subject to review by outside agencies.
APPENDICES

Appendix A .... Program Goals and Curriculum
Appendix B .... Survey of Former Students/Graduates
Appendix C .... Survey of First Year Students
Appendix D .... Survey of Second Year Students
Appendix E .... Math & Physics Courses Taken by Students in Automotive Service Specialist Curriculum
Appendix F .... Curriculum Review Report
Appendix G .... Program Resources
Appendix H .... Faculty Vitae
Appendix I .... Student Comments
APPENDIX A

AUTOMOTIVE SERVICE SPECIALIST
PROGRAM GOALS & CURRICULUM

Program Goals
Specifically, graduates of the program will be able to:
1. describe the operating systems of the modern motor vehicle and their interdependence
2. diagnose malfunctions of these systems and be able to perform the procedures used in their maintenance and repair
3. understand the physical and mathematical principles which govern the function of these systems
4. accurately analyze and communicate information relating to the above topics both orally and in writing to supervisors, colleagues and customers.

Curriculum (SCCC Catalog, 1999 - 2001, p. 95)