SAGINAW VALLEY STATE COLLEGE

BOARD OF CONTROL

MINUTES

NOVEMBER 10, 1980

INDEX OF ACTIONS

BOARD OF CONTROL
SAGINAW VALLEY STATE COLLEGE

REGULAR MONTHLY MEETING
Pioneer Room--Pioneer Hall of Engineering and Technology
November 10, 1980

Present: Arbury
            Curtiss
            Gilmore
            Kendall
            Saltzman
            Zahnow

Others
Present: Beal
            Brett
            Colvin
            Dickey
            Gilbert
            Lange
            Novey
            Rummel
            Ryder
            Sharp
            Woodcock
            Yien
            Press (3)

Absent: Darin, excused
            Majewski

I.   CALL TO ORDER

     Chairman Curtiss gaveled the meeting to order at 9:45 a.m. and observed

that a quorum was present.

II. PROCEDURAL ITEMS

     1.   Approval of Minutes of Regular Monthly Meeting held on October 6,
          1980

     Chairman Curtiss noted that the Minutes of the Regular Monthly Meeting

held on October 6, 1980 were mailed. He asked if there were any additions or

corrections. He called attention to a typo on Page 4, third paragraph, wherein

the letters "o" and "r" in the word "throughout" had been transposed. Hearing

no additions or corrections, he declared the Minutes approved as mailed.

    2.   Official Representative of Faculty Association

Chairman Curtiss called for the representative of the SVSC Faculty Assoc-

iation. Professor Donald Novey responded and indicated he had a letter from

the Association directed to Chairman Charles B. Curtiss which he would like

to read into the record (see Attachment).

Mr. Curtiss thanked Professor Novey and the faculty for their efforts also...

they were very much appreciated.

    3.   Communications and Requests to Appear before the Board

Chairman Curtiss asked if there were any communications or requests to

appear before the Board.

President Ryder advised there were none.

    4.   Remarks by the President

President Ryder observed that he had planned to make some comments under

Item 9, but in view of the letter just read into the record by Professor Novey

from the Faculty Association, he should express his appreciation now to the

members of the Board of Control for their efforts in connection with informing

the people about the Tisch amendment...particularly, he thought he should add

his commendation to Chairman Curtiss for the exceptional effort that he made

with respect to the Tisch amendment...he wanted Mr. Curtiss to know that all of

the administration, faculty and students certainly appreciated his efforts.

Also, Dr. Ryder said, he wanted to commend the students, through Mike

SVSC **SAGINAW VALLEY STATE COLLEGE**

Faculty association

2250 Pierce Road
University Center, Michigan 48710

November 10, 1980

Mr. Charles B. Curtiss, Chairman
Board of Control
Saginaw Valley State College
University Center, Michigan 48710

Dear Mr. Curtiss:

The faculty of Saginaw Valley State College wishes to convey appreciation
to you and the other members of the Board of Control for the efforts which
you made to inform the electorate of the complex nature of the Tisch pro-
posal, and of the adverse consequences which would accrue to the citizens
of Michigan should that proposal be adopted.

One of the fundamental premises of American democracy is that the elector-
ate will become informed upon the issues and register enlightened decisions
at the ballot box. Your actions made a significant contribution toward
the realization of that ideal as it relates to this critically important
issue.

While the proposed amendment was not adopted, it is evident that there
is desire for rational and responsible property tax reform in Michigan.
Such reform should be achieved without crippling the ability of the
public sector to provide essential services of high quality to our
citizens. We look forward with you to a continuation of joint endeavors
in the pursuit of this goal.

In conclusion, let me again express the appreciation and thanks of the
faculty for your diligent efforts.

Sincerely,

Donald F. Novey, President
Saginaw Valley State College
Faculty Association

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Kilpatrick, for their efforts, and for bringing a meeting on the SVSC campus
to inform their student colleagues and people in the area about the ramifica-
tions of the Tisch amendment.

Dr. Ryder also commended the faculty and members of the administration
for their efforts as well, and noted particularly the work of John Rummel,
who had done a great deal of work with respect to the Tisch amendment.

Dr. Ryder indicated that he agreed with the statement of the faculty that
they had not dealt with the problem of property tax...when members of the press
had called him last week to ask him for his response, he had pointed out that
it was very important that they do something about property tax relief...he
was very hopeful that the legislature and the Governor's office would come
forward very soon with a way of dealing with this problem, so that they were
not affected in another election necessitating them to have to go to such means
to call attention to the people of what needed to be done.

Everyone who worked towards the defeat of the Tisch amendment, Dr. Ryder
concluded, were to be congratulated. He asked Mike Kilpatrick if he had any
comments to make.

Mr. Kilpatrick thanked Chairman Curtiss for all he had done, especially in
the debate, with respect to the Tisch amendment...he thought Mr. Curtiss had
done "one hell of a job." He observed he thought it was a problem with the
students especially of not recognizing the implications of the Tisch amendment
and how it would affect them...they might have been mimicing the views of their
parents, but by becoming more informed were able to vote more intelligently.

Chairman Curtiss thanked Mr. Kilpatrick and reiterated that they still

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had to address the question of property tax relief...he would like to make a

few comments about this under Item 9.

III.   ACTION ITEMS

5.   Date for Board of Control/College Executive Committee Retreat to
     Evaluate Products of 1980-81 Planning

Dr. Dickey explored possible dates for the Retreat and it was the con-

sensus that it be tied into the Board of Control Regular Meeting date on

Friday, May 8, and Commencement on May 9, 1981, and that the Retreat commence

at 10:00 a.m. on Thursday, May 7, and if not completed in one day, it could

continue on into Friday, after the Regular Board meeting in the morning.

Dr. Ryder observed that it was expected that the entire Board of Control

would be present at this Retreat...therefore, it would have to be a public

meeting and notices circulated appropriately.

6.   Housing and Food Service Operating Budget 1980-81

President Ryder called upon Mr. Woodcock to review. Mr. Woodcock noted

that the resolution had been included in the Board packets, but the Operating

Budget had just been circulated.

RES-483   It was moved and supported that the following resolution
            be adopted:
              WHEREAS, The financial aspects of the summer activity
            within the Housing and Food Services operations is known,
            and
              WHEREAS, The actual housing occupancy is now known and
            a more accurate forecast of expenditures can be developed;
              NOW, THEREFORE, BE IT RESOLVED, That the attached Housing
            and Food Services budget be adopted for the 1980-81 fiscal
            year.

Mr. Woodcock gave an in-depth review of the two-page budget document after

SAGINAW VALLEY STATE COLLEGE
HOUSING AND FOOD SERVICES
OPERATING BUDGET
1980-81

	1979-80 BUDGET	1979-80 ACTUAL	1980-81 BUDGET
Design Capacity	488	488	496
Adjusted Design Capacity	488	477	487*
Average Occupancy	470	452	462
Rate - 21 Meal Plan	1,759	1,759	1,934
Increased Amount	115	115	175
Percent of Increase	7%	7%	10%

Revenue:			
From Operations (Net)	$226,490	$197,943	$163,403
Interest Income	6,000	23,944	15,000
Debt Service Grant	10,002	10,002	10,002
Amount Available	242,492	231,889	188,405
Less Debt Service Required Payment	(114,135)	(114,135)	(110,975)
Contribution toward required reserves	$128,357	$117,754	$ 77,430

* 8 spaces utilized for staff single rooms, 1 for handica~.

SAGINAW VALLEY STATE COLLEGE
HOUSING AND FOOD SERVICES
OPERATING BUDGET
SUMMARY OF REVENUES AND EXPENDITURES
1980-81

	HOUSING			FOOD SERVICE			TOTAL		
	BUDGET 79-80	ACTUAL 79-80	BUDGET 80-81	BUDGET 79-80	ACTUAL 79-80	BUDGET 80-81	BUDGET 79-80	ACTUAL 79-80	BUDGET 80-81
REVENUES:									
Contract	$345,820	$344,842	$381,722	$491,500	$470,973	$535,920	$837,320	$815,815	$917,642
Non-Contract	30,100	34,571	28,711	155,000	174,256	205,000	185,100	208,827	233,711
	375,920	379,413	410,433	646,500	645,229	740,920	1,022,420	1,024,642	1,151,353
EXPENDITURES:									
Salaries	55,000	57,044	81,710	52,200	59,315	68,650	107,200	116,359	150,360
Fringes	10,500	9,613	14,623	4,100	5,179	6,921	14,600	14,792	21,544
Equipment	7,000	7,843	23,740	7,000	5,166	7,000	14,000	13,009	30,740
Operating & Misc	97,015	69,739	99,660	40,100	32,295	46,330	137,115	102,034	145,990
ARA	-0-	-0-	-0-	410,000	480,845	515,000	410,000	480,845	515,000
Utilities	74,900	65,227	83,932	31,000	27,534	32,850	105,900	92,761	116,782
Insurance	4,415	4,385	4,794	2,700	2,514	2,740	7,115	6,899	7,534
	248,830	213,851	308,459	547,100	612,848	679,491	795,930	826,699	987,950
OPERATING INCOME	$127,090	$165,562	$101,974	$ 99,400	$ 32,381	$ 61,429	$226,490	$197,943	$163,403

BEG/psb
10-2-80

SVSC BOARD OF CONTROL

1980-230

which Chairman Curtiss called for a vote on the motion to adopt the resolution.

Motion unanimously carried to adopt RES-483 regarding the Housing and Food

Services budget for 1980-81.

7.   Establishment of an FM Radio Station

Copies of a proposed resolution were distributed and reviewed. Chairman

Curtiss asked if anyone would care to move its adoption.

RES-484   It was moved and supported that the attached resolution
           be adopted.

Chairman Curtiss asked if there were any discussion.

Dr. Ryder observed the resolution was self-explanatory, but noted that SVSC

and Delta College had been looking at this project for over a month...all the

administration was asking of the Board was for it to adopt the resolution, as

Delta College's Board already had, authorizing SVSC's administration to explore

the possibilities with Delta College.

Chairman Curtiss stressed there was a need to identify the market such a

station would serve, and be reasonably sure there in fact was a market...since

SVSC was last in the FM radio business, there had been a substantial addition

to the numbers of stations in the Saginaw Valley...it would be nice to have a

station, but if it didn't serve a market, there wouldn't be much point in pro-

viding the service, even if it were funded. He noted that in talking about a

market, he was not only talking about a geographic market, but of the kind of

programming as well. He concluded he hoped that SVSC and Delta would include

these considerations in their deliberations.

Mrs. Arbury asked if there couldn't be a survey perhaps in the School of

Business and Management.

RESOLUTION REGARDING ESTABLISHMENT OF AN FM RADIO STATION

WHEREAS, The people of the region surrounding Saginaw Valley State College and Delta College are not currently served by public radio with locally originated programming, and

WHEREAS, Some residents of the area served by SVSC are not able at present to receive an adequate strong signal from public radio stations located outside this service area, and

WHEREAS, As is the case in most endeavors serving the general public, the people of this region benefit most when Saginaw Valley State College and Delta College work cooperatively to advance the public interest;

NOW, THEREFORE, BE IT RESOLVED, That the SVSC Board of Control hereby authorizes the college administration to move forward in the investigation of all ramifications of electronic media cooperation. This will include studying the possibility of establishing an FM public broadcasting radio station to supplement the valley's existing public television station.

Through this resolution, authorization is granted to discuss ways that ownership of these electronic media can be structured best to serve the public interest in the most positive manner. By working cooperatively in some manner, Saginaw Valley State College and Delta College will attempt to gain federal approval for activating a public broadcasting FM radio station by the end of 1983, and will attempt to identify the most practical licensing option or options, i.e., (1) licensed to SVSC, (2) licensed to Delta College, (3) jointly licensed, (4)... other, and

Authorization is also hereby granted to seek a commitment of state and federal support for this endeavor and to affiliate with the National Public Radio network, and

That before any final action is consumated to enter into contractual agreements establishing a station, a specific recommendation, including cost-benefits and budget, be submitted for approval of the Board of Control.

JMR:omc
10/9/80

Dr. Ryder suggested that John Rummel speak to this. Mr. Rummel advised that two surveys had already been conducted through the Marketing Department... basically there were 13 AM and FM stations that served this area...only one, Beautiful 102, had anything other than rock, country, etc., but even that station didn't go in for anything like one might get from National Public Broadcasting. These surveys showed that there was a demand from people to have more public service broadcasting which was simply not available in this area now. He concluded there were plans to conduct a more in-depth study now.

Chairman Curtiss commended the administration for entering into discussions with Delta College to determine whether or not it could be done best on a joint basis...he thought this was another very positive step.

There being no further discussion, Chairman Curtiss called for a vote.

Motion unanimously carried to adopt RES-484 regarding the establishment of an FM radio station.

8.   Recommendation for Acceptance of 1979-80 Annual Audit

Dr. Ryder called upon Mr. Woodcock to review.

Mr. Woodcock advised that this audit had been completed by the CPA firm of Yeo & Yeo...copies had been distributed to members of the Board of Control and the audit was discussed with the Budget, Finance and Investments Committee. A copy had also been placed in the Library on reserve under the name of President Ryder. He suggested a motion was in order for the Board to receive this audit.

BM-579   It was moved and supported that the 1979-80 Annual Audit completed by the CPA firm of Yeo & Yeo be received.

Mr. Woodcock indicated he did want to comment briefly about the audit... he recalled that the Board of Control and the administration in the past had

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been concerned about the accumulated deficit that occurred several years ago

and continued to plague the institution...he was pleased to report that the

deficit was eliminated at the year end of June 30, 1980. Also, he said,

knowing that the Governor's Executive Order #1980-3 would eliminate $72,447

from SVSC's budget the first quarter of 1980-81, expenditures were reduced

and administration was able to set that money aside during 1979-80. In addi-

tion to that, Mr. Woodcock concluded, administration was able to conserve the

available resources and move into 1980-81 with a $126,000 surplus, which would

be most helpful as SVSC approached this difficult year.

There being no further discussion, Chairman Curtiss called for a vote.

Motion unanimously carried to receive the 1979-80 Audit Report completed

by Yeo and Yeo.

8A. Authorization for the Board of Control Executive Committee to Levy A Student Tuition Surcharge

President Ryder distributed copies of a resolution, indicating that it had

not been prepared and shared with the Board earlier because administration did

not know that it would have to be recommending this action at this time.

RES-485   It was moved and supported that the following resolution
               be adopted:
                 WHEREAS, The 1980-81 state appropriation has not yet been
               finalized, and
                 WHEREAS, Due to the severe financial problems experienced
               by the state of Michigan, there is a strong possibility that
               the actual state appropriation for Saginaw Valley State College
               for the 1980-1981 year will be considerably lower than the
               resources necessary to provide an adequate level of educa-
               tional services;
                 NOW, THEREFORE, BE IT RESOLVED, That the Executive Committee
               of the Board of Control be empowered to establish a tuition
               surcharge not to exceed $2.50 per credit hour beginning with
               the Winter semester 1980-81 if it appears, prior to the December
               Board meeting, that state appropriations will fall far short of

that level needed for program maintenance. In order that
students have adequate notification and the cost of imple-
mentation is minimized, the decision on the amount of sur-
charge should be decided prior to the next Board meeting,
and
     BE IT FURTHER RESOLVED, That the surcharge be effective
for the Winter semester, and Spring and Summer terms only,
and that the tuition rate for the Fall semester 1981-82 be
based upon requirements for the 1981-82 budget.

President Ryder observed that the resolution was self-explanatory, however,

he would like to make a few comments about what led to the need for it at this

time.

He noted that the appropriations process this year had been very unusual...

unique, he would say. In the first place, SVSC had two hearings by the Joint

Senate and House Subcommitte on Higher Education...this was the first time in his

history at SVSC this had happened. Another first, he said, was that the Senate

recommendation, which came out at about 6.3% increase for SVSC, was slightly under

the Governor's recommendation...the House recommendation that came forward was

lower than the Senate's...the first time that had ever happened.

Continuing, Dr. Ryder said, the Governor had reduced his recommendation twice

now and also had taken back, as Mr. Woodcook reported previously, money from last

year's appropriation, which affected SVSC's first quarter of 1980-81. He observed

that he suspected that this would be the first time in many, many years that the

State might have a budget which was actually less than the preceding year.

All of these conditions, Dr. Ryder stressed, had dictated (1) that SVSC not

establish the budget up to this point, and (2) that SVSC watch what was happening

in order to establish that budget and decide what next steps it should take.

At the second appropriations hearing with the Governor's office last Friday,

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SVSC representatives were told that the likelihood of anything, in terms of an

appropriation above last year, was almost zero. After the hearings, he said,

they talked with some of the other college representatives and learned that they

were told that it could be even 96% of what it was last year.

Just a few minutes ago, Dr. Ryder noted, he had received word that there

would be nothing coming from the Governor's office on his new recommendation

for this year's appropriations until Wednesday.

Because of all of this, Dr. Ryder emphasized, and because he had mentioned

several times before that administration might be coming back to this Board with

a mid-winter or winter recommendation for an increase in tuition rates, if it

seemed the logical thing to do...it seemed logical then that the Executive Com-

mittee of the Board of Control be empowered to consider the budget elements,

and the current situations, after the Governor's recommendation, and to determine

whether there should be a surcharge placed for the winter, spring and summer

terms. He observed that he was assuming that in the spring, after the 1980-81

budget were established, it was possible that the legislature would make its

appropriation recommendations for 1981-82, and that some time late spring,

another decision could be made as to whether SVSC should increase levels above

whatever might be established now, and by how much.

Dr. Ryder concluded that administration could have come to the Board and

recommended that a certain figure be established right now, but not having the

Governor's recommendation, and not knowing anything about what the legislature

was likely to do, administration felt that it would be desirable to have some

time between now and the next Board meeting for consideration of a surcharge.

Thus, Dr. Ryder said, administration was recommending the adoption of the resolution that the Board of Control authorize its Executive Committee to establish a tuition surcharge not to exceed $2.50 per credit hour, beginning with the winter term and extending through summer of 1981. According to the proposed budget administration had been discussing with the Board of Control, a $2.50 per credit hour surcharge would provide less than 50% of what administration felt was necessary to operate the institution effectively during the course of 1980-81. Dr. Ryder stressed the importance of advising students early so that (1) they have some options, and (2) they know ahead of time.

Mrs. Saltzman and Mr. Kilpatrick questioned where SVSC would stand in comparison to the other 14 state colleges and universities if a $2.50 surcharge were levied.

Mr. Woodcock reviewed past tuition increases of the 15 colleges, indicated the 15 were in three clusters with respect to costs...the larger colleges and universities being in the top cluster, a middle cluster in which SVSC was included, and a bottom cluster of smaller institutions. SVSC, he said was 5th or 6th in the middle cluster, and since he felt all of the colleges and universities would be doing substantially what SVSC was doing, he really didn't expect SVSC to change positions to any degree

Chairman Curtiss noted that his experiences during the last month or so had certainly been enlightening to him in terms of the overall problems of the state... he thought he ought to point out that the total appropriations to higher education in Michigan had increased 11% in the last two years...not 11% a year, but a total of 11% for the two years. Michigan was next to worst in the whole country...the

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only state that was worse was Pennsylvania. This year, he said, appropriations

in Michigan to higher education, he was confident, would be below last year...

so, over a three-year period, the total increase in aid to higher education was

going to be less than 11%. He indicated he felt it was important that they

recognize that while government as such might be a part of the cause of infla-

tion, it was also subject to it...costs were rising much more rapidly than

SVSC's state aid had been...it had come nowhere near keeping up with inflation.

Part of the reason for this, Mr. Curtiss explained, was the Headlee amend-

ment and (1) higher education was autonomous and (2) it had alternate sources of

revenue, such as tuition, and (3) it was not a unit of local government under

the Headlee amendment, such as a community college like Delta.

Over the next several years, he said, the state was going to have to look

for ways to spend more money on units of local government because transportation

revenues were going down...the state was going to have to try to transfer functions

to the local units or develop new programs to maintain the 41.6% at the expense

of higher education and a handful of other programs.

What SVSC was facing in the '80's, Mr. Curtiss stressed, was a period during

which the institutions of higher education were going to have to raise tuition

substantially faster than state support...he didn't frankly agree with the prior-

ities, but given the current Constitution, that was the situation they were in.

When the State had to run around to find ways to spend money in order to meet a

constitutional requirement, and among those ways could not be higher education,

there was something wrong.

With respect to levying a surcharge, Mr. Curtiss indicated he thought this

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was being considered primarily because of the very bad financial condition of the state...he thought the Board ought to address the 1981-82 tuition and budget questions as separate issues and then, in fact, they were going to be talking again about this same $2.50. He concluded he was hopeful that SVSC would get some additional guidance from the legislature in terms of what they intended to do longer-term for funding higher education.

Mr. Zahnow called attention to what Dr. Ryder had reported earlier about the possibility of SVSC receiving 100% of last year's appropriation, while some of the other institutions might be receiving 96% or less...he felt perhaps SVSC was being recognized as a smaller school with different problems.

Mr. Curtiss added he had just heard by way of rumor that some institutions might even receive as low as 92% of last year's appropriations...he didn't want to second guess, but he indicated he was confident the overall appropriations for 1980-81 would be below last year's.

Dr. Gilmore questioned the cost of implementation of a surcharge and Mr. Woodcock explained the benefits of establishing a surcharge early to minimize costs, errors, etc. Dr. Ryder pointed out that if it were delayed approximately 5% would be lost of the amount gained by the surcharge, which was something SVSC could not afford.

There being no further discussion, Chairman Curtiss called for a vote.

Motion unanimously carried to adopt RES-485 authorizing the Executive Committee of the Board of Control to levy a surcharge if needed.

8B. Establishment of a Date for a Joint Meeting of SVSC and Delta Boards

Dr. Ryder advised he had just learned that the Delta College Board wanted

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to establish its calendar for its Board meetings for the next several months
and that Delta was suggesting that they have a joint meeting with SVSC on
Monday, June 8, 1981, at 4:30 p.m. at SVSC, dinner following, with the Delta
Board then returning to the Delta campus for its own meeting.

There was a consensus that this meeting be scheduled as Delta had sug-
gested, but if the meeting were to be anything but an informal meeting,
SVSC have input into the Agenda, with sufficient time to prepare for the
meeting.

Chairman Curtiss reviewed what transpired at the last joint meeting between
SVSC and Delta, indicated it had developed into an "action" meeting, rather than
an informal meeting, and concluded that he was uncomfortable in the situation,
particularly since the press was there, because he was not prepared for what had
occurred.

Discussion revealed that the Board members felt the joint meetings should
be informal and that perhaps after the June 8, 1981 meeting, they not be held
every 12 months, but rather every 18 months.

At 10:40 a.m., Chairman Curtiss reminded members of the Board that they were
scheduled to go into Executive Session at 10:45 a.m. He suggested a 10-minute
recess, after which the Board would move into Executive Session, and asked if
someone would like to make a motion to this effect.

> BM-580   It was moved and supported that the Regular Meeting of the
>   Board of Control recess for 10 minutes and then move into
>   Executive Session, after which the Regular Meeting would
>   reconvene to complete its November agenda.

Motion unanimously carried to recess for 10 minutes and then move into
Executive Session.

For the benefit of those present who would not be attending the Executive Session, Dr. Ryder indicated it should last no more than one-half hour, and the Regular Meeting should reconvene at about 11:20 a.m.

The Regular Meeting recessed at 10:40 a.m. The Executive Session commenced at 10:50 a.m. and concluded at 12:15 p.m. at which time luncheon was scheduled in the Doan Center.

The Regular Meeting reconvened at 2:25 p.m.

IV.   INFORMATION AND DISCUSSION ITEMS

9.   Impact of November 4 Action on Tax Proposals

President Ryder indicated he had already commented on the defeat of the Tisch amendment and the need for the state to deal with the property tax situation which had not been resolved. He briefly reviewed the other amendments on the ballot which were also defeated.

Chairman Curtiss noted that the SVSC Board of Control was accused at last month's meeting by The Bay City Times of sitting around telling Tisch horror stories which bothered him a little bit, and he would like to make some comments about the Tisch amendment.

He stated he agreed with Dr. Ryder that the property tax relief situation had not been resolved...they had won the battle, but he was not sure where the war stood right then. In his discussions the last couple of months, he said, he had heard three voices...(1) the property taxes were just too high and people said they couldn't pay them...it was a serious financial problem for some...it was also potentially a focus of wrath for a broader problem which was taxes in general.

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Either they couldn't pay the property taxes or they felt that some kind of a

vote on property tax was the only way they could say something. There were

two sides to this voice...a lot of people didn't feel that the property taxes

were too high...they were perfectly willing to pay them and felt they were

less than the federal income tax, and (2) taxpayers felt they were tightening

their own belts and they thought government should too and ought to get rid

of waste and corruption and everything else, and (3) people felt the only way

the economy was going to survive was if they chopped government substantially...

the whole thing had gotten carried away in the last 20 years, and they really

had to tell the Federal government of their concern, and the only way of having

the opportunity to do this was by telling the state.

Having these three voices coming together in one vote, Mr. Curtiss stressed,

it made the election results difficult to understand, and it was no surprise

to him that the legislature would have a little difficulty figuring out how to

deal with it. One thing that came through clearly was that people didn't want

their property taxes raised.

Chairman Curtiss gave an in-depth review of the property tax situation in

Michigan and indicated he honestly would like very much to see the legislature

take a look at the impact of reducing the state equalized value as a percentage

of true cash value by somewhere between $2\frac{1}{2}$% and 5% each year for those years when

the GNP deflator exceeded something like 5%. Currently under the Constitution,

state equalized values could be a maximum of 50% of true cash value...they

weren't that high before the Constitution went into effect in 1963...it took

the legislature about a year to hike them up to about 50% of true cash value.

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What he was saying, Mr. Curtiss emphasized, was that at the very least, government had better put in some sort of a system that would begin to offset the increase in property values that were due exclusively to inflation...to exempt a portion of inflation, and then find another way to do some of the funding of services.

Mr. Curtiss concluded he didn't know what the answer was for the problems related to property taxes, but he hoped that the colleges and universities just didn't go home and pat themselves on the back and say "we took care of that one."

10.   State Board of Nursing's Support of Nursing Program Accreditation

President Ryder called upon Dr. Yien, Vice President for Academic Affairs. Dr. Yien introduced Dr. Crystal Lange, Dean of the School of Nursing and Allied Health Sciences.

Dr. Lange indicated that the Board was probably aware that the Michigan Board of Nursing required that a School have two graduating classes sit for the licensure examination before being eligible for full approval. SVSC met that requirement in July...in August the Nursing School sent in a Progress Report... it was reviewed by the Board of Nursing at its meeting on October 9, 1980...Dr. Yien, Mrs. Deleruyelle, and she attended, and she was pleased to report that the Board had granted full approval of SVSC's Nursing program, which was one of the prerequisites for SVSC to move forward in the process for NLN accreditation. The Board, she said, also commended SVSC for the excellent administrative support this program was given and sent Dr. Ryder a letter outlining the points discussed.

Chairman Curtiss asked what the timetable was on accreditation and how thick the Progress Report would be.

Dr. Lange responded that they were scheduled to have the Progress Report

in the first of January...a site review on campus was scheduled for the week of

February 17, with action by the Board to be taken at its April meeting...by the

middle of April, SVSC should know one way or the other. With respect to the

size of the Progress Report, Dr. Lange said it would weigh at least two pounds.

Dr. Ryder asked Dr. Lange what her predictions were. Dr. Lange said that

she was an optimist and she thought the chances were "super-great."

11.   NSF-CAUSE Grant Proposal to Introduce Microcomputers into SVSC
       Science Curricula

Dr. Ryder noted that this had been discussed at a previous Board meeting,

but that Dr. Brett was now prepared to give an update, and called upon Dr. Yien

for his comments.

Dr. Yien indicated that one of the first assignments given Dr. Brett when

he joined SVSC in August was to get a CAUSE grant proposal ready for NSF. In

the last month and a half, he said, Dr. Brett and the faculty of the School of

Science, Engineering and Technology did that and submitted the proposal last week.

He called upon Dr. Brett to review.

Dr. Brett observed that rather than take up too much time, he would dis-

tribute materials the Board members could review later. He noted that Dr. Warrick

had reported to the Board some of the School's plans to go for funding to the NSF

for what was known as the CAUSE program...the initials standing for "Comprehensive

Asisstance to Undergraduate Science Education."

He distributed his first set of materials entitled 'Local Review Statement"

(see Attachment I) which was the narrative section of the grant proposal, and

was another of those documents, he said, that could weigh in at two pounds.

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Board of Control Meeting-November 10, 1980

School of Science, Engineering and Technology

Proposed Computer Facilities Investments

The proposal submitted to the National Science Foundation, Comprehensive Assistance
to Undergraduate Science Education (NSF-CAUSE) program represents our proposed
investment in a computing facility. The priority use will be in the mathematical,
physical, natural and social sciences, but other users will not be excluded.
The need for adequate computer facilities is discussed in the proposal narrative.
We should emphasize that this represents only one component in the plan to develop
science and engineering at SVSC. Dr. Earl Warrick has discussed with the Board of
Control two other elements of our growth plan.

(1) The needs survey of local industry, and the plan to introduce a
four-year engineering program at SVSC.

(2) The plan to recruit more qualified women and minorities into science
and engineering.

Modern computing capabilities for use in teaching and research are necessary to
achieve these objectives.

The major objective of the School of Science, Engineering and Technology is to
develop a instructional program to prepare students for careers in science and
engineering, using the best of modern scientific tools. The most important of
these tools for the graduates of this decade will be the computer. Acquisition of
the kind of computing equipment we are proposing will allow all our programs to
develop.

The investment strategy will allow a favorable cost/benefit ratio. Overall cost
effectiveness of computers doubles every two years. Our proposal puts most of
the capital investment in the minicomputer system, rather than making a large

initial investment in microcomputers. Microcomputers are likely to have a rapidly decreasing cost/capability ratio over the next three years. For the three-year period of the proposed grant, the cost per student-hour of system use is approximately $3. Even with increased maintenance costs (due to higher labor costs) the trade-up and expansion capabilities of the proposed system should reduce the cost per student hour in future years.

Alistair M. Brett

Local Review Statement

Saginaw Valley State College (SVSC) is a relatively young State institution of higher education situated in a rural-suburban setting in east central Michigan. Prior to being founded as a private institution in 1963, its regional service area was one of the largest population centers in the country without a four year college. SVSC became a State college in 1965 and has evolved from a traditional liberal arts base into a multi-purpose college with emphasis on career preparation. Its rapid growth in both enrollment and physical plant has been achieved in an era characterized by declining support for higher education in the State. The College is accredited by the North Central Association, American Chemical Society and is State approved for teacher training. It receives strong support from local industry and the surrounding community with approximately 55% of its buildings having been constructed with private funds.

The School of Science, Engineering and Technology is the newest of the five Schools at the College, having been formed in 1979 to consolidate the basic and applied science programs in Biology, Chemistry, Mathematical Sciences, Physics and Engineering Technology. Over 95% of the 40 full-time science faculty have terminal degrees in their respective discipline. Approximately 46% of the student body is over age 25. Among science students, 35% are women and 9% are minorities.

The only computer at SVSC is a, now inadequate, Digital Scientific Meta-4. Funds are being sought to acquire a small but modern computer as a replacement. The urgent need to replace the Meta-4, which is used both for administration and instruction, has taken precedence over the very appropriate wishes of the science and engineering technology departments to acquire micro-computers for use in a wide range of courses.

An integral part of this proposal is the need for a faculty development

program to increase faculty awareness of computer applications in their disciplines and to prepare them to teach introductory and discipline-related computer concepts and skills to their students. In the School of Science, Engineering and Technology this is a very urgent need. Enrollments in the Computer Science and Data Processing majors are growing and all the science departments want their students to achieve computer literacy. After careful consideration it is clear there is a need to offer current faculty more opportunities to enhance their computer knowledge. It is also clear that science students need access to several forms of up-to-date computer hardware.

Saginaw Valley State College is positively committed to a continuation of this project after the grant period ends. As a part of its plan to develop undergraduate science education, the College will maintain program staffing, equipment lease and maintenance and all other facilities in post-grant years. Within necessary budget constraints, the College will support the continued development of computer use in science education.

This proposal is the first step in a long range program of the College to improve the curricula of the School of Science, Engineering and Technology. For some time, the College has had the advice and guidance of a Board of Fellows, an advisory group drawn from leaders in industry, education and government. A smaller liaison group, principally from industry, is being organized to specifically guide the School of Science, Engineering and Technology. Ultimately, we expect they will develop ch......els of support for a consortium of local industrial firms for the further development of science, engineering and technology programs at the Saginaw Valley State College.
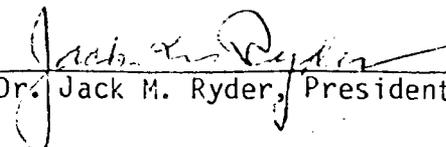
Dr. Jack M. Ryder, President

Needs Assessment

(A) Background

Saginaw Valley State College (SVSC) has evolved into a multi-purpose institution which emphasizes career preparation while retaining many of the elements of its traditional liberal arts base. The College recognizes, as did Arthur Rosenfeld in The Second Genesis, that our major challenge is to provide graduates "who possess the necessary technical know-how .... to face the unending ambiguities of the new age". But it is also recognized that there is an equally important need for people "who will humanize the computer revolution", as C.P. Snow wrote. In the National Science Foundation's 1979 review Technology in Science Education: The next Ten Years, it was stated "the means (of information technology) are now not only effective but also cost-effective. Before this technology can have its full impact on education, however, education will have to understand it, adapt it, and apply it to meet education's needs". It is with this philosophy and the recognition of these general needs that SVSC has measured its particular requirements.

The SVSC student body has doubled in size over the last six years. This has produced urgent needs other than the immediate study of computing in science education. Therefore, an hiatus appeared in the potential development away from the existing batch processing on the SVSC Meta-4 computer, or the supplementing of current limited time-sharing capabilities with the Michigan State Merit Computer Network via an on-campus terminal.

In 1979, a Planning Resource Council with represe; atives of the faculty, administration and students was formed to provide a mechanism for formal, participative, long range planning at SVSC. This was combined with the development of continuing surveys of local business and industry needs, and the career starts of recent graduates.

The Planning Resource Council developed a set of planning assumptions designed to better serve future graduates, of whom more than 95% are expected to be from Michigan. Two of these assumptions are pertinent to this proposal:

1. Saginaw Valley State College is committed to a strong effort to provide programs for which there is sufficient demonstrated demand in the services region.

2. The desire to improve teaching and learning, and to acquaint SVSC students with the most up-to-date methods of communicating and computing, will lead to increased use by SVSC faculty of instructional methods which incorporate the use of computers....

The relationship between curriculum choice and job availability is expected to remain strong between now and 1984-85. After this period, the Michigan Employment Security Commission believes there may be a concern over the shrinking pool of younger graduates available to fill entry level positions. Most of these opportunities will be in increasingly high-technology industries requiring computer literacy.

Also in 1979, a new School of Science, Engineering and Technology was formed to consolidate the basic and applied science programs at SVSC. Its science *education objective is:

> To develop an instructional program to prepare students for careers in science and engineering, using the best of modern scientific tools.

*Science is meant to cover the biological, mathematical, engineering, physical and social sciences and will be used throughout the proposal in this sense.

(B) Needs

In view of the above statements it is clear that a college or university which does not provide computer training in all branches of science, is failing to meet the needs of its students in today's technological society. Experience at other academic institutions has shown that the use of computers allows the student to become more involved in a subject, and consequently gain a better

understanding of that subject. SVSC recognizes that, for a number of reasons, it is not providing adequate training for students to permit them to become computer literate. Computer facilities have been limited and no planning for faculty training has been proposed prior to this time. As a result, some science faculty are not familiar with computer use in their discipline. Those who are familiar have not been able to introduce computer use into their courses due to the unpredictability of operation and response time of the College computer.

At present the College computer is used, via batch mode, in only 17 science courses, of which 12 are in the computer science or data processing major. The other courses are in Physics (2 courses) Economics (2 courses), Statistics (1 course). Computer use is sometimes required in a directed study or undergraduate research course. One Apple II microcomputer is available for use by the Mathematical Sciences faculty.

This proposal addresses the three prime needs within science education at SVSC:

(1) The provision of faculty training to permit the development of computer applications in the science curricula.

(2) The improvement of science student's computer literacy.

(3) The improvement of the computer science program.

Reliable computer hardware, adequate for current requirements and capable of expansion to meet future anticipated use and technological developments is required to meet these needs. A strong computer science program will provide support for pedagogical developments in the other basic and applied sciences. When these needs were identified, a fifteen member task force was formed, which included faculty from the following departments:

Biology	Elementary and Secondary Ed.	Physics	Sociology
Chemistry	Engineering and Technology	Political Science	Nursing
Economics	Mathematical Sciences		

The task force was chaired by the newly appointed Dean of Science, Engineering and Technology and also included the Director of Computer Services and the Director of Institutional Research and Planning. It was directed to consider the most effective way to rapidly redress the situation and specifically asked to determine the following:

1. Disciplines where computers could most effectively be integrated into the curriculum

2. Advantages and disadvantages of alternative hardware systems

3. Training needs of the faculty

4. Sources of software

5. Number and location of student work stations

6. The budget distribution

The task force members were requested to survey their respective departmental colleagues, and also their associates at other colleges and universities and those in industry for input in making these determinations. This included discussions with the Department of Mathematical Sciences, industry advisory group representatives from Dow Chemical, Dow Corning, General Motors Corporations and several smaller local companies. Also surveyed was Michigan State University, Alma College and nearby Delta Community College which have all received CAUSE grants. In so doing, they were asked to distinguish carefully between the subject matter of science and the means of delivery.

An enthusiastic response was obtained from faculty in all of the above departments as well as the industry advisors. This resulted in several general conclusions being reached which will assist in significantly increasing the quality of science instruction at SVSC:

(1) The use of computers in existing and new courses, and as a part of the developing cooperative education program, shall prepare science students for an increasingly high-technology spectrum of careers.

(2) Computers shall be primarily used in problem-solving simulations and programming applications.

(3) Programming methods shall be taught which lead to the clear organization of ideas and subsequent discovery by the student.

(4) The independence of micro-computers shall be combined with the greater calculational and storage capacity of a mini-computer.

(5) Readily available software shall be used and form the basis of any new materials specific to the needs of SVSC students.

(6) The experience gained shall enable policies to be developed which will guide future applications of technology in science education at SVSC.

These general conclusions were condensed into three major objectives, each supported by several measurable enabling objectives.

Objectives

(1) To provide faculty training which will permit the development of computer applications in the science curricula.

Enabling Objectives:

    (a) At least 20 science faculty will participate in the workshops and follow-up activities during the grant period.

    (b) Computer use will be introduced as a new feature in at least 22 science courses through classroom and laboratory demonstrations, and student assignments and projects.

(2) To improve the computer literacy of science students.

Enabling Objectives:

    (a) At least 1,025 science students will have used interactive computing facilities in scientific problem solving, simulations and programming applications by the third year of the project.

(b) At the conclusion of the project, 75% of all science students will show a growth in computer literacy as measured by pre- and post-competency testing.

(3) To improve the SVSC computer science program.

Enabling Objectives:

(a) The curriculum will be improved through the offering of more recent versions of FORTRAN, COBOL and RPG and through the addition of courses in BASIC and Pascal.

(b) Additions will be made to the computer science program permitting full implementation of the Association for Computing Machinery's curriculum recommendations.

Project Plan

To meet the stated objectives, members of the task force working closely with the Dean of Science Engineering and Technology, had to decide:

(1) the most effective procedure to follow.

(2) the most appropriate computer hardware to satisfy short and long term needs.

It was recognized that well trained faculty are needed before any significant increase in computer use can occur even in existing courses. A faculty survey carried out by the proposal task force showed a wide spectrum of faculty computer experience and knowledge. Of the 75 full-time and part-time science faculty, a total of 27 have programming knowledge and have made use of the computer in their teaching or research. Most, however, wished to learn more. It was decided the faculty development part of the project should begin even before full equipment purchase and installation is complete. The co-project directors and coordinators will form an implementing committee for the project (see the Management section for details).

(a) Project Schedule and Decision Points

June 1981	Plan details of the one week summer introductory programming workshop for the department coordinators. Order eight Apple II micro-computers and required software for this workshop.
August 1981	Conduct the one-week programming workshop.
September 1, 1981	Project directors and Dean of Science, Engineering and Technology approve specifications for equipment re-bids.
September 1981	New survey of faculty computer literacy and interest.
October 1981	Survey student computer literacy. Contact faculty and industry colleagues on software exchange plans.
October 15, 1981	Receive bids, evaluate and approve orders for hardware within 10 days.
January 1982	Supervise installation of hardware with the aid of the Laboratory Coordinator for Engineering and Technology.
February 1982	Plan the 6 week summer training for an expected 20 faculty in the use of micro and mini-computers. Select and contract for consultant instructors.
March 1982	Assist in "debugging" the completed installation of computers.
March 1982	Consult with department coordinators on the selection of needed software. Order software.
June 1982	Begin the 6 week training workshop for the expected 20 interested faculty. Instructors from SVSC computer science faculty supplemented by outside consultants.
September 1982	Survey faculty literacy. Report progress to the National Science Foundation.
Sept. 1982-June 1984	Project directors assist department coordinators and faculty in applications of computers to a broad range of science courses.
January 1983	Plan the one week summer workshop to review applications and new uses in various disciplines.
June 1983	Hold the one week computer application workshop for interested faculty.
September 1983	Conduct internal summative evaluation.

October 1983-June 1984   Plan post-grant activities with coordinators.

June 1984   Carry out final evaluation. Report to NSF.

(b) Equipment Selection

During the planning for this project, the Task Force determined a need for a flexible, expandable system and the capability to introduce computer graphics. This is reflected in the choice of computer hardware. Site visits were made to Michigan State University, Bradley University, General Motors Corporation, Dow-Corning Corporation, Drexel University and Delta College to gain first hand information with regard to different types of equipment and instructional programs. Personal contacts were made with representatives from Stevens Institute of Technology, Ohio State University, The Minnesota Educational Computing Consortium, and Michigan State University, regarding computer graphics and micro-computer use. Further information on future computing trends was obtained from attendance at the 1980 Frontiers in (Engineering) Education Conference in Houston, Texas.

The system selected by the project co-directors, task force, and science departments consists of:

1. One Prime 550 mini-computer with peripherals interfaced with 20 alphanumeric CRT terminals and 3 Tektronix 4010 computer graphics terminals.

2. 8 Apple II 48K micro-computers with peripherals.

This equipment will be acquired through both purchase and lease purchase. All science graduates at some stage of their careers will be expected to work interactively with a computer input/output terminal and many will use micro-computers for which the operator can have complete control. This reasoning, coupled with a continuing budgetary ability to add additional improved micro-computers and alphanumeric and graphics terminals in future years, led to the proposed system.

The PRIME 550 mini-computer was chosen after the products of several vendors were studied. The system meets the flexibility and high resolution graphics support requirements, being completely upward and downward compatible. The proposed CPU has 1024 KB ECC MOS Memory with an 80 MB disk and 800 BPI Tape Drive. The Prime 550 rates highly in surveys of reliability and promptness of service and it widely used in the education market.

The Apple II micro-computer was selected as a rugged device and is the most popular unit of its type currently being used in secondary and higher education. Software is readily available with support from users groups.

The Tektronix 4010 computer graphics storage-tube terminal can be interfaced directly with the Prime 550 mini-computer and is the most common choice of industry and academic institutions surveyed. The terminals are reasonably priced, hard copy compatible, have switchable baud rates and may be augmented later by purchase of the larger screen 4014 and raster scan terminals.

A host of manufacturers produce high quality alphanumeric terminals compatible with the Prime 550 mini-computer and bids will be placed for these at the time of purchase.

The Prime 500 will be housed in the Pioneer Hall, engineering building, in a temperature controlled area designed for such a facility. No remodeling will be required. The micro-computers, other than one initially dedicated to chemistry laboratory instruments, and the alphanumeric terminals will be accommodated in an adjacent area of adequate size, accessibility and security. The graphics terminals will be placed in a laboratory immediabely below these areas. It is proposed that this will develop into a fully equipped computer aided design/computer aided manufacturing laboratory.

The micro-computers will be available for use in classrooms and laboratories through a check-out procedure. Construction of a new

science building, adjacent to Pioneer Hall, is expected to begin in 1981. Upon completion, most of the hard-wired terminals will be re-distributed among several areas of this new facility.

(c) Computer Use in Courses

The subject-areas listed are based on a survey of faculty and on a faculty and project directors review of current literature, as well as the meetings with other academic and industry representatives discussed previously. This latter group also gave important advice in the selection of appropriate computer applications for students in the cooperative education program.

Subject areas and probable courses have been chosen to be consistent with both the objectives of the project and the computer hardware. All computer simulations have been selected to supplement (not substitute) existing or planned laboratory course experiments. Phase I courses are those affected during the first phase of computer introduction; Phase II courses are affected during subsequent further computer augmentation.

Biology   Coordinator*: Dr. Richard Koch

Computer simulations in genetics and ecology are of special interest. Simulations of proteins with changes in the amino acid base structure to produce modeling of mutations will yield results which are practically impossible to reproduce in the undergraduate laboratory.

A major advantage of simulations in ecology is that of repeated trials; something which is not possible in field observations. Additional subject area simulations will include effect of variables on the spread of disease, population dynamics, evolution and natural selection and dietary effects.

Phase I courses: Genetics (36), **Ecology and other field related course (24), Directed Research (6).

*The vitae of all the coordinators appear in the Appendix.

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Phase II courses: Human and Plant Physiology (30), Microbiology (50), Nutrition (60).

Chemistry   Coordinator: Dr. Albert Plaush

The interfacing of chemical instrumentation with micro-computers for control and data acquisition and processing is now standard practice in industrial laboratories. The electrical engineering technology and physics faculty will work with those in chemistry to interface the chemistry department's NMR spectrometer and IR spectrophotometer to the Apple II. Simulations are also proposed for NMR spectra with values of chemical shifts and coupling constants.

Other simulations will model the behavior of electrons in the chemical bond. Molecular structure models will be simulated as well as first and second order reactions in chemical kinetics.

Phase I Courses: Physical Chemistry I (20), Research in Chemistry (10).

Phase II Courses: Organic Chemistry I (50), Physical Chemistry II (20), Analytical Physical Chemistry I and II (30).

Economics   Coordinator: Dr. Hong Park

The objectives of computer augmented classes in economics are to make the classroom knowledge operational in real world production and to increase computer competency so as to help graduates understand the potential and limitations of computer technology in the economic system. Modeling of aggregate economic behavior and economic games will be introduced. Analysis of alternative stabilization policies and differing economic models will be available for student experimentation. Techniques currently being taught such as analysis of variance, regression analysis, linear programming, dynamic programming and economic forecasting will be enhanced by computer utilization.

**Expected average number of students shown in parenthesis. See management section for control on numbers.

Phase I Courses: Macroeconomics (20), Econometrics (20).

Phase II Courses: Statistics (210), Principles of Economics (245).

Engineering and Technology   Coordinator: Dr. Terry Ishihara

The Engineering and Technology faculty, working closely with those in the Physics and Mathematical Sciences Departments will be responsible for developing high resolution interactive computer graphics using the Tektronix terminals. Three existing faculty members, together with an additional mechanical engineer due to be appointed in the fall of 1981, will:

(a) Become familiar with interactive computer graphics and use of the hardware.

(b) Review current literature and available software.

(c) Initiate the introduction of computer graphics into existing courses.

(d) Plan for the development of new courses and program modifications.

(e) Involve students (not only in engineering, but especially those in physics and computer science also) in the applications development through directed study and engineering design laboratory courses.

The development of interactive computer graphics at SVSC is starting from an earlier base line than the problem solving and simulation component of the program. Specific courses will not be identified until the above learning sequence is well under way. However, probable Phase I and Phase II courses will be:

Phase I

Statics (40), Dynamics (40), Fluid Mechanics (40).

Phase II

Engineering Design (16), Engineering Applications of Digital Computers (16) Advanced Network Analysis (20), Strength of Materials (40).

Mathematics, Computer Science, Data Processing   Coordinator: Dr. Rose Novey

The greatest benefit to computer science and closely related programs will be to have a reliable and accessible hardware system. The Department of

Mathematical Sciences will work towards complete implementation of the
curriculum recommendations for undergraduate computer science as promulgated by
the Association for Computing Machinery (ACM) in 1978. Additions may be made
to these guidelines to take into account the present wide spread use of
micro-computers.

BASIC and Pascal and more recent versions of FORTRAN, RPG and COBOL will
be introduced and a greater emphasis placed on structured programming,
algorithmic processes, data structures and organization of programming
languages. A new course using the micro-computer to teach computer
architecture will be introduced. Data bases, advanced systems programming and
compiler writing laboratory courses which cannot currently be offered can all
be introduced using the proposed mini-computer system.

The Department will work closely with the Engineering Technology and
Physics Departments in developing computer graphics and a hardware course for
computer-science majors. Computer use will be increased in the calculus
sequence (limits, families of curves, convergence, integration), probability
and statistics (simulations using a psuedo-random-number generator) and
numerical analysis (numerical schemes, instability, interpolation and
functional appproximation techniques).

Students in elementary mathematics education courses will learn to teach
using interactive simulation activities.

Just over 800 students are enrolled in computer science courses (major
and service) with more than half of these in the introductory FORTRAN course.
All would be affected by the introduction of the new hardware system. An
additional 300 students in Calculus and upper level courses would have
opportunities for computer experience.

Since it is obvious that additional computing equipment would have an
immediate impact on most course offerings of this department, specific courses
are not presented.

<u>Physics</u>   Coordinators: Dr. Hsuan Chen, Dr. Albert Menard

Physics Department faculty are interested in the development of interactive computer graphics and will work closely with the engineering faculty. A special responsibility of the physics faculty will be to review the existing courses in computer structure and digital electronics. The Apple II micro-computer will be introduced into these courses so that the student may deal with a complete system in the laboratory.

Two coordinators have been selected in the Physics Department. Because of their background in electronics, mathematics and computer science, they can act as liaison between the engineering and technology faculty and the mathematics/computer science faculty.

<u>Phase I Courses</u>: General Physics (Lecture demonstrations and laboratory exercises) (30)

<u>Phase II Courses</u>: Electronics (10), Thermodynamics (10)

<u>Sociology, Psychology and Political Science</u> Coordinator: Dr. Zeller Robertson

The Sociology, Psychology and Political Science Departments all have a strong interest in making greater use of the SPSS statistical software which is available on the Prime 550 mini-computer. This program is currently being accessed via batch mode to Michigan State University. Time delays have hindered its desired extensive use.

The micro-computer will be used in classes on research methodology in sociology and psychology and experimental design. Simulations in public policy formation as affected by economic variables, the application of operations research to policy analysis, and demographic simulations will be introduced.

<u>Phase I Courses</u>: Public Administration II (15), Research Methods (10), Statistics (30).

<u>Phase II Courses</u>: Experimental Psychology (15), Social Psychology (40), Selected Topics in Sociology (10).

(d) Software acquisition and use

The course developments previously described will initially use canned programs for both the mini-computer and the micro-computers. Many of these are readily available at reasonable cost through numerous suppliers. In addition to using the prepared programs as originally designed, students are presented with creative opportunities to write modified or extended versions, or even completely new programs. Approximately 90% of the science students involved in the program will have taken an introductory FORTRAN course as a part of their curricula. Much of the available simulation software is written in BASIC (or Apple BASIC which can be converted for terminal use). The project directors will work with the Departments in determining how BASIC, and perhaps Pascal, will be introduced to students. Access to the mini-computer software will be through passwords. Software for computer graphics use tends to be prohibitively expensive. However, offers of software on an exchange basis have already been received from several universities.

Project Management

Assisting the project director Dr. John Mooningham, will be Dr. Christopher Smith, also of the Mathematical Sciences Department, who will act as co-project director. The rationale for establishing co-directors was to provide a total of one-third release time to the project throughout the year without unduly affecting normal teaching needs.

The co-directors will work directly with eight coordinators from the science disciplines shown in the subject-area section. Three of the coordinators who have extensive computer training will assist the project directors in the initial training of the other five during the first summer of the project. All coordinators were chosen on the basis of having some computer experience.

The responsibility for the management of the project will reside with the co-directors. Dr. Mooningham and Dr. Smith are experienced in teaching computer science courses. Working in cooperation with Dr. Rose Novey, the Chairperson of the Mathematical Sciences Department, they have the institutional responsibility of overseeing the development of academic computing within the School of Science, Engineering and Technology. As budget managers for the project they will report to Dr. Alistair Brett, Dean of the School who will act as budget supervisor, according to prescribed institutional procedures.

The project will receive some unbudgeted assistance from personnel whose regular duties cover computer use management. The Computer Laboratory Assistant, already a part of the Computer Services Department, will expand his supervision to include the new hardware. The Laboratory Coordinator for Science, Engineering and Technology will also be available for assistance.

The project directors will be responsible for:

(a) Overall project coordination

(b) Fiscal authority and budget management

(c) Approval of specifications for hardware bids

(d) Organization of faculty training

(e) Consulting with department coordinators and other users

(f) Coordination of the formative and summative evaluation procedures

(g) Preparation of interim and final reports

(h) Approval of any maintenance

(i) Setting up effective means to control and manage student and faculty time scheduling on the mini-computer terminals and the micro-computers.

(j) Work with Departments to introduce BASIC and/or Pascal into the science curricula

Expected Benefits

(a) Short-term benefits: The urgent need to provide computer training for faculty will be adequately met. Curriculum development, designed to make the best use of the system proposed in existing and specially designed courses, will be initiated and tested during the grant period. Furthermore, a balanced capital investment in computer hardware and faculty training will be distributed so as to provide the best future cost/benefit ratio.

(b) Long-term benefits: A well trained faculty will be able to provide continued training for future faculty and students. They will also have the capacity to continue curriculum development. The proposed computer system will give SVSC the ability to respond to innovations in computer technology, especially the increasing capabilities of micro-computers. The mini-computer and micro-computer can be networked with programs created in the micro-computer and transmitted to the mini, thus combining the power of both.

Working with a newly created Industry Advisory Board to the School of Science, Engineering and Technology, the project directors and the Dean of the School will monitor the rapidly developing needs of local industry for computer literate science graduates. Assistance in computer training for employees can also be provided to industry. In return, industry will provide valuable practical experience in advising on curriculum content. Furthermore, opportunities for the placement of cooperative educat`` students with substantial computer training will be enhanced.

(c) Dissemination plans: Knowledge gained as a result of computer development at SVSC will be disseminated to three constituent groups; colleagues at other Colleges and Universities, teachers in primary and secondary schools

and industry. Participation in computer users groups and the exchange of software provides an ideal way to communicate with other academic institutions. Workshops and seminars for teachers will be designed by the science faculty, working with the SVSC School of Education. Programs for industry will be created with advice from management and unions working with the SVSC Management Center and Delta Community College.

Project Evaluation

An overview of the program evaluation design is given in Appendix A. The
Content, Input, Process, Product model is used to match formative and summative
evaluations to three major program objectives.

The needs assessment showed that a lack of both faculty training and
adequate facilities have impeded the growth of student computer literacy.
Furthermore, it was determined that a strengthened computer science program
would give added support for computer usage in a wide spectrum of science
courses. To provide an evaluation base-line, computer competency
questionnaires will be developed for faculty and students at the start of the
project. Those science courses in which the computer is currently being used
are known.

The methods described and the supporting computer system proposed, evolved
only after the extensive discussion of differing alternatives, such as a
greater use of remote time-share systems or micro-computer networks. The way
in which faculty and students make use of the facility will be subjected to
evaluation by the project staff and the external evaluator.

Data for the formative evaluation will be collected by the co-directors to
determine; the growth in faculty and student computer competency, the increased
computer use in science courses, the problems and successes which may occur
during the project and the adequacy of plans for changing the content of
existing courses. All this information, collected by questionnaire and user
reports, will be discussed in regular meetings with the discipline coordinators
to provide a mechanism for program modification. Changes in the implementation
procedures can be made and reviewed for effectiveness. The relation of these
techniques to the project objectives is shown in Appendix A.

The accumulation of all this formative data will be the basis for an
interim summative review by the program staff and a final summative evaluation

by the external evaluator. The external evaluator is experienced in reviewing science education projects and is familiar with the development of this proposal. The overall impact of the program will be assessed in terms of the growth in faculty and student computer competency, the existing or new courses into which computer applications have been introduced, the effectiveness of these applications and general science education development. Attention will also be paid to the cost-effectiveness of the procedures employed and the ability of the science faculty to maintain continued developments in post-grant years.

Dr. Brett reviewed this material briefly and then distributed his second
set of materials entitled "Proposed Computer Facilities Investments" (see
Attachment II), which he also reviewed briefly.

SVSC, Dr. Brett noted, was asking NSF for a total of approximately $229,000...
there was a College contribution of approximately $144,000, making the total pro-
gram approximately $373,000. Of that amount, he said, something slightly in excess
of $200,000 was for equipment. To get the necessary equipment, SVSC was propos-
ing a combination of purchase or lease/purchase.

Once SVSC had a facility of this kind, Dr. Brett concluded, there were so
many other things it could do, because just about everything that they wanted to
do in the advancement of Science and Engineering, sooner or later came back to
having adequate computer facilities.

He closed his presentation by saying that it had been a very pleasant exper-
ience for him, being new at SVSC, in seeing the enthusiasm of the faculty, in
giving their input into doing something like this...he thought that bodes well for
the College.

13.   Sponsored Programs Report

Dr. Ryder distributed copies of this report dated September 1 to September 30,
1980, noted the Leep grant approved, and the College Housing Program grant which
was denied. He asked Dr. Gilbert if he had anything to say about this grant.

Dr. Gilbert advised that over 200 applications were submitted and only 19 were
funded...he had just seen a copy of the letter denying the grant...it gave no reason
for being denied. He indicated that Cy Smith had been in touch with Mr. Traxler's
office and learned that SVSC's proposal did make the first step and was passed out

of Detroit. Mr. Woodcock noted he had heard the Federal government was trying

to put money into the older units that were not energy efficient, such as those

built in the '40's and '50's. Dr. Gilbert indicated he thought those were on

the high priority list, but SVSC could apply again next year.

Dr. Ryder stressed this made it even more important that SVSC push ahead on

the private development of apartment-type facilities...not to wait another year.

Even if they were to apply again next year and be approved, he said, by that time

they would have another year, and by the time construction were completed, it would

mean perhaps another two and a half years.

V.   OTHER ITEMS FOR CONSIDERATION

Mr. Kendall stated that he had two items to bring up.

14.   Status of Replacement Appointment to the Board of Control

Mr. Kendall asked if SVSC had any word from the Governor's office regarding

the replacement for Dr. Majewski.

Dr. Ryder indicated his office had not received any word. Chairman Curtiss

stated that he didn't know of any action...there had been some nominations from

this area two months ago, but he didn't know what was holding up the appointment.

Dr. Ryder said that he would bring the matter to the attention of the people

who dealt with it in Lansing in terms of SVSC's need.

15.   Internal Management of the Board of Control

Mr. Kendall noted that several months ago, in fact at the time the current

officers of the Board were elected, they had some discussion on internal manage-

ment of the Board in terms of Mr. Curtiss' feeling regarding the Chair, and also

the loss of Mr. Zahnow. The matter was dropped at that point, he said, they had

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not done anything, were not doing anything, and they were going to find them-
selves with a time limit that Mr. Curtiss had talked about. He stressed they
couldn't wait for the Retreat because it would be too late.

Chairman Curtiss asked Mr. Kendall if he were suggesting something specific
that the Board should be doing, and Mr. Kendall responded he didn't, but he
was concerned. If there were to be some response from the Board members, it
should be something they were talking about very soon.

VI.   ADJOURNMENT

There being no further business to transact, Chairman Curtiss adjourned
the meeting at 3:25 p.m.

Respectfully submitted,

Charles B. Curtiss--Chairman

Dorothy D. Arbury--Secretary
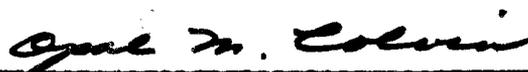
JMR
omc
Opal M. Colvin--Recording Secretary