

A REPORT OF
SABBATICAL LEAVE
SCHOOL YEAR 1975-76

PRESENTED TO THE
FACULTY, ADMINISTRATION AND
BOARD OF TRUSTEES OF
MT. SAN ANTONIO COLLEGE

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TABLE OF CONTENTS

Statement of Purpose	(1)
Schools Visited	(3)
Industries Visited (Chart)	(10)
Summary	(11)

STATEMENT OF PURPOSE

Machine tool technology is an ever advancing and changing field. The need for better trained technicians in every facet of machine work is ever present. Numerical control, commonly called N/C, is an area in machine tool technology which is growing with great strides and will be one where students of the machinist aptitude will find a rewarding occupation.

Another area of machine tool technology which has been one of the mainstays of the industrial world is that of automatic screw machines. These machines require great skill in preparing them for operation. Through the years, those who have become set-up men on automatics, learned from the older men or took a short course at the manufacturer's plant. Today the training of set-up men is often neglected due to high costs and lack of training facilities.

My sabbatical leave has afforded me the opportunity of working at one of the neighboring plants with N/C and automatic machines in their present state of the art. I was able to broaden my understanding of computer programming and hope to introduce an N/C computer programming course at MSAC in the future. My leave also made it possible for me to visit schools throughout the midwest and to compare the various approaches to teaching N/C and automatics. I might add that although I visited many school facilities, few were as complete as those of our own campus.

Also during my travels, I was able to collect material which I will incorporate into the book I am writing, "Helpful Hints and Short-cuts for the Machinist."

I am very grateful to the Board of Trustees and the Administration of Mt. San Antonio College for this opportunity.

SCHOOLS VISITED

Fullerton College -

Fullerton has an N/C station, but its use is not geared to training students for industry. The primary function is for demonstrations. The machinist instructor was very courteous and spent some time with me describing his program.

Rio Hondo College -

Rio Hondo has a very general type machinist program with no N/C available.

Cerritos College -

Cerritos has one piece of N/C equipment. Students are able to use the campus computer to a limited extent to help in programming.

Pierce College -

The N/C program at Pierce is used for demonstration and limited student use. Their program is not vocationally oriented.

L.A. Trade Tech -

L.A. Trade Tech has one of the largest N/C training programs in Southern California. They have a well equipped up-to-date lab. They have been able to place many students in N/C in the past years.

Pasadena City College -

One of the well established machine technology programs in our

area is to be found at P.C.C. The N/C section is integral with the machinist program and students are afforded the opportunity to use the equipment in machine tool technology.

San Diego Community College -

San Diego affords many opportunities for machinists, N/C operators, and programmers. San Diego C. C. is well equipped to train the students in all areas of machinist technology.

Mira Costa Community College - Oceanside -

Mira Costa had one of the newest facilities which I visited. All of the equipment was new, as was the building. Their lab did not have N/C as yet, but the instructor indicated it would be added in the near future.

Northwestern College - Chula Vista -

Although the school lacked a machine shop facility, I was told by the instructor at Mira Costa that the automotive facility they had was second to none. He was quite correct. This installation has the latest in auto shop equipment; from engine tuneup to paint. A very worthwhile visit.

Palomar College -

A small moderately equipped machine shop with no N/C. The instructor indicated the need was being met by other schools in the area.

Don Bosco Tech -

This is probably one of the best technical schools in our vicinity.

The training the student gets from basic machine tools to N/C is carried out by very dedicated and informed men. I was very impressed with the student achievement level.

Fresno City College -

Shops in and around Fresno are always in need of trained machinists. Fresno C. C. offers a good program, including N/C. The instructor stated that few graduate from the program because of the transient nature of those who come to the city.

Fresno State University -

I visited few universities. I had found early that machine tool technology at the university level was not generally vocational. However, the shop facility at Fresno State was very good. The instructor and I traded many ideas and thoughts.

Bakersfield College -

The area around Bakersfield affords a machinist a multitude of openings. The college offers a wide experience in various shops, but does not have N/C. I visited several of the high schools while I was in Bakersfield to determine the level of machinist training students could receive before going to the college. N/C does not seem to be as important in the Bakersfield area as it is in others.

San Mateo College -

San Mateo has a very nice facility for machine tool technology. They are equipped to teach N/C and find many openings for their graduates in the surrounding cities. A very beautiful campus.

City College of San Francisco -

A small machine shop with limited area and no N/C. However, the instructor was very enthusiastic and it was evident the students appreciated him.

Cogswell College - San Francisco -

The machinist course is more industrial arts, but their program does include N/C and computer assist programming.

Mohave Community College - Kingman, Arizona -

The Mohave Community College has three campuses; Bullhead City, Lake Havasu City and Kingman. Machine tool technology and applied courses are taught only at skill centers. No N/C.

Northern Arizona University -

N.A.U. is famous for teacher training. They have a fine program for training machinist instructors, as well as preparing many for a vocation in machinist technology.

Tulsa Junior College -

The Tulsa campus was somewhat torn up when I was there. They were moving the machine shop from the fifth floor in a central building to another location in the city. Their program was just starting and the instructor was eager to show off his new equipment and facility. They have an N/C portion to the machinist course, plus computer programming.

Wichita Area Vocational-Technical Schools -

The area vocational-technical schools in Kansas are some of the

finest I visited. Their programs are geared to students from the first year of high school to junior college. The coverage and exposure to all kinds of industry is very broad, from making jump ropes for the elementary children, in their mold shop, to building a complete house, by carpenter students, which will be sold and moved from the campus.

Nebraska Community College -

Nebraska Community College has twelve campuses. Not all have an industrial program. I visited five of the colleges which had machine tool technology or related courses.

Milford campus has one of the largest machine facilities of any college I visited. It is nearly as large as our own. The emphasis at Milford is much the same as ours, but they also gear much of the machinist training toward farm machinery rebuilding. They have an N/C section as part of the machinist's advanced year.

Each day at the Milford campus the faculty gathers at 10:00 a.m. to discuss any problems. I was invited, by Dr. Power, to join their group. I talked with several of the instructors and traded many ideas.

Lincoln campus has a very good general machine program. The chairman of industrial technology, Mr. Plith, was very interested in our program at Mt. San Antonio because of the N/C program they wish to add.

The remaining Lincoln campuses, Mid-Plains in North Platte, Central Nebraska Technical in Hastings, and Metropolitan Tech in Omaha, are all very complete, having a good general program with limited N/C. The programs are designed toward area manufacturing or farm machinery repair.

Besides visiting the various colleges, I also visited many high schools, particularly those in the MSAC district. I found a great contrast in the shops and techniques used by the instructors. Mr. Paul Koch asked me to speak to his machinist classes regarding our technical program at MSAC.

I feel my visits to the various colleges, and talking with instructors, gave me an experience which will be helpful in the future.

One of the highlights of my sabbatical leave was the MSAC "Classroom in the Sky" trip to the East Coast. My wife and I enjoyed a very wonderful trip to all of the points of interest relating to the bicentennial year. It was a never-to-be-forgotten experience.

Since my wife and I are interested in old furnishings, we were excited about visiting the old homes and establishments of the past.

Williamsburg was delightful, in spite of the weather, and Philadelphia was a really pleasant history lesson. American History has a deeper and more profound meaning to each of us after such a meaningful trip.

During the latter part of my leave, I visited many industrial plants in our immediate area. I talked to personnel managers and shop foremen concerning employment for students and the level of competency required by their individual firms.

Most of the industrial plants are planning to add more N/C equipment in the future. This will mean a work force of informed N/C operators, as well as programmers. When the time comes, Mt. San Antonio will be ready.

Much of my time was spent working on the book I am writing. I

have gathered many bits and pieces to be incorporated into the text. I have had a personal friend and former supervisor read the chapters I have completed, and now am working on the finishing touches before having it finally typed. Much time has been spent on preparing for special pictures which I will also use in the final book.

The following companies are those, within a nominal driving distance from the MSAC district, which I called on to determine the following information.

Firm	City	Entry Test	Own Tools?	Shift Work	Benefits	Part Time	Type Shop				Start Pay	Top Pay	Union
							Gen	Prod	N/C	Mold			
Aero-Jet	Fullerton	Yes	Yes	Yes(2)	H, R, SP, V, O, D	Yes Summ	X	X	X		5.25	7.32	Yes
Aero Screw Prod	Burbank	No	Some	No	H, V	No		X					
Caco-Pacific	Covina	Yes	Yes	No	H, PS, SP, V, O, L	Yes 2nd yr			X	X	Jr-4.35 Apr-3.43 6.63	9.82 10.31	No
Clayton Mfg		No	Yes	Yes(2)	H, L, SP, V, P	Yes		X	X		3.50	6.40	No
Edro Eng	Sante Fe Springs	No	Yes	No	V	No		X			3.75	7.25	No
General Dynamics		No	Yes	No	V, SP, H	No		X	X		4.03 +.10	Exp 6.61	Yes
Johnston Pump Co.	Glendora	No	Yes	Yes(2)	H, SP, V, D	Summ Only		X	X		Class 3.00	Class 6.22	Yes
Parco	Ontario	No	Yes	Yes(2)	H, SP, V, R	Summ Only		X	X		Appr 2.73	T & D 7.50	No
Tillery Enterprises	Buena Park	No	Yes	No	V	No	X				3.75	7.50	No
Wayne Mfg (FMC)	Pomona	Yes	Yes	Yes(2)	V, H, SP, D	Summ Only		X	X		3.80	5.18	Yes
Xerox	Pomona	No	No	Yes(2) Perm	H, V, R, C, O	No	Exp Model	T & D	X		Helper 4.57	5.93 6.79	Yes
Screw Corp		No	Yes	Yes(2)	All	Summ Only	Mill Wright	X	X		4 - 5	7.00	No
Reulamp		No	Yes	Yes(3)	PS, D, H, V, SP	Yes Min		X			Class 4.20	Cyl Grd 5.65	No
Titech	Walnut	No	No	Yes(2)	H, V	Yes		X			4.50	6.20	No

Benefits = H = Hospital
V = Vacation
PS = Profit Sharing

SP = Sick Pay
R = Retirement
L = Life Ins.

O = Other
D = Dental

Type Shop = G = General
M = Manufacturing

P = Production
M = Mold

SUMMARY

First, my sabbatical leave was of great help to me in allowing me to visit with many teachers in my field to get ideas which I can use to help me do a better job of instructing. My leave also made it possible to work in industry to view changes which have taken place in the areas of numerical control and automatic machine tools. This will help me guide students toward this ever expanding portion of machine tool technology, which I believe to be an area with great potential for the new machinist technician.

I believe the MSAC district will benefit from my leave by having students graduate with a better understanding of numerical control and automatic machine tools. Many plants which I visited knew of MSAC and its machine tool program. Our reputation for being able to furnish the labor market with good technicians in all of our technical areas was very evident as I talked to those in charge of personnel.

My wife has never been able to travel to the midwest in winter and this was a particularly pleasant experience to be able to see parts of our country with an overcoat of white. Being a native Californian, snow was something on Mt. San Antonio (Old Baldy), not something to live with. The trip did have one bad side effect which I did not anticipate. I came down with phlebitis in my right leg. However, after a few treatments, and a long stocking for six months, everything seems all right.

Oh, one other first was being able to see Nebraska play football and vanquish Colorado.