Verification Team Report

A. Program Under Review
Machine Tool Technology

Self-Study Team Member
Dean Ehlen

Verification Team Members
Dianna Chiabotti, John Liscano, Bonnie Vinnelson

B. Statement of Completion
The verification team believes that the Program Evaluation and Planning Report (PEPR) is basically complete for this unit. The PEPR did not include a student survey. The verification team felt that a student survey would have made for a more complete PEPR.

C. Strengths of the Unit
The verification team believes that the program has the following strengths:

- The commitment of the faculty member and the Instructional Assistant;
- A high rate of student success at the course level;
- The enormous local efforts at outreach; and
- The resourcefulness of the faculty in utilizing obviously outdated equipment and facilities.
- The shop is very clean and well organized.

D. Challenges (concerns, difficulties, areas for improvement)
The validation team concurs with the PEPR that the unit has the following challenges:

- Challenges with funding for recruitment, and updating equipment and the facility.

In addition, the Verification Team believes that the program has the additional challenges:

- The course outlines of record are in need of revision and updating. Out of the 17 courses in the program 14 of them have course outlines of record that are outdated and should have been revised in 2003.
- The program has extraordinarily low enrollment. This seems to reflect structural, not cyclical, economic changes for the Napa County Area.
• The program has shown a statistical increase of approximately 78%. This is somewhat misleading. The course with the largest increase (90%) is MACH 100. The 90% increase represents an increase from 10 to 19 students. Most relevant is that this course, MACH 100, is not a required course for the Machine Tool technology Program.

• The program has issued only 1 degree in the last 3 academic years and no certificates, potentially illustrating a low need for a certificate or degree in this program.

• Although state and national LMI reports do show a growth in this occupation, the growth is not in Napa County. According to the Employment Development Department, the projected growth in this field over the next 6 years is 8.4%. In actual numbers for Napa County according to the same reports, there are two openings for per year.

• The machines and tools used in the program are outdated, in need of repair, and potentially unsafe.

E. Summary of the Verification Team’s Recommendations

The verification team has the following recommendation:

1. Possibly extend outreach to business and shops out of the local area. There is some potential for collaboration and training;

2. Extend outreach to Solano County, and other outlying areas, and to employment development programs due to the consistently low enrollment despite local outreach efforts;

3. Develop student learning outcomes at the course level;

4. Research ways to access funds for machine and tool repair and replacement.

5. Update the 14 out-of-date course outlines of record in the upcoming semester.

In sum, the verification team is concerned about this program. The program has consistently low enrollment despite extensive outreach efforts, the equipment is in poor repair, the local employment prospective for the field in Napa County are low, and the course outlines of record are predominately outdated. The team encourages the Program to try new and inventive methods at recruiting students.
1. Missi**on**
   A. Program Mission Statement
   The Machine Tool Technology program prepares students for careers as machinists, CNC operators, and programmers and satisfies the needs of life-long learners through quality instruction and job placement services.

   B. The program falls within one or more of the following categories (check all that apply):
      - Transfer/Degree
      - Vocational
      - Remediation
      - Non-Credit/Community Services

2. Curri**culum** and Instruction
   A. Review the course outline data and assess the following:
      - Currency of course outlines. Course outlines must be reviewed every five years. If all course outlines have not been reviewed, include a timeline for review in your unit plans.
      All of the courses were reviewed in 1998 and passed by the Curriculum Committee. Although the courses have not been reviewed by the Curriculum Committee since 1998, the advisory committee reviewed the program's courses in 2004 and approved the courses as they were written in 1998 without any changes. The advisory committee also reviewed the entire program for alignment with industry standards. The committee approved the program without changes.

      - Appropriateness of courses to the program.
      All of the courses are sequential courses leading to a degree or certificate in Machine Tool Technology.

      - Appropriateness of current pre- and co-requisites and recommended preparation.
      Since all courses are in a sequence, it is required that the students follow the sequence, so they have the required information to succeed in the subsequent courses. The math requirement is necessary, so the students will succeed in the math portion of the CNC Programming course. This course requires the understanding and application of trigonometry. The pre-and co-requisites were approved by the Curriculum Committee at the time of the last rewriting of the courses.
▪ Appropriateness of the degree and certificate requirements.

The degree and certificate requirements are based upon the recommendations of the advisory committee, the recommendations from the California State Apprenticeship Council, and NIMS (National Institute for Metalworking Skills) standards.

B. Review the Student Learning Outcomes Program Map and assess the following:

▪ Complete the SLO Matrix (attached).

▪ What timeline have you established for developing course-level student learning outcomes?

During the academic year 2006-2007, all courses will be updated for presentation to the curriculum committee. During the 2007-2008 year, implementation of those changes will be made.

▪ Once established, in what ways will students in your program demonstrate achievement of stated learning outcomes? Check all that apply:

Each section of the curriculum has tests and lab assignments to validate the students learning. A student cannot proceed unless they have accomplished those tasks.

At the end of their academic career at NVC, they are placed with an employer in the machine tool trade. Their success in employment in the trade further validates the learning outcomes. All students that have taken the program and were interested in pursuing a career in the machine tool trade and were physically and mentally competent to work have found jobs.

☑ Student internships
☑ Complete program competency exams
☑ Assessment by departmental rubric
☑ Obtain jobs in the field
☑ Pass state/national examinations
☑ Success in a subsequent course sequence
☑ Performance after transfer
☑ Portfolios/capstone projects
☑ Other ______________________________

▪ Discuss the methods used (above) to assess whether the students achieved the stated student learning outcomes. What was the success rate?

Not applicable; SLOs are not yet implemented.

▪ For those students who did not achieve the SLOs, what interventions were used to support those students? What programmatic changes will be made to ensure future SLO achievement?

SLOs are not yet implemented, yet these are the current intervention methods:

Intervention comes in different forms for different problems. Students are given weekly assessments on their progress. If their failure is in written work, the instructor speaks to them to determine the nature of the problem. If the problem is a learning disability, the student is referred to the Skills Center for testing. If the student is having difficulty in preparing for written exams, suggestions are given to guarantee a
higher success rate. If motivation is the problem, weekly encouragement is given un-
til the student is able to become self-motivated.

SLO's related to soft skills are a daily task, since students spent three hours per ses-
SLO's related to soft skills are a daily task, since students spent three hours per ses-
persession together. Soft skills are very important because trades people work in groups
session together. Soft skills are very important because trades people work in groups
and must exhibit good interpersonal skills.

- An accreditation standard requires that the institution makes public expected learning
outcomes for its degree and certificate programs. In what ways are the program's
An accreditation standard requires that the institution makes public expected learning
outcomes for its degree and certificate programs. In what ways are the program's
expected learning outcomes made public? Check all that apply:

- Syllabi
- Catalog
- Brochure
- Articulation/Transfer agreements
- Website
- Other ______________________________

C. Describe how your program ensures that the syllabi for each instructor are congruent
with the course outline. Describe what measures are taken if any syllabi are incongruent
with the course outline.

This is a small program, and the program coordinator writes all of the syllabi. If a sylla-
bus is found to be incongruent with a course outline, the program coordinator makes the
appropriate changes.

D. What methods are used by the program to ensure that similar standards of academic
rigor of the course outline of record are followed by all instructors in the discipline?

At this time, there is only one instructor, so this problem does not exist. If a second in-
structor were hired, the program coordinator would review academic rigor with the in-
structor as it applies to this program.

E. What instructional methods are used by the program faculty to address the diverse stu-
dent population and to encourage retention and persistence of the program’s students?

Since this is a small program, the faculty has the opportunity to become very well ac-
quainted with each student and work with them on a one-to-one basis to identify their
specific problems and needs and seek solutions to those identified problems and needs.

F. What instructional methods are used by the program faculty to address the differences in
learning styles and to encourage retention and persistence of the program’s students?

Because of the material covered, it is necessary to present material through audio, vis-
ual, and kinesthetic methods. This gives students the opportunity to learn through differ-
ent teaching styles. If a student is identified who has a greater difficulty with the material
being presented, the faculty will spend extra time with the student to guarantee the stu-
dent's success.
G. Review existing articulation agreements with high schools and other colleges. Are they adequate? Current? Effective? If not, what changes will be made?

The program does not have any existing articulation agreements. A previous articulation agreement was written for articulation between the Machine Tool program at Napa High School and NVC. The Napa High School program was closed in 2002.

H. Reflect on your responses in Section 2, Curriculum and Instruction, and write objectives for improvement on Schedule A, Unit Plan, as needed.

3. **STUDENT SUCCESS AND EQUITY**

A. Review the data on enrollment, retention, and successful course completion (and grade distribution to be phased in). Discuss program trends relative to college-wide trends. Identify areas where disparity exists for any demographic group (ethnicity/race, gender, age, disability).

- From the Fall 2002 to Fall 2004 semesters, the program realized a 79% increase in enrollment, and from Fall 2002 to Spring 2005 the program realized a 53% increase. These increases are much greater than the college’s growth. The Fall 2004 semester had a decrease of 2.2% over Fall semester 2003 and an 11% decrease in enrollment over Spring 2003.
- Retention rate for the program has averaged 85% for the semesters since fall of 2002. Retention rates all of NVC classes is usually between 79% and 83%, with the spring semesters having the higher rates.
- Successful completion rate during the above time period was 74.8%. NVC overall successful completion rates are averaging near 67%.

Sources: *NVC Demographic Report, Fall 2004; NVC Institutional Research Update, Winter 2003*

B. Identify strategies used to identify and assist students at risk. Discuss their effectiveness.

Students typically perform better in the lab than in the classroom. Because of this trend the instructor identifies at-risk-students through quiz scores. When a student shows a trend of low scores on the weekly quizzes, the instructor speaks to the student privately to determine the cause of the low scores. If the student identifies typical problems related to learning disabilities, the instructor refers them to the Skills Center for testing. Once the disabilities are identified the recommendations from the Skills Center are implemented.

C. What has the program done to formalize links with support services for students?

Since the program is a small program and time is available to work with students on an individual basis, no formal link has been established. The existing method has been very successful in identifying students who need help and encouraging those students to seek help from Student Services and the Learning Skills Center.

D. Review the full-time/part-time instructor ratio (to be phased in). Discuss trends, and needs.

There is only one full-time instructor who teaches an overload.
E. Review the data on degree/certificate completion and any job placement data available. Assess the effectiveness of your program. (vocational programs only)

- All students who have been actively seeking employment have found jobs as machinists. The Program Coordinator functions as a job placement counselor placing people in jobs, placing both students of the program and machinists who have not attended machine tool classes at NVC. In order to promote goodwill with both the community and local industry, machinists are sought out to fill vacancies that cannot be filled by students or graduates of the program.

- The program has a very low completion rate for degrees and certificates. The reasons are that the program has a large portion of students currently working who are only interested in upgrading their skills, a number of retired people who see machine tool as a hobby, and another segment who are professional engineers interested in upgrading their hands-on skills to produce prototype parts.

F. Reflect on your responses in Section 3 Student Success and Equity and write objectives for improvement on Schedule A, Unit Plan, as needed.

4. ENROLLMENT TRENDS AND STUDENT SATISFACTION

A. Review the enrollment trends data, and describe recent trends. Are there external factors such as community demographics or the economy that have affected the program? What are the plans to address these factors?

- Since 2002 enrollment has increased. This program’s enrollment was hurt by the “dot-com” demise and the downturn in the state’s economy. The enrollment also fluctuates as the college enrollment rises and declines. The LMI report states a national growth of 8% in machinist jobs during the period from 2002 to 2012 and for the same period a state growth of 9%.

- Another local factor in enrollment is that many of the high school vocational programs have been closed and all of the middle school shop classes have been closed. The only high school machine tool program was closed in 2002 when the instructor retired. This had been a “feeder” class to the NVC program.

- A third factor is the emphasis by local high schools on four-year college academic degrees. It is impossible to make a recruiting presentation to general population students at the high schools. NVC presenters are sent to opportunity classes and ESL classes. Many of the students at presentation and on campus tours do not speak any English. It is difficult to recruit enough students to fill classes and have good completion rates when the program is forced to recruit from populations other than the general population of high school students.

- The remedy to these problems is to continue high school tours to the campus, high school presentations at the high schools, and to advertise to the general population of students through on-campus posters and flyers and in school newspaper ads. Ads in local newspapers will also be a continuing effort and direct mailings to local industry.
B. Review the load (WSCH/FTEF), productivity (FTES/FTEF), average class size, and financial data and describe recent trends.

- The WSCH/FTEF and the FTES/FTEF have increased since spring 2002 with a slight decline in spring of 2005. With all of the advertising and recruiting efforts, the trend should be a slow continued growth with slight increases and decreases within the trend.

- Funding for the program was reduced in 1989 by 51%. The 1990 budget was 49% of what it had been in 1989. This year the budget is 54% of the 1989 budget. The program has operated without any repair funds since 1990. Because of the many years of under-funding, the program coordinator/faculty member has spent many hours doing machine work for pay to purchase new equipment. More than $100,000 has been spent on new equipment by the trust account since 1990 and countless hours by both the faculty member and the half time IA rebuilding and repairing equipment. (The IA works 20 hours per week, which is equal to the amount of class time each week. All of the repair work that the IA completes he does on his own time without compensation.) This effort to upgrade and maintain equipment has detracted from recruiting efforts.

C. Review the schedule of classes for the program and the results of the student satisfaction surveys, and discuss whether the course offerings are scheduled appropriately to meet student need.

Not applicable

D. Discuss the results of the student satisfaction survey, identifying areas for improvement and continued success.

Not applicable

E. What documented labor market demand does this program address? Does the program offer unique training (and not represent unnecessary duplication of manpower training) in the area? (vocational programs only)

State and national LMI reports show continued growth in this occupation. Most community colleges have closed their machine tool programs. Napa Valley College is one of the last machine tool programs in northern California. One local company has called three times in the last week frustrated by the fact that after extensive advertising the company cannot find machinists to hire. This company is in the repair of oil refineries and has lost one of four facilities due to the Katrina hurricane. The company foresees a long continued increase in business and a severe lack of qualified machinists.

F. Reflect on your responses to Section 4 Enrollment Trends and Student Satisfaction, and write objectives for improvement on Schedule A, Unit Plan, as needed.
5. **COMMUNITY OUTREACH**

A. What recruitment and/or community outreach activities has the program engaged in or initiated?

- Designed and produced a color mailer and a color brochure
- Direct mailings to local machining facilities and high school counselors in Napa, Lake, and Solano counties
- High school presentations in Napa and Sonoma and Sonoma counties
- Tours for high school students and tours for high school counselors
- Tours for industrial manufacturing supervisors
- Consulting in CNC programming and toolmaking to local industry
- Built portable infant incubators and new ventilator valves for a children’s hospital

B. What has the program done to establish relationships with secondary schools and/or four-year institutions?

- Designed and printed a mailer and a new program brochure
- Made a PowerPoint presentation for presentations to high schools
- Sent direct mailings to high school counselors in Napa, Lake, and Solano counties
- Made high school presentations in Napa and Sonoma and Sonoma counties
- Provided tours to high school students and high school counselors

C. What has the program done to establish relationships with the business community (if a vocational program)?

- Parts are machined for companies who cannot find a machine shop willing to machine their parts.
- Direct mailings are sent to local companies informing them of future classes.
- Contract education classes are held for special needs of local companies.
- Frequent visits are made to local companies to form a network.
- Job placement services are offered to companies in search of new employees.

D. How has the involvement of the advisory committee helped in improving and/or promoting the program? (vocational programs only)

- The Program has an advisory committee that meets semi-annually with co-chair meetings held more frequently as matters dictate.
- Consulting is performed to aid small businesses in the areas of machining processes, development of fixtures for manual and CNC machining.
- The committee co-chairs assist in the contacting owners and managers of other local businesses that might benefit from the Program’s curriculum, job placement services and graduates.

E. Reflect on your responses in Section 5 Community Outreach and Articulation and write objectives for improvement on **Schedule A**, Unit Plan, as needed.
6. **ACCREDITATION AND EXTERNAL REVIEWS**

A. Review the Accreditation Self-Study Planning Agenda, Accreditation Final Report, and results of previous program evaluations that are included in the attached data. Discuss the recommendations of the review teams relevant to the program and how the program responded.

- During the Fall Semester, 2004, the advisory committee of the Machine Tool Technology Program met with Jerry Somerville and Bill Blair to identify jobs that students would be preparing for and to list Student Learning Outcomes for the Program. Since the meeting, the program coordinator has reviewed the course outlines to confirm that the curriculum teaches the desired learning outcomes.

- “The comments of the (advisory) committee have been to continue the curriculum as it has been taught (and) incorporate new equipment into the curriculum that reflects state-of-the-art (technology) and produce more graduates for the local workforce.” (1997 Machine Tool Technology Program Review)

- Extensive outreach has been done since the 1997 Program Review. A new mailer and a new brochure have been designed and produced. Several mailers have been sent to local industries and high school counselors in the counties of Napa, Sonoma, and Lake.

- Additionally, several presentations have been made at career days at Napa and Sonoma high schools. Tours have been given of the NVC facilities to high school and middle school students and high school counselors from Napa and Solano counties.

- Radio appearances have been made on KVON/KVYN to increase public awareness of the Machine Tool Program.

- To update the curriculum several machines have been purchased since 1997 and all of the course outlines have been reviewed by the advisory committee to determine that the outlines are current.

B. Indicate the sources of information used in Question 6A.

- ✔ Accreditation Self-Study Planning Agenda
- ❏ Accreditation Final Report
- ✔ Previous program evaluation recommendations

C. Review the recommendations from any other licensing or accreditation bodies. Discuss the recommendations of the review teams relevant to the program and how the program responded.

- No other recommendations have been made.

D. Reflect on your responses in Section 6 Accreditation and External Reviews and write objectives for improvement on **Schedule A**, Unit Plan, as needed.
7. **RESOURCES**

The results of program evaluation feed into the planning and budget process. Consider the staffing and financial data provided, as well as the Unit Plan forms you completed during this evaluation, while answering the questions in this section. Requests must be linked to the 2005-2011 NVC Strategic Plan Goals and Objectives.

A. **Staffing**

Summarize the staffing resource needs identified in the unit plans. Discuss any changes needed. (Complete Schedule B, Staffing, as needed)

A series of evening courses are being discussed by the Technical Division Dean and the Vice President, Instruction to fill the need of the night population and increase enrollment of the program. In order for this series of courses to be offered an IA (.5 FTE) and a part-time instructor must be hired. This is the only program staff change anticipated.

B. **Program-Specific Equipment**

Discuss the strengths and weaknesses of the program-specific equipment available to enhance program success. What needs remain? What strategies are planned to meet those needs? (Complete Schedule C, Program-Specific Equipment Request, as needed.)

The lab has 36 machine tools. Much of the program equipment needs to be replaced.

- The three horizontal milling machines are 1944 vintage. One of the machines is seldom used because it is too big. One machine is used for gear cutting and the third machine is used in all of the classes including the beginning classes. This machine is a safety hazard because the table will suddenly fall to the floor with the handle spinning wildly. The spindle also is bad and has a worn grease seal. As the spindle is running, grease for the spindle is flying across the lab, landing on students, the floor and other machines. Some operations can only be performed on this machine, so it is necessary to keep the machine.

- Two of the small engine lathes that each class must begin on, were purchased when the building was built in 1968. Nine of the eleven original lathes have been replaced, but the five lathes replaced in 1987 and 1988 need to be replaced as well.

- The two large vertical milling machines, 1986 & 1987 models, were donated to the program in 1989. Because of the lack of repair funds, these machines need rebuilding or replacing.

- Two of the CNC (Computer Numerically Controlled) machines were made in 1997, which in the machine tool industry is considered obsolete technology. The program can continue for a few years with these machines because the basics of CNC can be taught on these machines. The third CNC machine tool was purchased in 1986. This machine should be replaced as funding becomes available.

- The six student computers were purchased in 1986. These computers are Pentium II, 333 MHZ. The new MasterCam Version 10 software already purchased will not operate on these computers. Until new computers can be purchased, students in CNC classes taught in the Spring semesters will be taught the older software.
The program coordinator has worked a second job for many of the last 20 years at NVC to earn the money to buy new equipment. Most of the purchases of machine tools since 1989 have been in part or solely funded from the trust account using the funds donated by the program coordinator. New equipment will be necessary to keep the program viable with local industry.

At this time, there is not a plan for upgrading the equipment.

C. Facilities Improvement/Renovation

Discuss the strengths and weaknesses of the physical resources available to enhance program success. What needs remain? What strategies are planned to meet those needs? (Complete Schedule D, Building Improvement/Renovation, as needed.)

The facilities have had very little renovation since built in 1968. The building can be used in its current configuration until enrollment grows. The amount of space is a limiting factor for new equipment. The computer room has only six stations and is a former tool room without air conditioning or adequate ventilation. The restrooms are inadequate for female students and handicapped access. The inside and the outside of the building need painting. Some areas of the building’s interior, especially the ceilings, have not been painted since 1968. The landscaping has been abandoned by Facilities because of the lack of groundskeepers since 1989. It is difficult to have tours to recruit students when it is obvious to visitors that the facility has been neglected.

It was hoped that the bond money could be used to upgrade the facility, but the 500 building has not been included at this time.

D. Technology

Discuss the strengths and weaknesses of the technology available to enhance program success. What needs remain? What strategies are planned to meet those needs? (Complete Schedule E, Request for Technology, as needed.)

New technology cannot be incorporated into the curriculum until new equipment has been purchased. Bond funding is necessary to accomplish this goal.

E. Professional Development

1) Using the results of the Faculty/Staff Accomplishments survey, summarize the professional development activities undertaken by faculty and staff.

See attached professional development survey. Professional development has been very limited because of the lack of new technology. With the installation of new computers and MasterCam Version 10 software, both the program coordinator and the IA need to attend classes at Gig Harbor, WA to learn the new software.

2) Based on the goals that resulted from this program evaluation, complete Schedule F, Professional Development Needs, to indicate what areas of focus have been identified for future faculty/staff development. Note: Budget requests for Travel and Conference should be addressed or requested in the question 7G.
F. **Learning Resources**

What learning resources (e.g., books, periodicals, videos) are needed to enhance program success? (Complete **Schedule G**, Learning Resources Needs, as needed.)

Funding has always been available for necessary learning resources.

G. **Operational Budget**

Are operational funds appropriate to enhance program success? If not, how would additional operational funds be used to enhance program success? (Complete **Schedule H**, Request for Budget Augmentation, as needed.)
PROGRAM EVALUATION SUMMARY FOR MACHINE TOOL TECHNOLOGY

Complete the following sections based on the program evaluation completed. This summary will be forwarded to the Planning Committee after the verification phase is complete.

Program Achievements (major achievements, changes, implementations, progress since last program review)

Since the last Program Review in 1998, recruitment has been put into the top priority of the program. With the assistance of the co-chairs of the advisory committee, several recruiting tools have been implemented. The first tool use was personal calls to leaders in industry, soliciting participation in filling classes with employees from machine tool companies. Another method for reaching employers who might be interested in the program’s offerings was a direct mailer to companies in the machine tool trade in Lake, Napa, and Solano Counties. Before each semester, personal phone calls are made to a select number of companies as a reminder of the beginning of new classes.

High Schools are targeted through several efforts. Presentations are given at the high Schools during the year when NVC is invited to participate in career forums. A new brochure and mailer has been designed and printed for outreach efforts. High School counselors bring tours of interested students to campus several times each year to view specific vocational programs. High school counselors also receive letters from the program coordinator with program brochures, requesting that the counselors send interested students to the program coordinator for additional information.

Several new engine lathes have been purchased using Trust Account funds supplemented with excess funding at the end of the budget year from various sources, e.g., VTEA. The Machine Tool Program has not received any instructional equipment funds or has been included in the VTEA grant since the last Program Review Plan.

Strengths (unique characteristics, special capacities)

The strengths of the program have always been in the well-rounded curriculum, the expertise of the staff, the ability of the program to survive without sufficient funding and support, and above all the near 100% placement of students. The students placed are students in the program, not necessarily students that graduate.

Challenges (concerns, difficulties, areas for improvement)

The challenges are recruitment, funding for recruitment, funding for updating equipment, and funding for facility updating.

Optional: What additional data, if any, would have been helpful to effectively evaluate the program?
The program evaluation report is reviewed by the program faculty or staff, signed by the program evaluation chair and division chair or supervisor, and forwarded to the Office of Research, Planning, and Development by _____________________, for the verification phase.

| Program Evaluation Chair Signature: ______________________________ |
| Division Chair/ Supervisor Signature: ______________________________ |
| Date: ______________________________ |

**VERIFICATION PHASE**

The verification team will review the Program Evaluation Report for accuracy and completeness, and the process used to develop the report (see verification team duties). The program evaluation will be verified by _______________________. Once the report is verified and shared with the PEP team, will be forwarded to the appropriate Vice President or President (for administrative services) by _________________________.

| Verified on: __________________________________________ |
| Verification Committee Signatures: __________________________________________ |

**ACKNOWLEDGEMENT PHASE**

The Vice President (or President for administrative services) will read and acknowledge the program and planning document and send a letter to the program team and discipline/program faculty or staff, with copies to the Academic Senate President, the Planning Committee, and the President of the college (who will forward them to the Board of Trustees). The vice presidents and/or President will use program review results to 1) base discussions and decision making on data and evaluation provided by program evaluation; 2) inform program planning; and (3) advocate for program needs.

| Vice President/President __________________________________________ |
| Date Letter Sent: __________________________________________ |
| Recommend review in 2 years: Yes _____ No _____ |
# Program Evaluation and Planning

## Student Learning Outcome (SLO) Matrix

### Machine Tool Technology

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<thead>
<tr>
<th>COURSE</th>
<th>SLO #1</th>
<th>SLO #2</th>
<th>SLO #3</th>
<th>SLO #4</th>
<th>SLO #5</th>
<th>SLO #6</th>
<th>SLO #7</th>
<th>SLO #8</th>
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</thead>
</table>

Page 15 of 23
# Unit Plan

## Machine Tool Technology

<table>
<thead>
<tr>
<th>NVC Strategic Goal #1 - 5</th>
<th>Program Evaluation Section</th>
<th>Objectives</th>
<th>Priority In Rank Order</th>
<th>Program Activities/Actions</th>
<th>Resources*</th>
</tr>
</thead>
</table>
|                           | 5 & 6                      | 1. Increase number of degrees by 5%  
2. Increase number of certificates by 5%  
29. Increase enrollments by 2% per year  
30. Increase headcount by 2% per year | 1          | 1. Hire full-time recruiter for vocational and low-enrollment programs  
2. Send 250-500 mailers to local businesses semiannually to inform them of current class offerings  
3. Refine PowerPoint presentation for high school recruiting | 1. Funding for FT recruiter  
2. Funding for printing mailers, postage, & mailroom help  
3. None |
|                           | 5 & 6                      | 2. Renovate and expand Machine Tool facility | 2          | 2. Plan for a renovated facility with new state-of-the-art equipment and computers | 2. Bond funding to accomplish the updating of the facility |
|                           | 6                          | 3. Create and maintain a safe, clean, comfortable, and attractive Machine Tool facility | 3          | 3. Request custodial and groundskeeping help | 3. Funding for more custodial and groundskeeping personnel |

* New requests should be defined on resource forms and included in the unit budget.

## Program Evaluation Section

- A. Curriculum and Instruction
- B. Student Success and Equity
- C. Enrollment Trends and Student Satisfaction
- D. Community Outreach
- E. Accreditation and External Reviews
FACULTY AND STAFFING

Accreditation reference: Human resource planning is integrated with institutional planning. The institution systematically assesses the effective use of human resources and uses the results of the evaluation as the basis for improvement.

Project additional needs above and beyond the current status. Please include in your projected needs any known position that will be vacated due to retirement. Replacement positions are not guaranteed. Information will be used in the faculty and staff prioritization processes.

<table>
<thead>
<tr>
<th>Job Title and Justification</th>
<th>FTE</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional Assistant III</td>
<td>.5</td>
<td>19</td>
</tr>
</tbody>
</table>

The Vice President of Instruction has requested a night class of Machine Tool Technology as an offering for the evening population. The current IA is a half-time position (20hours/week), which is the number of hours of class in the day program. An IA is required for Machine Tool Tech classes because multiple curricula are taught concurrently. Lab classes from one class are concurrent with other lecture classes.

Submitted By: ___________________  Approved By: ___________________
Budget Center Manager  President/Vice President

AUGUST 11, 2005
## PROGRAM-SPECIFIC EQUIPMENT REQUEST

**Accreditation reference:** Equipment supports student learning programs and services and improves institutional effectiveness.

Examples of program-specific equipment include maps, skeletons, microscopes, artifacts, etc. They may be located in each classroom or centrally located in a workroom. For this request, consider equipment with a value greater than $200.

<table>
<thead>
<tr>
<th>Description</th>
<th>Estimated Cost</th>
<th>Estimated Annual Maintenance Cost</th>
<th>Justification (Link to Plan)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Instructional</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. 7 – Computers for <em>MasterCam</em> Version 10</td>
<td>$14,000.</td>
<td>none</td>
<td>Update technology</td>
</tr>
<tr>
<td>1- Laser printer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. 1 – Large Milling Machine (Safety Hazard)</td>
<td>$40,000.</td>
<td>none</td>
<td>Update technology</td>
</tr>
<tr>
<td>3. 2 – Small Engine Lathes</td>
<td>$27,000.</td>
<td>none</td>
<td>Update technology</td>
</tr>
<tr>
<td>* All of the equipment is linked to Program Evaluation Section 3A; growth in the program is difficult if the program is teaching 1944 &amp; 1968 technology. The computers are P2-333MHZ, 1996 technology. Future student success is dependent on the program staying current with current technology.</td>
<td></td>
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<tr>
<td><strong>B. Non-instructional</strong></td>
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<tr>
<td>three chairs and two filing cabinets</td>
<td></td>
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</tr>
</tbody>
</table>

Submitted By: ___________________________  Approved By: ___________________________

Budget Center Manager  President/Vice President

**AUGUST 11, 2005**
SCHEDULE D

FACILITIES IMPROVEMENT/RENOVATIONS REQUEST

Accreditation reference: Facilities support student learning programs and services and improve institutional effectiveness. Physical resource planning is integrated with institutional planning.

This request is for small capital construction projects such as remodeling a small area, reconfiguring walls, building shelving, etc. Generally, projects should be under $5,000. Larger scale projects will be considered in bond construction and renovation plans.

In order to make sure that your idea meets legal requirements or is even feasible to do, we ask that you consult with the Director, Facilities Services, and address the following items on the form.

Provide a description of the project that includes:
□ How the project supports the mission and objectives of your program
□ Project description
□ Location of the proposed project
□ Health and safety impacts of the project
□ On-going maintenance that will be necessary

1. The 500 building has had very little maintenance for 20 years. The building needs painting inside and outside. The landscaping has been completely abandoned since the early 1980’s. The landscaping should be completely renovated.

2. The restrooms are not handicap accessible and have 1968 vintage fixtures that leak. There are not any restrooms for women and several women are in classes in the 500 building each semester.

3. Only one classroom has air conditioning and the furnaces are as old as the building and do not heat all of the areas adequately.

4. The mission of the program is to teach students machine tool technology in “a safe, clean, comfortable, and attractive” environment. The 500 Building does not provide this for the Machine Tool Students.

5. Ongoing maintenance will be less because of the frequent work that must be done to the leaking fixtures and old furnaces.

Cost estimates will be provided for priority projects only.

Submitted By: ____________________________ Approved By: ____________________________

Budget Center Manager                                President/Vice President

AUGUST 11, 2005
TECHNOLOGY REQUEST

Accreditation reference: Technology planning is integrated with institutional planning. The institution assures that any technology support it provides is designed to meet the needs of learning, teaching, college-wide communications, research, and operational systems.

In order to determine the feasibility of your idea, it is necessary to consult with the Information Technology (IT) Department. It is important that all computer related technology be centrally coordinated. This will allow the IT Department to know the full picture of the need, to plan for adequate capacity of equipment and infrastructure, and to ensure standardized equipment is purchased, if possible. It is equally important that all technology requests are consistent with the NVC Technology Plan.

Provide a general description of the project; this includes:
1. The equipment needed; students and/or staff who will be served; how often it will be used.
2. Will installation and maintenance support be required?
3. Where will the equipment be located? Will space need to be modified?
4. Describe the infrastructure requirements (e.g., network, power, connectivity, security, etc.)
5. Software support needed (e.g., new licenses, upgrades, system integration, ongoing support)
6. Is additional furniture necessary?
7. Useful life of equipment—when will the equipment need to be replaced?

1. No new IT requirements. Current computers and printers to be upgraded. (Schedule C)
2. No extra maintenance required for new computers.

Submitted By: ________________________ Approved By: _______________________

Budget Center Manager President/Vice President

AUGUST 11, 2005
PROFESSIONAL DEVELOPMENT NEEDS

Accreditation reference: The institution provides all personnel with appropriate opportunities for continued professional development, consistent with the institutional mission and based on identified teaching and learning needs.

Please identify the professional development needs required for faculty and staff to stay current in the discipline, office technology, diversity, safety, instructional methods, and other areas. Specific training and estimated number of attendees are requested.

1. What training needs have been identified from your program review?
   MasterCam Version 10 training.

2. What pedagogical training needs have been identified in your program review?
   None.

3. What types of technology does your program use? What technology training needs have you identified?
   The only training needed is listed above.

4. What are the leading publications specific to your discipline and/or program?
   Manufacturing Engineering
   CNC West
   The Machinist

Submitted By:         Approved By:
________________________________  _______________ _________________
Budget Center Manager      President/Vice President

AUGUST 11, 2005
# LEARNING RESOURCES/MEDIA MATERIALS REQUEST

## Books including Reference

Number of titles to add: _0____

Areas to consider for maintaining and developing a collection that supports this course and corresponding assignments:

Titles that provide: a multicultural perspective to the topics covered in the course; gender perspectives on subjects; a literary, dramatic, or fictional perspectives for students to explore; or titles that provide biographical information on innovators, leaders, or historic figures in the discipline.

Recommendations/comments:

Estimated cost for new materials: 0

## Periodical Titles (Newspapers, Journals, Magazines)

Number of titles to add: _0____

Recommendations/comments: Titles that are relevant are kept in the Machine Tool classroom

Estimated cost for new materials: 0

## Electronic Databases and Indexes

Number of databases to add: 0

Recommendations/comments:

Estimated cost for new materials: 0

## Media Collection (closed-captioned or DVD):

Number of titles to add: _0____

Recommendations/comments:

Estimated cost for new materials: 0

---

**Are library/learning resource service hours adequate for this course/program?** Yes _x___ No _____

**Is the quantity of materials sufficient for students within needed time frame?** Yes _x___ No _____

**Will library/learning resources assignments be used in your course?** Yes _____ No _x___

**Will this course/program require the assistance of library faculty for orientations or other information competency instruction?** Yes _____ No _x___

- [ ] I would like to meet with a Librarian for developing a plan for selecting and adding materials to the Library or Media Center.

- [ ] To keep the collection reflecting current knowledge, I will alert the librarians of new developments in my field and send suggestions of books and other materials to be ordered.

**AUGUST 11, 2005**
REQUEST FOR OPERATING BUDGET AUGMENTATION

Budget Center: ____4370________________________  Activity: _______0956________________________

Accreditation reference:  Financial planning is integrated with and supports all institutional planning.

Operating Budget:  This section is used to request and justify non-capital outlay additions to your department’s budget. This form applies only to Account Codes 1300, 1400, 2300, 2400, 4000, and 5000.

List in priority order.

<table>
<thead>
<tr>
<th>Account Number and Description</th>
<th>Additional Amount Requested</th>
<th>Justification (Link to Plan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5500.81  Replacement parts</td>
<td></td>
<td>These funds were eliminated from 1988-1989 budget and were never replaced. The 1989-1990 budget was 43% of the previous year, and today the budget is 49% of what it was in 1988-1989 budget. The machines are now 15 years older and require more money to maintain. Steel and other supplies have increased more than 50% during this time span.</td>
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<tr>
<td>5600.12  Repair services</td>
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<tr>
<td>4300.10  Instructional Supplies</td>
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Total amount  $4300.00

Submitted By:          Approved By:

Budget Center Manager       President/Vice President

AUGUST 11, 2005