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ABSTRACT

The scheduling process at Bakersfield College (California) is explained in this report. The basic philosophy of the college (existing to teach and serve students) is exemplified in student scheduling and registration. SWITCH (Sectioning with Instructor and Time Choice) is the processing of data by computer. Fundamental SWITCH concepts of student scheduling are: (1) students should be free to enroll in courses best suited to their particular needs; (2) ideally, students should be free to select the instructors they feel are best for them; and (3) students should be free to set the time they are available for attendance at college. Necessary considerations and steps in processing the data provided on student course request forms are reviewed. The master schedule must be designed within the concepts of SWITCH. It is desirable to defer the final master schedule design for as late as possible in the registration process. Based on counseling, testing information, and enrollment forecasts, the general procedure for scheduling is outlined. The following information and examples are included: schedule for classes for a semester, step-by-step scheduling procedure for a semester, application for admission, forecast of enrollment, calendar for scheduling, guidelines for scheduling, instructor hour patterns and preference questionnaire, study lists, and temporary class rolls. (CA)

REGISTERING STUDENTS
and
DESIGNING THE MASTER SCHEDULE
at
BAKERSFIELD COLLEGE

A presentation to the Faculty
on October 20, 1970
By
Milton R. Sanden, Dean of Administration
Based upon the
Scheduling Process SWITCH
as developed and reported by
Lanning L. Flint, Director of Data Processing

Bakersfield College
Bakersfield, California
1970

REGISTERING STUDENTS
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BAKERSFIELD COLLEGE

By Milton R. Sanden, Dean of Administration

This presentation today attempts in a brief way to explain the scheduling process at Bakersfield College — a process which has been in operation and development since the Fall of 1965. To some extent the presentation will be historical; it must include the philosophical bases for the program; and it must be examined from the two basic operations (1) the scheduling of students and (2) the master schedule design.

This plan of scheduling is not the creation of any one person — it has been developed through the thought, experience and knowledge of several people. Foremost among these were Burns Finlinson, John Collins, Bill Heffernan and Lanning Flint. Through the years of operation and improvement Mr. Flint has been the most closely associated with the process. Although I am the administrator in charge I have had to learn the many aspects of its complex operation and I can attest that in my opinion, it is the finest method of scheduling students in a college that I have ever seen; its value cannot be underestimated but it is demanding in time of the staff of the data processing center and equally demanding in time and in the final decision making responsibilities of the administrator in charge. The net result, however, in my opinion is quite advantageous for students and teachers — in fact for all facets of the college in general.

Let's first examine a few points of basic philosophy which are the cornerstones of this process.

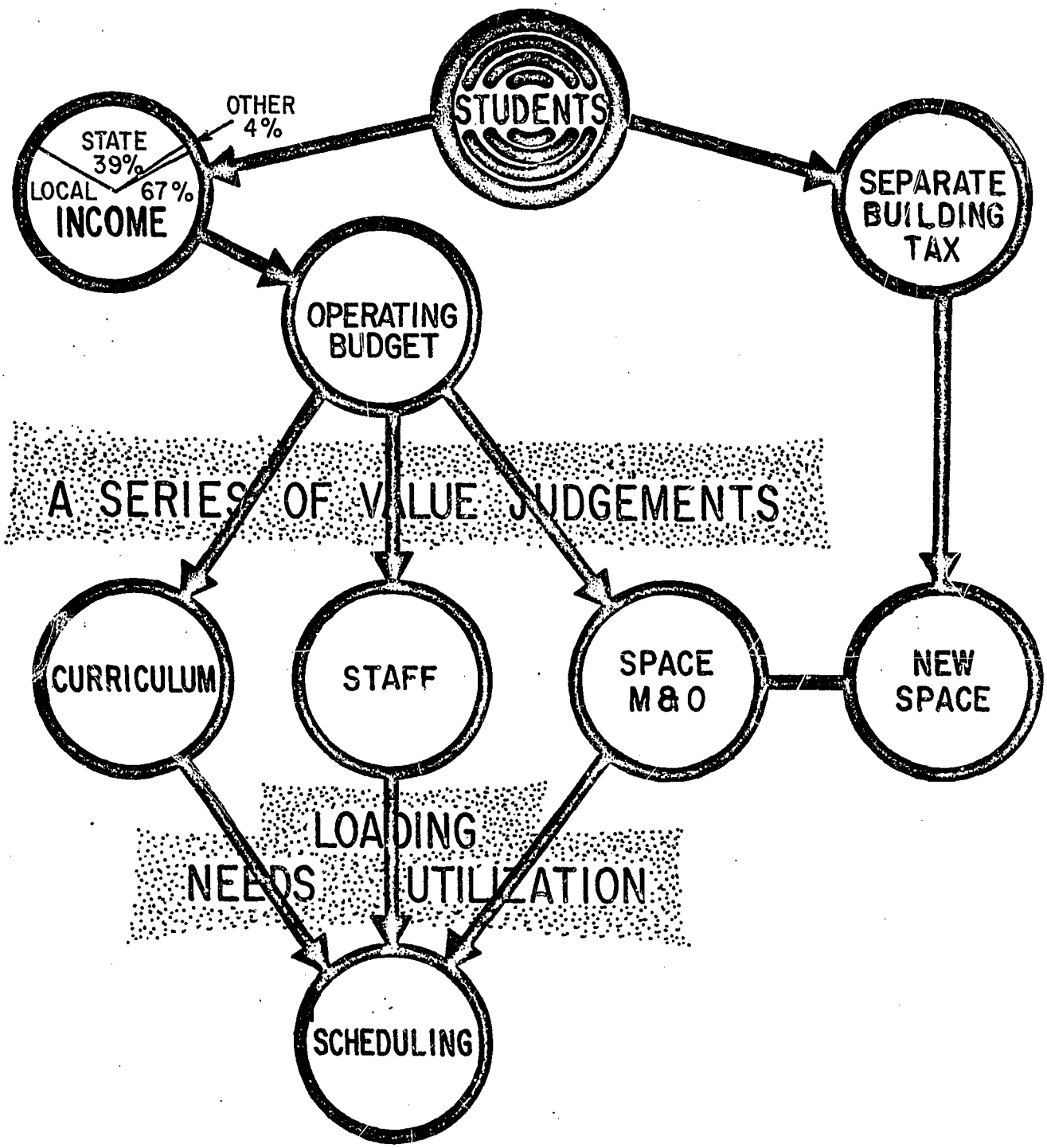
A College exists for students — to teach and to serve them.

They are central to any consideration of scheduling. (See page 2)

A college revolves around several related functions in order to serve students. For example, some income results from numbers of students in attendance.

Relationships Between Resources and Functions

BAKERSFIELD COLLEGE



Realistically, one element which controls all of these functions is the operational budget. From this operational budget must be derived the funds to support at least three main components for the learning and teaching of students.

1. Curriculum
2. Staff
3. Space by which we mean Maintenance and Operation of this space.

And scheduling attempts to bring together in the most effective way possible these three components with the hope that the most effective instruction for students can result.

We must recognize also that from this operational budget a series of value judgments must be made which affect the needs of curriculum, the loading of staff and the utilization of space. It is oftentimes in these areas most differences in opinion take place, and it is in these areas one who administers this schedule must constantly weigh the various forces and interests at work within the college before rendering a decision.

Now look again and review the total relationships of this entire operation of the institution before we concentrate upon scheduling, as I believe it is essential we view in perspective the entire picture. So often one element or the other is considered separately, but by so doing, it is easy to cause inequities and serious maladjustment to the whole process. For example to consider only space without regard to staff or curriculum is absurd. To try to determine staff without consideration of student numbers, or available dollars, or proper space is also an error. To talk about loading of staff with disregard to the other facets of this diagram is likewise a mistaken approach to the solution of the problem. Now let us focus on scheduling and how it's done at Bakersfield College.

Let me review one point made before. We need to discuss this matter of scheduling from two views or classifications (1) student scheduling and (2) master schedule design. However, let me not mislead you – these functions occur simultaneously, but for ease of discussion and to avoid confusion we break them apart for presentation. – First then consider student scheduling.

STUDENT REGISTRATION AND SCHEDULING

We must return now to our primary philosophical point – our college exists for students – to teach and to serve students.

Prior to the 1965–66 college year, the use of the computer for registration and sectioning procedures was under informal discussion for about three years at Bakersfield College. Existing computer programs were examined. Each was found to have restrictions in direct conflict with the basic philosophy of the institution and each had definite limitations in the numerical description of the actual operating institution. Finally, a set of acceptable demands for any proposed system emerged from the discussions. These demands consisted mainly of the modes of operation which the institution really believed it was currently following under the former bin card system of registration. Upon close examination it was found that many of the student advantages that the institution claimed did not actually materialize in the execution of the registration process. It was further noted that the mechanics of the existing system did not actually permit the attainment of the basic philosophy of the institution.

Three concepts provided the framework for the design of **SWITCH**. Sectioning With Instructor and Time CHoice; **SWITCH** has been in use for six years at Bakersfield College. The three concepts which are fundamental to this system are these:

1. The student should be free to enroll in courses best suited to his particular needs.
2. Ideally the student should be free to select those instructors which he believes to be best for him.
3. The student should be free to define the time he is available for attendance at college.

Let's examine each one of these concepts in detail.

1. The student should be free to enroll in courses best suited to his particular needs. A genuine effort is made by an experienced and capable counseling staff to match a course of study to each individual student. Under the former bin system, it was disappointing for the student to go from the counselor's office to a registration

center, only to find that the needed sections of certain courses had been closed quite early in the registration process. When operating under SWITCH, sections do not close and courses close much later than under the bin system. Thus, in order to facilitate student selection of courses, a form, Class Schedule Request, was developed. (See page 8)

2. Ideally the student should be free to select those instructors which he believes to be best for him. Since it is now possible to keep all sections of courses open until very late in the registration process, it is now more possible than ever before for the student to obtain a schedule which includes preferred instructors.

Teacher Selections. It is a fundamental belief of the Bakersfield College administration that one of the most cogent reasons for the existence of a junior college is the student freedom to select the instructors who contribute to his education. Examination of hand registration procedures demonstrated that the first 3 to 5 percent of the students registered had such a choice. Instructor choices beyond this point were seldom possible. Any system of computer sectioning should give priority to instructors selected by the student. Ideally, this priority should be equally likely for the first and last student scheduled. In the event that the selected instructors cannot be obtained, the computer is then allowed to resort to any other instructor one at a time, thus securing the greatest possible selection for the student.

3. The student should be free to define the time he is available for school. For students of junior college age, the number of valid reasons for time restrictions on hours of attendance is exceedingly large. Some have jobs without which they would be unable to attend college, some are married with children, and some have transportation difficulties. The list is almost endless and at least from the student's point of view, each is reasonable. To ignore a student's time restrictions is evidence to the student of a large impersonal bureaucracy.

Student's Time Availability. Because of the large geographic area included in the Bakersfield College district, an extensive bus transportation system is operated by the college. A significant part of the student body commutes daily by bus for distances up to forty miles. The school buses arrive at 8:30 a.m. and depart at 4:30 p.m. A commuting student cannot take classes outside of these hours. For this

CLASS SCHEDULE REQUEST
(Please Print)

For Office Use | Last Name | First Name | Middle Initial | Major | Counselor

Student Address While At College | Phone Number | Maiden Name | Date

	PRIMARY REQUESTS					ALTERNATE REQUESTS				
	Course	Units	Ticket Number	Instructor	Code	Course	Units	Ticket Number	Instructor	Code
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
	Total Units									

Physical Education

List three courses that student has not previously taken.

_____

_____

_____

If exempt from P.E., check one of the following:

A. ☐ Completed

B. ☐ Married Female

C. ☐ Over 25

D. ☐ Medical

E. ☐ Marching Band

F. ☐ Nursing Program

G. ☐ Less than 8½ units

Time Block Availability

	Beginning	Ending	Evening
M			
T			
W			
Th			
F			

reason and for the reason that there are many valid causes for time restrictions, each student is permitted to define the hours he is available for class attendance. The sectioning procedure is not permitted to violate this time definition until all other possibilities have been exhausted.

Student Course Requests. (See page 8) To meet this requirement of enrollment, the form Class Schedule Request was developed. The course request form is used by the counselor to specify courses, times, instructors, and alternate course selections. Course requests for all regular day students must be determined during a counseling conference. The student and counselor determine the course of study for the succeeding term.

In order to increase scheduling flexibility and prevent the more popular PE classes from closing out, the student is asked to list three PE classes which he has not previously taken. It is the policy at Bakersfield College to require a student to take a variety of PE courses during his four semesters of attendance. A student may be exempt from Physical Education courses for a variety of specific reasons. An exemption is identified by checking the appropriate box in the center of the form. If a particular course in PE is needed and the computer is not to be allowed to make the selection, then the single PE course would be listed in the upper portion of the form as a regular course request.

After the form is completed, it is sent to the data processing department where it is coded and key punched. Any failure to schedule a student because of the inability to schedule within the specified time, or in the case of direct conflicts for which no alternates have been listed, will mean that the course request form will be returned to the counselor for a second conference with the student. For this reason, it is important for the counselor to recognize the importance of a sufficient block of time. If the counselor fails to obtain a sufficient block of time, he may find himself increasing his work load. This concept is fundamental to the system, since the counselor's ability to fulfill his responsibility will determine the success or failure of the entire procedure.

The time availability of the student is defined in the lower right hand corner of the course request form. The beginning time is the earliest time that a student can be on campus each day. The ending time is the latest time that a student can be on

campus each day. Both of these are listed in normal clock hours. For example, the student may say that he is available from 7:30 on Monday, Wednesday, and Friday, but not until 9:30 on Tuesday and Thursday. His ending time may be 1:30 on Tuesday and Thursday, but 4:30 on all other days. In the event that the student is not available for day classes on any particular day, the beginning and ending times would be identical; that is, 12:30 beginning and 12:30 ending time. If the student is not available for evening classes, an X is placed in the box under evening for each particular evening he is not available. The scheduling program considers day classes (that is, the range of the beginning and ending times) as being from 7 a.m. to 4:30. Evening classes begin as early as 4:30 p.m.

Lunch Time. Although it is considered desirable to arrange for a lunch period in each student's schedule, examination of schedules from the previous year showed that many students scheduled themselves without a lunch break, even when it was avoidable. Further, since the student is permitted to restrict his hours of attendance, scheduling of the lunch hour was abandoned in favor of achieving nearly the same result by more careful design of the master schedule. Also, the student is allowed to change his schedule if he can show that the one developed by SWITCH is not educationally sound or is undesirable for a variety of other reasons.

Let us now examine the process students go through for fall registration. Let us consider first the continuing student -- one who has been in attendance before at Bakersfield College or the first time student preregistering in the Spring. Preregistration begins in April and extends through June and the steps in the process are these:

(First Time and Continuing Students Registering in Spring – April or May)

Step 1 Files *Application*

Step 2 Makes appointment with Counselor or advisor and receives *List of Courses and Instructors* for pre-planning

Step 3 Completes and submits *Class Schedule Request* form

Step 4 Receives in July a letter of acceptance and verification of courses sent by Director of Admissions with return postcard. If course request form is O.K., card is returned and no further action is

required. If not O.K., a new counseling appointment is required in August.

Step 5 Picks up Registration Card and Study List on appointed days.

The process of the first time or continuing student registering in August varies a little; his steps are these:

(First Time and Continuing Students Registering in August)

Step 1 Files Application

Step 2 Makes appointment with counselor or advisor and receives List of Courses and Instructors for pre-planning

Step 3 Completes and submits Class Schedule Request form

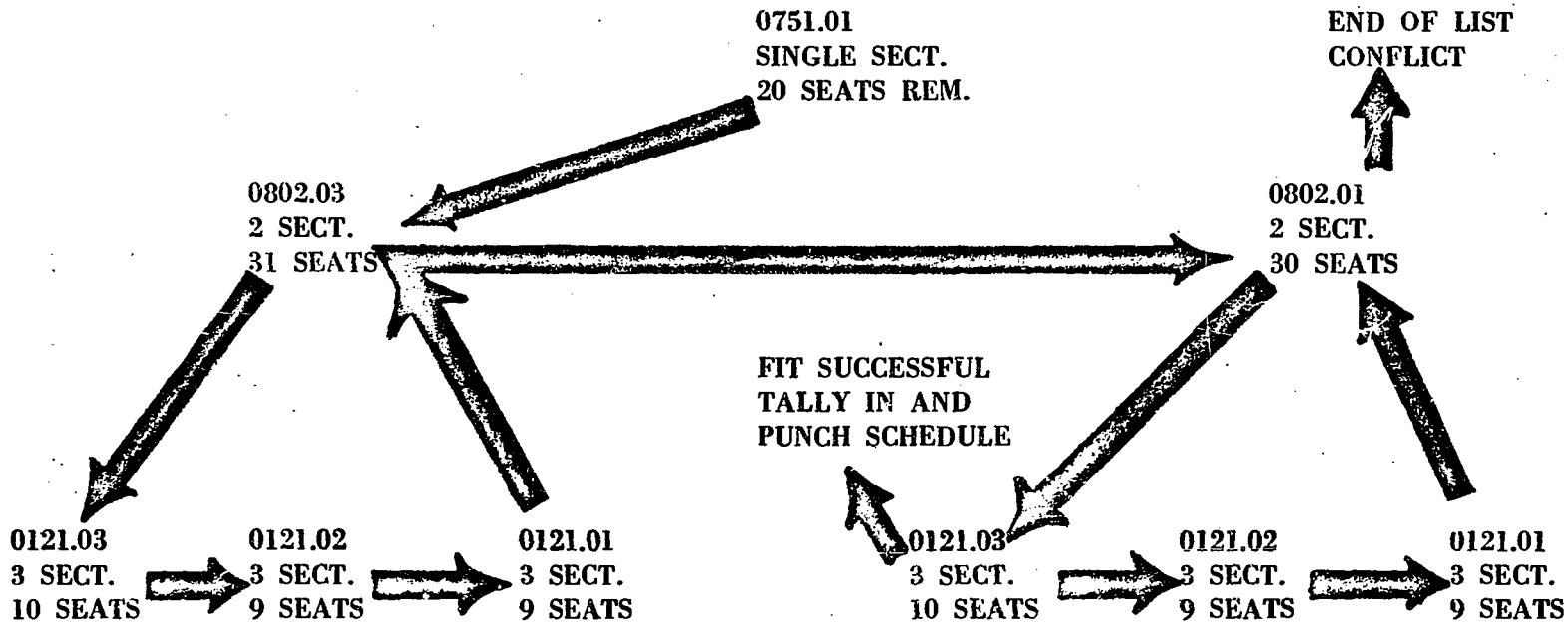
Step 4 Picks up Registration Card and Study List on appointed days.

Before leaving the student registration aspect of this process, let us review briefly some of the major considerations and steps that must occur in processing the data requested on the Student Course Request form.

Catalog Number. First the Student Request Form must be coded. It must carry a catalog number of the course. The catalog number is defined as a four digit number corresponding to a single course listed in the school catalog. The range is 1-9998. Number 9999 is reserved for a dummy course. When one or more sections of a course have a restricted enrollment on the basis of level, majors, or if for other reasons it is not open to general use, it must be identified with a separate catalog number. All sections of a course under a single catalog number must meet for the same number of weekly student contact hours, and, from the point of view of logic, should contain the same course content.

Ticket Number. Later the individual section is identified by a ticket number. The ticket number is defined as a six digit number specifying the particular section of a course. The first four digits of the ticket number is the catalog number; the last two digits identify the section. Section numbers need not be sequential. At Bakersfield College, section numbers of fifty and over represent evening division classes. Section numbers under fifty identify day (7:30 a.m. to 4:30 p.m.) classes.

Priority of Scheduling. Students are scheduled in alphabetic sequence. Each student's request is fitted one section at a time, and the student is completely



TRIAL ARRAY FOR CASE 1

scheduled before the next student's request is read into the computer. The scheduling sequence of each course of a student's request is dependent upon whether or not instructors have been specified and whether three PE choices have been provided. There are three different paths that the computer will follow which are called Case 1, Case 2, and Case 3. The trial arrays for each of the cases are explained below.

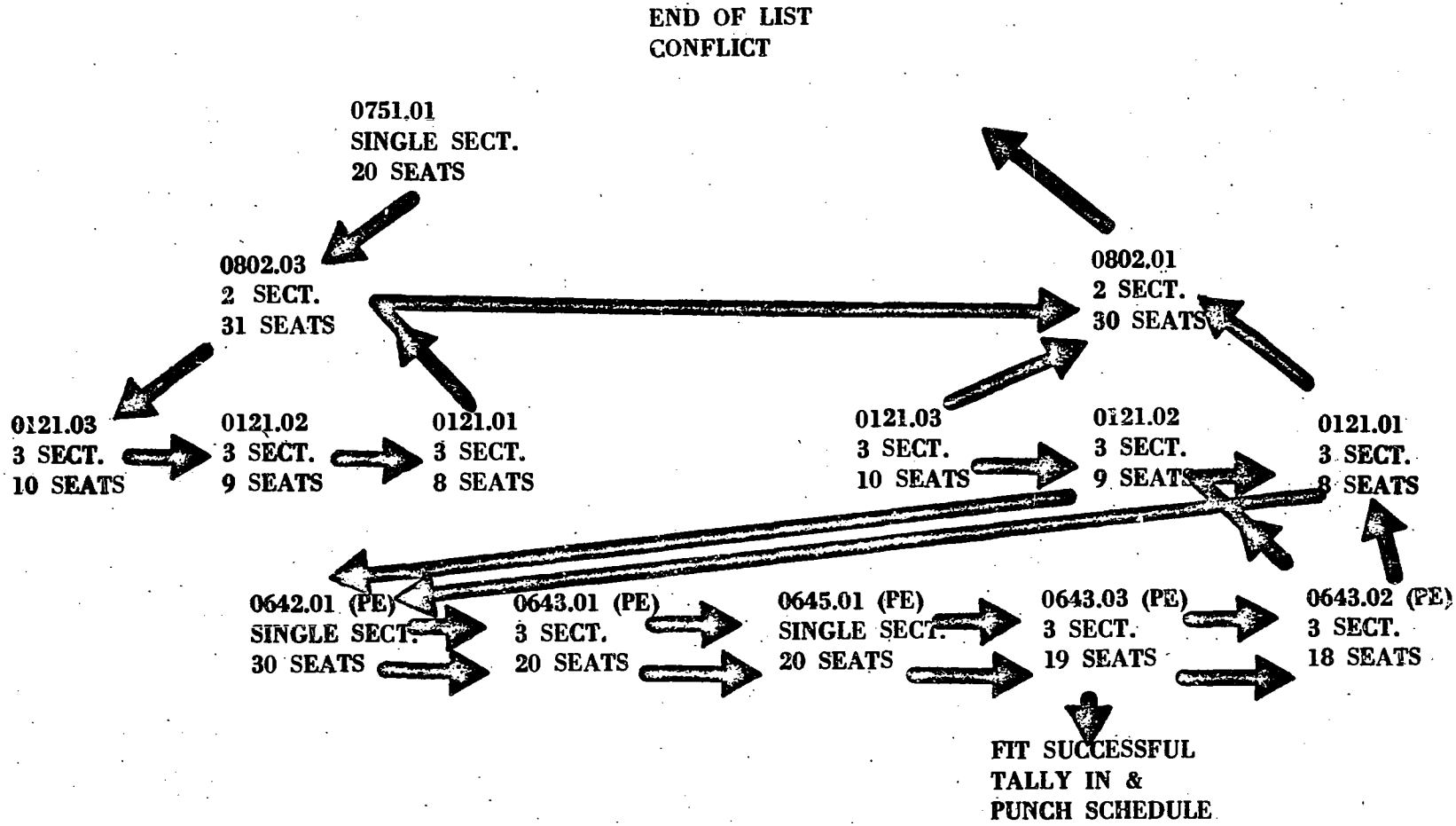
Case 1 (See page 14)

Definition: No instructor specified, no choice of PE.

1. The number of sections for each course is determined.
2. All courses are sorted on the number of sections. Courses with the least number of sections are placed at the top of the list.
3. All multi-section courses are sorted on the number of seats remaining in the sections. The sections with the greatest number of seats remaining are placed at the top of the list within each course.
4. Times that the student is not available for classes are blocked out and scheduling proceeds on a trial and error method. Single section courses are fit first.
5. Two section courses are fit next with the section having the greatest number of seats being tried first.
6. In the event of a failure to fit, the section just scheduled is removed and the next section of the course is tried. When all sections of a course have been tried without success, the computer backs up to the previous course, removing the section which was fit and moves down the list to the next fit. It then moves up the list to the next course trying each section in turn.

The maximum trail limit is based on the number of times the computer must back-track on the prior course. It has been found that a back-track limit of 75 will probably schedule all students. (The original program did not contain a trail limit; eventually, an impossible request arrived which would have required 17,800 hours of computer time to exhaust all possibilities.)

Using the 75 trial limit, with a Master Schedule designed for approximately



TRIAL ARRAY FOR CASE 2

6,000 students, the scheduling time is approximately 500-600 students per hour. Here again, scheduling time is intimately related to Master Schedule design. The scheduling sequence for Case 1 is shown in the Case 1 trial array.

Case 2 (See page 16)

Definition: No instructor request, three PE choices.

Case 2 follows the same sequence as Case 1, except that the three PE courses are mixed and sorted on the basis of seats remaining. Only one of the PE choices is scheduled. The scheduling sequence for Case 2 is shown in the trial array for Case 2.

Case 3 (See page 18)

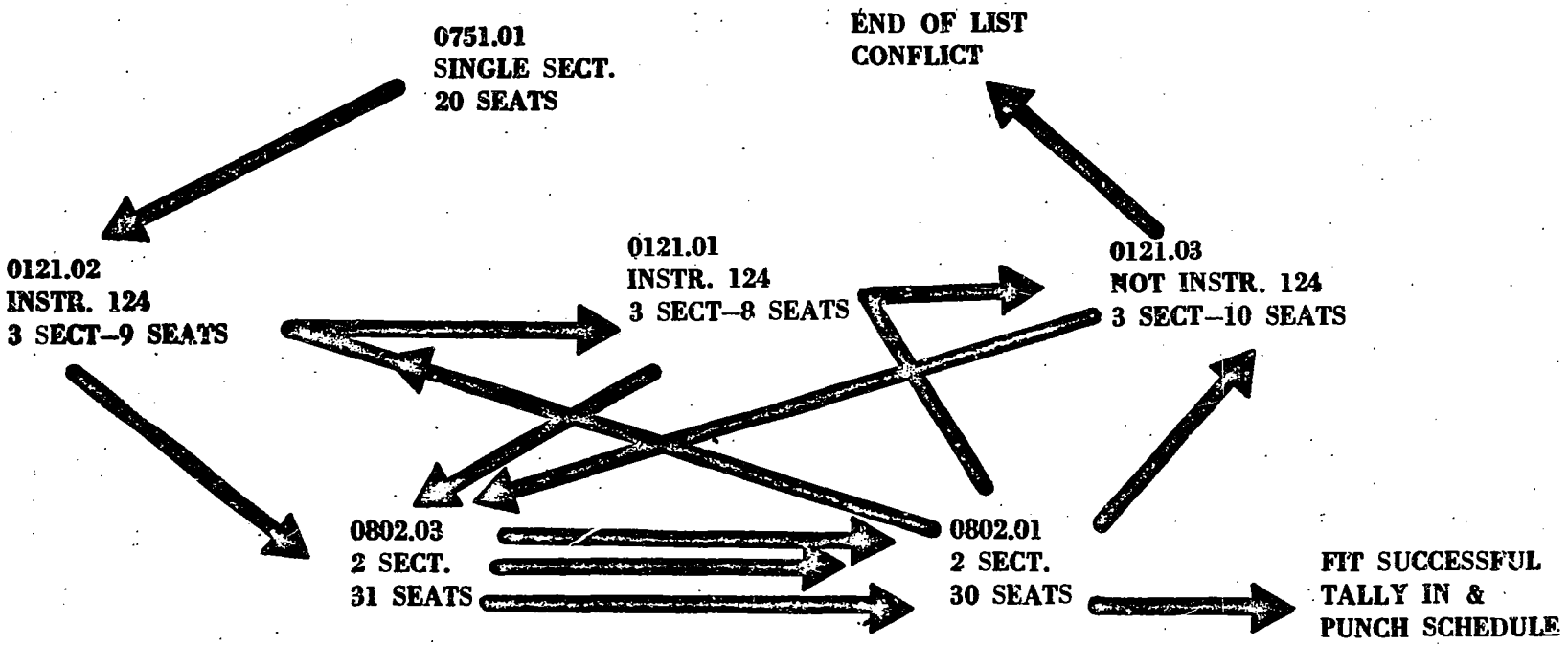
Definition: A Case 1 or Case 2 request and in addition, one or more instructors requested.

1. The number of sections for each course is determined.
2. All courses are sorted on the number of sections; courses with the least number of sections are placed at the top of the list.
3. Any courses which have instructor preferences are repositioned to follow all single section courses. Sections with instructors requested are placed at the top of the list within the course. The trials follow the sequence shown in the Case 3 trial array.

Procedural Sequence of Scheduling

The following is a brief description of the sequence of data handling after the course requests have arrived at the data processing center:

1. Code courses and counselor
2. Look up the student's personal data card which contains his alpha number.
3. Mark sense the counselor on the data card
4. Code instructors.
5. Key punch the No. 1 cards.
6. Key punch No. 3 cards (time definition).
7. Key punch No. 4 cards (instructor requests).
8. Computer generates a proofing list of No. 1 cards (courses requested).



INSTRUCTOR NO. 124 REQUESTED FOR COURSE NO. 121

TRIAL ARRAY FOR CASE 3

9. Print a proofing list of No. 3 and No. 4 cards.
10. Proofread requests and correct errors.
11. Interfile requests by alpha number
12. Schedule by computer.
13. Drop out conflicts.
14. Print list of conflicts.
15. Drop out conflict requests.
16. Schedule conflicts without time requests.
17. Drop out remaining conflicts from the output of this run.
18. Run for conflict analysis.
19. Match output to input.
20. Hand work mismatches (the mismatches at this point represent three or more courses in conflict; at Bakersfield College, out of 6,000 students scheduled, approximately 100 students' schedules had to be hand worked because of three courses which could not be taken at the same time — and any two of the three courses could be taken.)
21. Identify conflict pairs on the request form and return the course request to the counselor.
22. Collate all data cards, request cards and time definition conflicts.
23. Print and distribute study lists.
24. Print roll sheets.

MASTER SCHEDULE DESIGN

Thus you've seen how the student is scheduled; now how then is the master schedule designed?

When you accept the three basic concepts involved in the SWITCH program — student's choice of courses, choice of instructors, and time availability, then the master schedule must be designed within those parameters. However, there are other considerations of paramount importance, too.

Master Schedule. (See page 20) The factors controlling enrollment in a single course, a particular curriculum, or a single institution are subject to great

BAKERSFIELD COLLEGE SCHEDULE OF CLASSES SPRING 1971 01/14/71

•50 TICKET NUMBER SERIES INDICATE EVENING CLASSES
CLASSES MEET FOR 52 MINUTES UNLESS OTHERWISE SPECIFIED

TKT NO	COURSE		UNITS	DAYS	TIME	INSTRUCTOR	ROOM
1377•50	BUSINESS AD	1B	3•0	MTH	0700-0850	GRASS R	H 22
1387•01	BUSINESS AD	18A	3•0	M	1230	CLOSE D	SE 53
			DISC	TTH	0730	CLOSE D	LA 218
1387•02	BUSINESS AD	18A	3•0	M	1230	CLOSE D	SE 53
			DISC	TTH	0830	CLOSE D	LA 218
1387•03	BUSINESS AD	18A	3•0	M	1230	CLOSE D	SE 53
			DISC	TTH	1230	CLOSE D	LA 223
1396•50	BUSINESS AD	18B	3•0	MW	0530-0650	MEIER B	H 20
1406•50	BUSINESS AD	59	3•0	W	0700-1000		H 19
1415•50	BUSINESS AD	60	3•0	T	0400-0700	MEIER B	H 20
1415•51	BUSINESS AD	60	3•0	TH	0700-1000	MEIER B	H 20
1425•50	BUSINESS AD	61	3•0	T	0700-1000	TOLFREE C	H 104
1434•50	BUSINESS AD	62	3•0	TH	0700-1000		H 5
1453•50	BUSINESS AD	64	3•0	W	0700-1000	BRAASE R	LA 113
1453•51	BUSINESS AD	64	3•0	TH	0700-1000	WINTER G	H 12
1463•50	BUSINESS AD	65	3•0	W	0700-1000	MACLIN B	H 8
1472•50	BUSINESS AD	68	3•0	T	0700-1000	FISHER J	H 21
5519•01	CHEMISTRY	1A	5•0	MWF	0830	LEE P	FOR E
			LAB	TTH	0830-1122	LEE P	SE 17
5519•02	CHEMISTRY	1A	5•0	MWF	0830	LEE P	FOR E
			LAB	MW	0130-0422	LEE P	SE 17
5519•03	CHEMISTRY	1A	5•0	MWF	0830	LEE P	FOR E
			LAB	TTH	0130-0422	LEE P	SE 17
5529•01	CHEMISTRY	1B	5•0	MWF	0930	BRAILSFORD R	SE 51
			LAB	TTH	0830-1122	BRAILSFORD R	SE 18
5529•02	CHEMISTRY	1B	5•0	MWF	0930	BRAILSFORD R	SE 51
			LAB	MW	0130-0422	BRAILSFORD R	SE 18
5529•03	CHEMISTRY	1B	5•0	MWF	1030	DIETZ R	SE 53
			LAB	TTH	0830-1122	DIETZ R	SE 27
5529•04	CHEMISTRY	1B	5•0	MWF	1030	DIETZ R	SE 53
			LAB	TTH	0130-0422	DIETZ R	SE 27
5538•01	CHEMISTRY	2A	5•0	MWF	0830	WARD R	MS 26
			LAB	T	0830-1122	WARD R	MS 25
			DISC	TH	1230	WARD R	MS 25
5538•02	CHEMISTRY	2A	5•0	MWF	0830	WARD R	MS 26
			LAB	TH	0830-1122	WARD R	MS 25
			DISC	T	1230	WARD R	MS 25
5538•03	CHEMISTRY	2A	5•0	MWF	0930	WICKEY R	MS 26
			LAB	M	0130-0422	WICKEY R	MS 25
			DISC	TH	1130	WICKEY R	MS 25
5538•04	CHEMISTRY	2A	5•0	MWF	0930	WICKEY R	MS 26
			LAB	T	0130-0422	WICKEY R	MS 25
			DISC	M	1130	WICKEY R	MS 25
5538•05	CHEMISTRY	2A	5•0	MWF	0930	WICKEY R	MS 26
			LAB	W	0130-0422	WICKEY R	MS 25
			DISC	T	1130	WICKEY R	MS 25
5538•06	CHEMISTRY	2A	5•0	MWF	0930	WICKEY R	MS 26
			LAB	TH	0130-0422	WICKEY R	MS 25
			DISC	W	1130	WICKEY R	MS 25
5538•07	CHEMISTRY	2A	5•0	MWF	1130	BASTIANI R	SE 26
			LAB	T	0830-1122	BASTIANI R	SE 26
			DISC	TH	1030	BASTIANI R	SE 26
5[illegible]1	CHEMISTRY	5	4•0	TTH	1130	BASTIANI R	SE 26
			LAB	MW	0130-0422	BASTIANI R	SE 26

year-to-year fluctuation at the junior college level. Changes in prerequisites at four year institutions, the march of history and current events, the attitudes and opinions of counselors and advisors are only a few of the identifiable factors; yet, fortunately, a very large portion of the courses offered show a surprising stability from year to year. But even a few unusual pattern deviations can produce a chaotic situation if students are positioned in a particular section before unexpected enrollment patterns become apparent.

Thus, another requirement imposed was to make it possible to defer the final master schedule design for as long as possible during the registration process. In order to meet this requirement, another factor is involved which has nothing to do with the use of the computer; mainly, the responsibility for teacher assignments and room assignments must rest in a single person who has the power to modify the Master Schedule in order to meet developments as soon as they occur.

Leveling of Sections. Maintaining level sections is not a difficult task; and of all of the problems of sectioning, leveling is the easiest to achieve. It should not be a basic objective of any scheduling scheme, since leveling will occur naturally if the students are processed randomly with simple trial priority given to the section with the greatest number of seats remaining. In the final analysis, leveling is a function of the design of the Master Schedule. No amount of artificial manipulation can produce level sections if a Master Schedule is faulty. Therefore, the emphasis should be placed on Master Schedule design.

Good Master Schedule design may be achieved (and usually is) by a capable individual who is fully informed about the internal operation of a school; however, as a school increases in size, it becomes increasingly more difficult for one person to maintain a good balance of Master Schedule design. This is particularly true if a school is growing rapidly. When this happens, the Master Schedule designer easily loses his sense of perspective. Good Master Schedule design is an art that is not easily passed on to a successor; yet, it is the very heart of the financial health of the institution.

General Procedure. In fall registration, counseling and testing information collection begins in April or May. Forecasts of enrollment by course are made

1805	OFF S51	24.16	3.11	17.20	3.01	6.40	1.40	47.76
1814	OFF S52	27.26	3.88	22.20	3.24	2.70	1.03	52.16
1824	OFF S53A	22.66	3.58	2.06	0.85	2.43	1.20	27.15
1833	OFF S53B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1843	OFF S54	54.30	5.09	129.20	5.72	12.56	2.03	196.06
1852	OFF S60A	27.06	3.33	3.30	1.10	6.56	1.87	36.92
1862	OFF S63	14.80	3.10	9.73	1.98	6.06	1.59	30.59
1867	OFF S65	0.00	0.00	0.00	0.00	0.96	0.60	0.96
1871	OFF S70	3.23	0.99	1.03	0.65	0.00	0.00	4.26
1881	SEC T10	10.83	2.57	6.36	1.85	6.26	1.59	23.45
1882	SEC T20A	34.23	3.48	20.23	2.97	12.23	2.69	74.69
1883	SEC T20B	4.36	1.35	23.36	3.09	2.03	1.11	29.75
1884	SEC T20C	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1890	SEC T50A	0.00	0.00	0.00	0.00	1.63	0.98	1.63
1900	SEC T50B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1909	SEC T52	16.43	2.51	58.73	5.07	3.23	0.99	78.39
1919	SEC T54	8.23	2.18	19.16	2.73	4.73	1.46	32.12
1926	SEC T59	14.86	1.86	5.46	1.36	3.63	1.35	23.95
1928	SEC T60A	14.20	2.95	1.16	0.73	4.26	1.52	19.62
1938	SEC T60B	0.00	0.00	0.00	0.00	7.46	1.91	7.46
1947	SEC T61A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1957	SEC T61B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1966	DRAMA10A	12.40	2.89	35.60	4.34	6.66	2.05	54.66
1976	DRAMA10B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1985	DRAMA15	8.03	2.30	13.43	2.44	6.66	1.86	28.12
1995	DRAMA20	4.73	1.23	4.20	1.37	0.00	0.00	8.93
2004	DRAMA22	2.13	0.88	2.23	1.08	3.63	1.35	7.99
2014	DRAMA24A	12.90	2.00	1.16	0.73	2.10	1.07	16.16
2023	DRAMA24B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2033	DRAMA25A	7.40	2.13	1.93	0.96	3.06	1.39	12.39
2042	DRAMA25B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2052	DRAMA26A	5.46	1.38	9.90	2.35	4.76	1.33	20.12
2061	DRAMA26B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2071	DRAMA27	24.86	3.15	24.40	3.26	9.40	2.02	58.66
2080	DRAMA28	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2090	DRAMA30A	6.50	1.66	3.63	0.91	1.70	1.03	11.83
2099	DRAMA30B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2109	BAS S100	1.00	0.63	3.33	1.13	0.00	0.00	4.33
2118	ENGL 1A	513.30	16.49	442.66	17.36	105.86	7.12	1061.82
2128	ENGL 1A	2.33	1.01	18.73	3.05	2.63	1.08	23.69
2137	ENGL 1B	292.63	13.93	5.60	1.70	36.33	4.46	334.56
2147	ENGL 1B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2156	ENGL 5A	82.20	5.15	0.00	0.00	7.40	1.90	89.60
2166	ENGL 5B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2175	ENGL 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2185	ENGL 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2194	ENGL 20A	47.80	4.35	1.10	0.33	4.60	1.87	53.50
2204	ENGL 20B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2213	ENGL 21	20.33	3.07	7.96	1.85	3.86	1.36	32.15
2221	ENGL 27	0.00	0.00	0.00	0.00	0.86	0.61	0.86
2223	ENGL 28	26.56	3.40	0.00	0.00	4.80	1.46	31.36
2232	ENGL 30A	30.13	3.79	1.10	0.70	4.20	1.55	35.43
2242	ENGL 30B	0.00	0.00	0.00	0.00	0.90	0.70	0.90
2244	ENGL 31	0.00	0.00	0.00	0.00	1.03	0.83	1.03
2251	ENGL 34	2.13	0.88	0.00	0.00	1.30	0.90	3.43
2254	ENGL 35	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2258	ENGL 40	0.00	0.00	0.00	0.00	0.00	0.00	0.00

statistically by computer from prior years' experience. (See page 22) The forecasts are used by the Master Schedule designer for developing a proposed Master Schedule by late May or early June. Data collected in the spring is then run against the Master Schedule to determine the degree of fit. A conflict analysis is generated by the computer which is sent back to the Master Schedule designer. A tally by sections is also returned to the designer. Conflicts and failures to level are considered to be faulty Master Schedule design. (See page 24) The Master Schedule is then revised and returned for a rerun against student requests. This process continues until general satisfaction is achieved or until staffing resources and physical plant no longer permit additional modification.

Actual registration begins in August. Student requests are sectioned as they come in against the current Master Schedule. Periodic tallies point out pattern deviations and errors in judgment.

At the latest possible moment, the final Master Schedule is proposed and actual sectioning begins. At Bakersfield College in the fall of 1970, the actual sectioning began 15 days prior to the first day of classes. Study lists which listed courses, days, hours, rooms, and instructors were made available to students in time for book purchases. Class rosters for instructors were generated from study list information by computer.

Spring 1971 Scheduling. Now we are in the midst of scheduling the spring semester. Let me review the steps with you. (See Appendix)

1. Calendar for Scheduling Spring 1971
2. Forecast of Enrollment by Course
3. Guidelines for Scheduling
4. Instructor Preference Questionnaire
5. List of Courses to Chairmen
6. Conferences with each chairman to discuss
    a. courses
    b. staff
    c. special facilities
6. Tentative List of Courses and Instructors (Day and Evening)

7590.03	HIST	8A	45	=	3	48	C	C	SCHMIDT			B	17020000			17020000			
7590.04	HIST	8A	45	=	4	49	C	C	SCHMIDT			B			25020000	25020000			
7590	TOTAL		90		7	97			97	=	1	163.66	11.03	09/10/70			8	5980	
7590	LSTYR		135			145			146	=	48			09/10/69				5608	
7609.01	HIST	15A	45		18	27			INSKEEP			J			23020000	23020000			
7609	TOTAL		45		18	27			27		1		NF	09/10/70			8	5980	
7628.01	HIST	17A	45		3	42		C	KIRKLAND						23020000	23020000			
7628.02	HIST	17A	45		3	42		C	KIRKLAND				29020000	29020000					29020000
7628.03	HIST	17A	45		2	43		C	BOYD			H	17020000			17020000			
7628.04	HIST	17A	45		4	41			BOYD			H			19020000				19020000
7628.05	HIST	17A	45		4	41			BOYD			H	23020000			21020000			23020000
7628.06	HIST	17A	45		2	43		C	BOYD			H			25020000	25020000			
7628.07	HIST	17A	45		3	42		C	DAVIS			T	19020000			19020000			
7628.08	HIST	17A	45		3	42		C	DAVIS			T			19020000				19020000
7628.09	HIST	17A	45		4	41			DAVIS			T	29020000	29020000					29020000
7628.10	HIST	17A	45		4	41			CORY			E	25020000	27020000					27020000
7628.11	HIST	17A	45		4	41			LUDEKE			J	15020000			15020000			
7628.12	HIST	17A	45		2	43		C	LUDEKE			J	19020000			19020000			
7628.13	HIST	17A	45		4	41			LUDEKE			J	23020000			21020000			23020000
7628.14	HIST	17A	45		4	41			MEIER			B			16030000				16030000
7628.15	HIST	17A	45		4	41		C	MEIER			B			23020000	23020000			
7628.16	HIST	17A	45		1	44		C	MEIER			B			25020000	25020000			
7628.17	HIST	17A	45		1	44		C	INSKEEP			J	21020000	21020000					21020000
7628.18	HIST	17A	45		4	41			INSKEEP			J	25020000	27020000					27020000
7628.20	HIST	17A	45		4	41			MCKAY			P	17020000			17020000			
7628.21	HIST	17A	45		4	41			MCKAY			P	21020000	21020000					21020000
7628.22	HIST	17A	45		3	42		C	CORY			E			25020000	25020000			
7628.23	HIST	17A	45		4	41			CORY			E	15020000			15020000			
7628.24	HIST	17A	45			45		C	CORY			E	19020000			19020000			
7628.25	HIST	17A	45		4	41			CORY			E	21020000	21020000					21020000
7628.26	HIST	17A	50		4	46			LEWIS			G	17020000			17022102			
7628.27	HIST	17A	50		4	46			LEWIS			G	17020000			17020000			
7628.28	HIST	17A	50		5	45			LEWIS			G	17022302			17020000			
7628.29	HIST	17A	50		5	45			LEWIS			G	17020000			17020000			2302
7628.30	HIST	17A	50		5	45			LEWIS			G	17020000		2702	17020000			
7628.31	HIST	17A	45		5	40			MCKAY			P	15020000			15020000			
7628.50	HIST	17A		=	4	4		C	C	LEWIS		G	35030000			35030000			
7628.51	HIST	17A		=	11	11		C	C	CORY		E							38060000
7628	TOTAL		1375		88	1287			128/		16	1416.46	33.56	09/10/70			8	5980	
7628	LSTYR		1305		30	1283			1283		4			09/10/69				5608	

8. Tally totals
9. Tentative Schedule of Classes (Section-room-instructor.)
10. Later tally by course and section – revision because of numbers, conflicts – etc.
11. Final Schedule Jan. 18, 1971
12. Review daily tally by courses each day
13. Closed Course List (Because of limited staff or facilities)

Other Considerations. No attempt is made to generalize SWITCH for all junior colleges; one reason being the intimate relationship between the sequence of certain events at Bakersfield College and the final execution phase of the program.

In conclusion, let me state that no scheduling process of which I know can be an easy process on those who are involved in it. Our belief is that the major objective must be to serve students as best we can. Decisions in this process are made by the administrator in charge and certainly errors in judgment occur. But I submit that building the final master schedule after a majority of students have indicated their needs and desires will more nearly meet those requests and that the more information any schedule designer has before he makes the final decisions, can only aid in making better judgments than before. SWITCH is only a mechanical processing of data through the use of the computer which in turn aids greatly the registration and scheduling procedures as well as the decisions those involved in the process must make.

APPENDIX

APPLICATION FOR ADMISSION
BAKERSFIELD COLLEGE
1801 Panorama Drive

Today's date_____

DIRECTIONS:
First: Read and follow the "Instructions" which accompany this application.
Secondly: Answer questions on this form. Give full legal name. Do not use nicknames or abbreviations.

(Omit this section if you plan to be a Day Student. Evening division students must complete this course request.)

COURSE REQUESTS: Indicate below the courses for which you wish to register. In order to register for most English, History, Mathematics, Psychology and Secretarial Training Courses, prior permission of a counselor must be secured. Please check for prerequisites in the Evening Division Bulletin.

Fill in Data. (If course is an adult class and is NOT taken for credit, write "audit" in units column.)

	Ticket Number	Subject and Number	Units	Time	(Check Days) M	T	W	Th	F	Instructor	

(FILL OUT THIS PAGE)

1. Name_____ Sex: M____ F____
(Please Print) (LAST) (FIRST) (MIDDLE)

(office use)

2. Place of birth_____ Date of birth_____
Month Day Year

Are you a U.S. citizen? Yes No Social Security Number_____

3. Are you married? Yes____ No____ (Married women give maiden name)_____

4. Permanent home address_____
(No.) (Street) (City) (County) (State) (Zip Code) (Phone)

5. Address while attending college_____ Phone_____
(No.) (Street) (City) (County (State) (Zip Code)

6. Have you attended College before? Yes____ No____
Have you attended Bakersfield College before? Yes____ No____ Total number of college units completed to date_____
If yes, indicate whether in Day____ Evening____ or Summer____ and dates of attendance_____

7. Are you a high school graduate? Yes____ No____
If yes, what year did you graduate?_____ If no, what year did you last attend?_____

[illegible] or in Bakersfield College_____ Occupational Objective_____

STUDENT APPLICATION

Each student each year must make application for attendance at Bakersfield College. The form requires information on both sides from the applicant. No student is registered unless application is first on file. From application form the student's alpha number is assigned.

CALENDAR FOR SCHEDULING FOR SPRING 1971

Date	Step	Responsibility
10–7	List of courses sent to Department Chairmen Return Date 10–14–70	Dean of Administration
10–12	Instructor Preference Questionnaire to new staff	Dean of Administration
10–14	Return List of Courses to Dean of Administration	Department Chairmen
10–15	Scheduling Information Department Chairmen Meeting	Department Chairmen & Dean of Administration
10–16	Return Instructor Preference Questionnaire to Dean of Administration	New Instructors
10–20	Voluntary Faculty Meeting re Scheduling 10:30 and 3:30	Dean of Administration
10–20– 10–26	Conferences with Department Chairmen & Dean	Department Chairmen & Dean of Administration
11–4	Publish List of Courses Day and Evening and Instructors for Student Scheduling	Dean of Administration & Dean of Evening Division
12–15	First Tentative Schedule for Spring 1971 Review by Department Chairmen & Instructors Notify Bookstore	Dean of Administration Faculty Dean of Administration
1/4–1/22	Schedule Adjustments	Dean of Administration & Department Chairmen
1–18	Spring 1971 Schedule of Classes	Dean of Administration

MRS

10–7–70

CALENDAR FOR SCHEDULING

A calendar for the steps in designing the master schedule is developed each semester and distributed to staff involved. The sample calendar is for the Spring Semester 1971 Schedule design. The critical dates in the preparation of materials revolve around those dates set aside for counseling and preregistration of students, e.g. November 4 when the List of Courses and Instructors must be ready.

1805 OFF S51	24.16	3.11	17.20	3.01	6.40	1.40	47.76
1814 OFF S52	27.26	3.88	22.20	3.24	2.70	1.03	52.16
1824 OFF S53A	22.66	3.58	2.06	0.85	2.43	1.20	27.15
1833 OFF S53B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1843 OFF S54	54.30	5.09	129.20	5.72	12.56	2.03	196.06
1852 OFF S60A	27.06	3.33	3.30	1.10	6.56	1.87	36.92
1862 OFF S63	14.80	3.10	9.73	1.98	6.06	1.59	30.59
1867 OFF S65	0.00	0.00	0.00	0.00	0.96	0.60	0.96
1871 OFF S70	3.23	0.99	1.03	0.65	0.00	0.00	4.26
1881 SEC T10	10.83	2.57	6.36	1.85	6.26	1.59	23.45
1882 SEC T20A	34.23	3.48	28.23	2.97	12.23	2.69	74.69
1883 SEC T20B	4.36	1.35	23.36	3.09	2.03	1.11	29.75
1884 SEC T20C	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1890 SEC T50A	0.00	0.00	0.00	0.00	1.63	0.98	1.63
1900 SEC T50B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1909 SEC T52	16.43	2.51	58.73	5.07	3.23	0.99	78.39
1919 SEC T54	8.23	2.18	19.16	2.73	4.73	1.46	32.12
1926 SEC T59	14.86	1.86	5.46	1.36	3.63	1.35	23.95
1928 SEC T60A	14.20	2.95	1.16	0.73	4.26	1.52	19.62
1938 SEC T60B	0.00	0.00	0.00	0.00	7.46	1.91	7.46
1947 SEC T61A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1957 SEC T61B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1966 DRAMA10A	12.40	2.89	35.60	4.34	6.66	2.05	54.66
1976 DRAMA10B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1985 DRAMA1F	8.03	2.30	13.43	2.44	6.66	1.86	28.12
1995 DRAMA2C	4.73	1.23	4.20	1.37	0.00	0.00	8.93
2004 DRAMA22	2.13	0.88	2.23	1.08	3.63	1.35	7.99
2014 DRAMA24A	12.90	2.00	1.16	0.73	2.10	1.07	16.16
2023 DRAMA24B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2033 DRAMA25A	7.40	2.13	1.93	0.96	3.06	1.39	12.39
2042 DRAMA25B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2052 DRAMA26A	5.46	1.38	9.90	2.35	4.76	1.33	20.12
2061 DRAMA26B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2071 DRAMA27	24.86	3.15	24.40	3.26	9.40	2.02	58.66
2080 DRAMA28	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2090 DRAMA30A	6.50	1.66	3.63	0.91	1.70	1.03	11.83
2099 DRAMA30B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2109 BAS S100	1.00	0.63	3.33	1.13	0.00	0.00	4.33
2118 ENGL 1A	513.30	16.49	442.66	17.36	105.86	7.12	1061.82
2128 ENGL 1A	2.33	1.01	18.73	3.05	2.63	1.08	23.69
2137 ENGL 1B	292.63	13.93	5.60	1.70	36.33	4.46	334.56
2147 ENGL 1B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2156 ENGL 5A	82.20	5.15	0.00	0.00	7.40	1.90	89.60
2166 ENGL 5B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2175 ENGL 6	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2185 ENGL 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2194 ENGL 20A	47.80	4.35	1.10	0.33	4.60	1.87	53.50
2204 ENGL 20B	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2213 ENGL 21	20.33	3.07	7.96	1.85	3.86	1.36	32.15
2221 ENGL 27	0.00	0.00	0.00	0.00	0.86	0.61	0.86
2223 ENGL 28	26.56	3.40	0.00	0.00	4.80	1.46	31.36
2232 ENGL 30A	30.13	3.79	1.10	0.70	4.20	1.55	35.43
2242 ENGL 30B	0.00	0.00	0.00	0.00	0.90	0.70	0.90
2244 ENGL 31	0.00	0.00	0.00	0.00	1.03	0.83	1.03
2251 ENGL 34	2.13	0.88	0.00	0.00	1.30	0.90	3.43
2254 ENGL 35	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2258 ENGL 40	0.00	0.00	0.00	0.00	0.00	0.00	0.00

FORECAST OF ENROLLMENT

Each semester a forecast of enrollment is developed through the computer and a printout provided to the master schedule designer for use. Students are classified as new students, returning students, and all other students not fitting the other categories. Through the use of Monte Carlo or Random-Walk Methods, the forecast is developed by each class of student by course.

GUIDELINES FOR SCHEDULING FOR FALL 1970

Instructor Hour Patterns

1. Arrange classes to meet student needs. This is the first concern in the scheduling process.

2. Use traditionally assigned loads unless changed by policy. These vary with instructor according to assignment and are adjusted to meet student needs. In general, load maximums are computed as follows:

   a. When loads consist entirely of lecture classes — 15 semester hours
   b. When loads consist of combination lecture-lab — 21 semester hours (Exception Science which is 34—36 annual hours)
   c. When loads consist of activity type classes — 24 semester hours
   d. When loads consist of combinations based on weekly student contact hours and or type of class, semester hour adjustments are made — large group-small group classes.

3. Attempt to load each instructor fully first in day program unless he indicates otherwise; if student needs do not permit, then place instructor on part of load in evening.

4. Use traditionally developed weekly patterns to gain maximum use of facilities.

5. Attempt to provide three or fewer preparations per instructor in day program, recognizing that in many single section specialty courses this is sometimes not possible.

6. Provide a daily lunch hour for each instructor (not always same time each day).

7. Avoid in so far as possible scheduling a lecture immediately followed by a three-hour lab or more than two lectures in same subject or course in consecutive assignment.

8. Provide reasonable span of time for instructor in any one day; e.g., 8:30 — 2:30.

For Lecture courses	For Lab courses
7:30 — 1:30	Span must be adjusted to 7 hours
8:30 — 2:30	to accommodate students and
9:30 — 3:30	facilities
10:30 — 4:30	

9. Plan that instructor office hour time (minimum 5 hours per week) can be accommodated in each schedule.

10. Recognize that facilities and equipment dictate schedule; e.g., art, agriculture, music, data processing, typing, T&I, maps, laboratory equipment, (physics), audio visual, projectors, etc.

11. Provide for special assignments and meetings as follows: Departmental Chairmen, Curriculum Committee, Faculty Council.

12. Attempt in so far as reasonably possible and in so far as requests fit the above guidelines, to respect any instructor's request with Department Chairmen approval.

GUIDELINES FOR SCHEDULING

The standard practices used traditionally within the college are reduced to writing and distributed to all faculty for information. The Guidelines used at Bakersfield College were drafted in 1968 when the responsibility for scheduling was transferred from one individual, who had the task for many years, to another administrator.

BAKERSFIELD COLLEGE

INSTRUCTOR PREFERENCES FOR SCHEDULING ASSIGNMENTS

Name:_____ MAJOR:_____ MINOR: _____
Last First Middle

Time Preference: I prefer to teach lecture type classes within the day hours. (Please give 1-2-3 designation to choices).

___ 7:30-1:30 ___ 8:30-2:30 ___9:30-3:30 ____10:30-4:30

In the Evening Division I prefer to teach: Monday; Tuesday; Wednesday; Thursday
(Circle one)
COURSE:_____

Room Requirements:

Course	Room	Reason
1.		
2.		
3.		
4.		
5.		

Other Considerations: I would like consideration to be given this special request. (Please describe your request and reason for any times you wish unassigned for: 1. Professional growth; 2. Community service; 3. Personal or family; and 4. Other.

Time: Day: Reason:_____

_____

Audio-Visual equipment commonly used by you.

Equipment	Course
1.	
2.	
3.	
4.	
5.	

Department Chairman _____

Signature _____ Date _____

INSTRUCTOR PREFERENCE QUESTIONNAIRE

This form was originally developed in 1968 as a one page single copy form to give information to the new master schedule designer. The form was requested by the Faculty Council to be multi-copy so the instructor could retain a copy. The form currently consists of four copies distributed as follows:

Copy 1 white	Master Schedule Designer
Copy 2	Evening Division Dean
Copy 3	Department Chairman
Copy 4	Instructor

Instructors need not fill this out each semester but each semester prior to scheduling each instructor is invited to update his preference questionnaire should he desire.

CLASS SCHEDULE REQUEST
(Please Print)

For Office Use | Last Name | First Name | Middle Initial | Major | Counselor

Student Address While At College | Phone Number | Maiden Name | Date

	PRIMARY REQUESTS					ALTERNATE REQUESTS				
	Course	Units	Ticket Number	Instructor	Code	Course	Units	Ticket Number	Instructor	Code
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
	Total Units									

33

34

Physical Education

List three courses that student has not previously taken.

_____

_____

_____

If exempt from P.E., check one of the following:

A. ☐ Completed

B. ☐ Married Female

C. ☐ Over 25

D. ☐ Medical

E. ☐ Marching Band

F. ☐ Nursing Program

G. ☐ Less than 8½ units

Time Block Availability

	Beginning	Ending	Evening
M			
T			
W			
Th			
F			

CLASS SCHEDULE REQUEST

This form provides for students'choice of courses, instructors and indication of time available for classes. From this form the coding by data processing takes place. For a full discussion of this form refer to page 9.

COURSE	UNITS	INSTRUCTOR	
ACCOUNTING 53A	3.0	BERARDI	A
ACCOUNTING 53A	3.0	DUNSTAN	E
ACCOUNTING 53A	3.0	EVENING	
ACCOUNTING 53B	3.0	DUNSTAN	E
ACCOUNTING 53B	3.0	EVENING	
ACCOUNTING 53C	3.0	DUNSTAN	E
ACCOUNTING 53C	3.0	EVENING	
ACCOUNTING 54	3.0	DUNSTAN	E
ACCOUNTING 63	3.0	DUNSTAN	E
ACCOUNTING 63	3.0	EVENING	
AERONAUTICS 1	4.0		
AERONAUTICS 50	3.0	EVENING	
AERONAUTICS 51	3.0	EVENING	
AGRICULTURE 2	3.0	TISCHBIREK	E
AGRICULTURE 42	3.0	HOKIT	
AGRICULTURE 42	3.0	OGLESBY	J
AGRICULTURE 53B	2.0	TISCHBIREK	E
AGRICULTURE 72B (PROPOSED)		EVENING	
AGRONOMY 2	3.0	HANSEN	H
AGRONOMY 14	3.0	OGLESBY	J
ANATOMY 43B (RN PROGRAM)	3.0	FREED	J
ANATOMY 43B (RT PROGRAM)	3.0	BURDICK	M
ANIMAL HUSB 7	3.0	HOKIT	
ANIMAL HUSB 8	2.0	HOKIT	
ANIMAL HUSB 9	3.0	HOKIT	
ANIMAL HUSB 11 (PROPOSED)		EVENING	
ANIMAL HUSB 43	3.0	HOKIT	
ANTHROPOLOGY 1	3.0	DAVIS	C
ANTHROPOLOGY 1	3.0	EVENING	
ANTHROPOLOGY 2	3.0	DAVIS	C
ANTHROPOLOGY 2	3.0	STEWART	E
ANTHROPOLOGY 2	3.0	EVENING	
ANTHROPOLOGY 59	3.0	EVENING	
APPRENTICE 71	2.0	EVENING	
APPRENTICE 73	2.0	EVENING	
APPRENTICE 75	2.0	EVENING	
APPRENTICE 76	3.0	EVENING	
APPRENTICE 78	2.0	EVENING	
APPRENTICE 80	2.0	EVENING	
APPRENTICE 81	3.0	EVENING	
APPRENTICE 82	2.0	EVENING	
APPRENTICE 83	2.0	EVENING	
APPRENTICE 85	2.0	EVENING	
APPRENTICE 86	2.0	EVENING	
APPRENTICE 87	2.0	EVENING	
APPRENTICE 88	2.0	EVENING	
ARCHITECTURE 12	2.0	BILLING	R
ARCHITECTURE 12	2.0	EVENING	
ARCHITECTURE 22	3.0	BILLING	R
ARCHITECTURE 25	2.0	BILLING	R
ARCHITECTURE 26	2.0	BILLING	R
ARCHITECTURE 31	2.0	FUNK	
ARCHITECTURE 31L	1.0	FUNK	
ARCHITECTURE 33	2.0	FUNK	

COURSE	UNITS	INSTRUCTOR	
AUTO 68B	8.0	MCCOY	J
BACTERIDLOGY 2	4.0	ALLSMAN	M
BACTERIOLOGY 43	3.0	ALLSMAN	M
BIOLOGY 1A	4.0	LAWRENCE	G
BIOLOGY 1A	4.0	NYSTROM	D
BIOLOGY 1B	4.0	CHICHESTER	B
BIOLOGY 1C	4.0	NYSTROM	D
BIOLOGY 11	4.0	DRAPER	R
BIOLOGY 11	4.0	KILDEBECK	
BIOLOGY 11	4.0	PRUETT	
BIOLOGY 11	4.0	YALE	T
BIOLOGY 11	4.0	EVENING	
BIOLOGY 12	3.0	DRAPER	R
BIOLOGY 14	3.0	YALE	T
BIOLOGY 21	1.0	LAWRENCE	G
BOTANY 18	1.0	EVENING	
BUSINESS 50	3.0	MARSHALL	F
BUSINESS 51	3.0	ANNIS	M
BUSINESS 51	3.0	MCGEE	
BUSINESS 51	3.0	EVENING	
BUSINESS 52	3.0	SWEENEY	M
BUSINESS 52	3.0	TIGNER	R
BUSINESS 53	4.0	BERARDI	A
BUSINESS 53	4.0	EVENING	
BUSINESS 54	3.0	SMITH	R
BUSINESS 55	3.0	CLOSE	D
BUSINESS 56	3.0	SMITH	R
BUSINESS 56	3.0	EVENING	
BUSINESS 60	1.0		
BUSINESS 70	1.0	EVENING	
BUSINESS 73	3.0	EVENING	
BUSINESS AD 1A	3.0	WOKEN	M
BUSINESS AD 1A	3.0	EVENING	
BUSINESS AD 1B	3.0	GRASS	R
BUSINESS AD 1B	3.0	WOKEN	M
BUSINESS AD 1B	3.0	EVENING	
BUSINESS AD 18A	3.0	CLOSE	O
BUSINESS AD 18B	3.0	EVENING	
BUSINESS AD 59	3.0	EVENING	
BUSINESS AD 60	3.0	EVENING	
BUSINESS AD 61	3.0	EVENING	
BUSINESS AD 62	3.0	EVENING	
BUSINESS AD 64	3.0	EVENING	
BUSINESS AD 65	3.0	EVENING	
CHEMISTRY 1A	5.0	LEE	P
CHEMISTRY 1B	5.0	BRAILSFORD	R
CHEMISTRY 1B	5.0	DIETZ	R
CHEMISTRY 2A	5.0	WARD	R
CHEMISTRY 2A	5.0	WICKEY	R
CHEMISTRY 5	4.0	BASTIANI	R
CHEMISTRY 30B	3.0	WARD	R
COMPUTER SCI 1	3.0	GRASS	R
COMPUTER SCI 18	2.0	FLINT	L
COMPUTER SCI 18	2.0	EVENING	
CORRECTIONAL AD 1	3.0	HASLETT	D
CORRECTIONAL AD 2	3.0	HASLETT	D
CORRECTIONAL AD 3	3.0	HASLETT	D
CORRECTIONAL AD 3	3.0	EVENING	

COURSE	UNITS	INSTRUCTOR	
ENGLISH 1B	3.0	LOCKFORD	J
ENGLISH 1B	3.0	PALITZ	M
ENGLISH 1B	3.0	PAINE	M
ENGLISH 1B	3.0	PROFANT	J
ENGLISH 1B	3.0	SHERMAN	F
ENGLISH 1B	3.0	STANSBURY	D
ENGLISH 1B	3.0	EVENING	
ENGLISH 5B	3.0	DABBS	L
ENGLISH 5B	3.0	GORDON	P
ENGLISH 10	3.0	EVENING	
ENGLISH 20B	3.0	HOWARD	E
ENGLISH 20B	3.0	LOCKFORD	J
ENGLISH 21	3.0	HERNANDEZ	J
ENGLISH 21	3.0	EVENING	
ENGLISH 28	3.0	SHERMAN	F
ENGLISH 30B	3.0	PROFANT	J
ENGLISH 30B	3.0	WILLIS	H
ENGLISH 34	2.0	JACOBS	F
ENGLISH 35	3.0	EVENING	
ENGLISH 41A	2.0	EVENING	
ENGLISH 41B	2.0	EVENING	
ENGLISH 41C	2.0	EVENING	
ENGLISH 41D	2.0	EVENING	
ENGLISH 50	3.0	CUNNINGHAM	
ENGLISH 50	3.0	DABBS	L
ENGLISH 50	3.0	GORDON	P
ENGLISH 50	3.0	PALITZ	M
ENGLISH 50	3.0	PETERSON	JA
ENGLISH 50	3.0	SHERMAN	F
ENGLISH 50	3.0	WILLARD	D
ENGLISH 50	3.0	EVENING	
ENGLISH 50 (MEXICAN/AMERICAN)	3.0		
ENGLISH 52	1.0	GRAFF	M
ENGLISH 52	1.0	LITHERLAND	D
ENGLISH 52	1.0	SILVER	A
ENGLISH 52	1.0	EVENING	
ENGLISH 58A	3.0	GRAFF	M
ENGLISH 58B	3.0	GRAFF	M
ENGLISH 60	3.0	ELLIOTT	R
ENGLISH 60	3.0	FORD	J
ENGLISH 60	3.0	LOCKFORD	J
ENGLISH 60	3.0	EVENING	
ENGLISH 60 (MEXICAN/AMERICAN)	3.0		
ENGLISH 61	1.0	AXFORD	
ENGLISH 61	1.0	EVENING	
ENGLISH 62	3.0	AXFORD	
ENGLISH 62	3.0	GRAFF	M
ENGLISH 62	3.0	LITHERLAND	D
ENGLISH 62	3.0	EVENING	
ENGLISH 64	3.0	APPEL	J
ENGLISH 64	3.0	ELLIOTT	R
ENGLISH 64	3.0	SILVER	A
ENGLISH 64	3.0	EVENING	
ENGLISH 65	3.0	SILVER	A
ENGLISH 65	3.0	STANSBURY	D
ENGLISH 67		APPEL	

TENTATIVE LIST OF COURSES AND INSTRUCTORS

The first tool for students to start preplanning for registration is the Tentative List of Courses and Instructors. It is distributed to each student at the time he makes his counseling appointment and he and the counselors use this along with the college catalog to develop the courses he needs or desires and his choice of instructors if any. The Tentative List of Courses and Instructors is derived from individual conference between each Department Chairman and the Master Schedule designer.

18•28	ENGL	1A	25	11	14		PAINE	M	21020000	21020000			21020000
18•29	ENGL	1A	25	11	14		PAINE	M		23020000	23020000		
18•30	ENGL	1A	25	11	14		PALITZ	M	23020000		21020000		23020000
2118•31	ENGL	1A	25	10	15		PALITZ	M		25020000	25020000		
2118•33	ENGL	1A	25	10	15		NO INSTRUCTOR		19020000		19020000		
2118•34	ENGL	1A	25	10	15		SHERMAN	F	29020000	29020000			29020000
2118•35	ENGL	1A	25	11	14		STANSBURY	D	19020000		19020000		
2118•36	ENGL	1A	25	11	14		STANSBURY	D	21020000	21020000			21020000
2118•37	ENGL	1A	25	11	14		STANSBURY	D		25020000	25020000		
2118•38	ENGL	1A	25	11	14		CARPENTER	A	27020000		27020000		
2118•39	ENGL	1A	25	11	14		CARPENTER	A	23020000		21020000		23020000
2118•50	ENGL	1A		= 1	1		NO INSTRUCTOR			38060000			
2118•51	ENGL	1A					HOWARD	E			38060000		
2118	TOTAL		925	387	538	64	602	1061•82	40•97	06/24/71		458	2416
2118	LSTYR		975	541	434	189	623 = 21			08/14/70		1033	2101
2122•01	ENGL	1A	28	12	16		WILLARD	C		23020000	23020000		
2122	TOTAL		28	12	16	6	22	NF		06/24/71		458	2416
2128•01	ENGL	1A	28	27	1		WILLIS	H	25020000				
2128•02	ENGL	1A	28	28			WILLIS	H					25020000
2128	TOTAL		56	55	1	1	2	23•69	5•14	06/24/71		458	2416
2128	LSTYR		56	45	11	7	18 = 16			08/14/70		1033	2101
2137•01	ENGL	1B	30	5	25		BENSTON	C		19020000			19020000
2137•02	ENGL	1B	30	5	25		CUNNINGHAM		19020000		19020000		
2137•03	ENGL	1B	30	5	25		EDWARDS	N	29020000	29020000			29020000
2137•04	ENGL	1B	30	5	25		HOWARD	E	21020000	21020000			21020000
2137•05	ENGL	1B	30	5	25		PALITZ	M	17020000		17020000		
2137•06	ENGL	1B	30	5	25		LESTER	J		23020000	23020000		
2137•07	ENGL	1B	30	5	25		STANSBURY	D	25020000	27020000			27020000
2137•08	ENGL	1B	30	6	24		ELLIOTT	R		16030000			16030000
2137•50	ENGL	1B		= 2	2		PAINE	M		38060000			
2137•51	ENGL	1B		= 1	1		BENSTON	R			38060000		
2137	TOTAL		240	38	202	36	238	334•56	20•09	06/24/71		458	2416
2137	LSTYR		240	28	212	48	260 = 22			08/14/70		1033	2101
2156•01	ENGL	5A	30	18	12		DABBS	L	29020000	29020000			29020000
2156•02	ENGL	5A	30	18	12		GORDON	P		16030000			16030000
2156•03	ENGL	5A	30	18	12		JOHNSON	M	17020000		17020000		

TALLY

After several days of preregistration (near the end of May for Fall Registration and at the beginning of the next to last week prior to Christmas vacation for Spring Registration) a simple tally is made by course to see if registrations are following the projections. This tally enables the schedule designer to make first manifications with department chairmen, to eliminate very low requested courses listed for trial purposes or to alert chairmen and instructors of possible problem courses from the point of view of enrollment. Such a tally aids the Book Store manager in ordering books also.

After the first tentative schedule is drafted and modified, a more sophisticated tally (as shown) is developed incorporating the number of section, instructor, loading limits, numbers of requests, number of seats taken and remaining, comparative data with the prior year and room capacities.

REPORT OF CONFLICT PAIRS DATE 12/18/70

CONFLICTS MAY BE RESOLVED IN FOUR WAYS:
1. CHANGE MEETING TIMES ON MASTER SCHEDULE
2. ADD SECTIONS
3. PROVIDE SEATS IN EVENING DIVISION
4. USE ALTERNATES OR RE-COUNSEL

	6184	PH ED	7FB	00001	
0019	AGRIC	2	TOTAL CONFLICTS		00001
	4379	MATH	54	00001	
	4664	MUSIC	17	00001	
0028	AGRIC	42	TOTAL CONFLICTS		00002
	0218	AN H	8	00001	
	0332	HORT	2	00001	
0066	AGRIC	53B	TOTAL CONFLICTS		00002
	0199	AGRON	14	00004	
	6374	PH ED	6A	00001	
0180	AGRON	2	TOTAL CONFLICTS		00005
	0180	AGRON	2	00004	
	0228	AN H	9	00001	
	0361	HORT	5	00001	
	6621	PH ED	12	00001	
0199	AGRON	14	TOTAL CONFLICTS		00007
	0066	AGRIC	53B	00001	
	6697	PH ED	20	00001	
0218	AN H	8	TOTAL CONFLICTS		00002
	0199	AGRON	14	00001	
0228	AN H	9	TOTAL CONFLICTS		00001
	2251	ENGL	34	00001	
	3600	BIOL	1C	00001	
	4398	MUSIC	1A	00001	
	6621	PH ED	12	00002	
	7590	HIST	8A	00001	
	8778	WOOD	51	00001	
0304	FORES	3	TOTAL CONFLICTS		00007
	0066	AGRIC	53B	00001	
	6659	PH ED	16	00001	
0332	HORT	2	TOTAL CONFLICTS		00002

CONFLICT ANALYSIS

As students' requests are tallied, a count by course is acquired which indicates conflicts in courses and number of students involved. With such an analysis, adjustments are made in the Master Schedule design to eliminate or reduce such conflicts to a minimum.

BAKERSFIELD COLLEGE SCHEDULE OF CLASSES SPRING 1971 01/14/71

•50 TICKET NUMBER SERIES INDICATE EVENING CLASSES
CLASSES MEET FOR 52 MINUTES UNLESS OTHERWISE SPECIFIED

TKT NO	COURSE		UNITS	DAYS	TIME	INSTRUCTOR	ROOM
7030•50	CORRECTIONAL AD	52	3•0	T	0700-1000	ROY O	TCI
7033•50	CORRECTIONAL AD	61	3•0	TH	0700-1000	ROY O	TCI
7036•50	CORRECTIONAL AD	60C	1•0	M	0300-0500	KELSEY R	PROB
7036•51	CORRECTIONAL AD	60C	1•0	T	0300-0500	KELSEY R	PROB
1510•01	DATA PROCESSING	1	3•0	TWF	1130	MCGEE	B 4
1510•02	DATA PROCESSING	1	3•0	MWF	0130	MCGEE	B 4
1510•50	DATA PROCESSING	1	3•0	T	0700-1000	UPCHURCH L	H 14
1520•01	DATA PROCESSING	2	3•0	TTH	1030	COLTON R	H 52
			LAB	M	1130-0222	COLTON R	B 16
1520•02	DATA PROCESSING	2	3•0	TTH	1030	COLTON R	H 52
			LAB	W	0130-0422	COLTON R	B 16
1520•03	DATA PROCESSING	2	3•0	TTH	1030	COLTON R	H 52
			LAB	TH	1230-0322	COLTON R	B 16
1520•50	DATA PROCESSING	2	3•0	T	0700-0900	SLATER G	B 3
			LAB	W	0700-1000	SLATER G	B 18
1529•01	DATA PROCESSING	3	3•0	MTH	1230	BOAZ B	H 12
			LAB	TWF	1230	BOAZ B	B 16
1529•02	DATA PROCESSING	3	3•0	MTH	1230	BOAZ B	H 12
			LAB	TWF	1130	BOAZ B	B 16
1548•01	DATA PROCESSING	4	3•0	MWF	0830	BRANDON W	B 16
1548•50	DATA PROCESSING	4	3•0	T	0700-1000	BRANDON W	B 16
1558•50	DATA PROCESSING	5	4•0	TH	0700-1000		B 16
3705•01	DENTAL ASSIST	51B	2•0	M	0830	DUCK L	MS 3
			LAB	M	0930-1222	DUCK L	MS 3
3752•01	DENTAL ASSIST	55A	3•0	WTH	0230	KRISTICH M	MS 3
			LAB	F	0130-0422	KRISTICH M	MS 3
3771•01	DENTAL ASSIST	58A	3•0	F	0930-1122	DUCK L	MS 3
			LAB	M	0130-0422	KRISTICH M	MS 3
3790•01	DENTAL ASSIST	60A	2•0	W	0130	KRISTICH M	MS 3
			LAB	TH	0830-1122	KRISTICH M	MS 3
3819•01	DENTAL ASSIST	65B	2•0	TH	1230	KRISTICH M	MS 3
			LAB	T	0830-1122	KRISTICH M	MS 3
			LAB	T	1230-0322	KRISTICH M	MS 3
1966•01	DRAMA	10A	2•0	M	1030	HORWEGE H	SAM107
			LAB	T	0130-0322	HORWEGE H	SAM107
1976•01	DRAMA	10B	2•0	M	0930	CHAPMAN R	SAM107
			LAB	TH	0130-0322	CHAPMAN R	SAM107
1985•01	DRAMA	15	2•0	WF	1030	STAFF DRAMA	SAM107
2023•01	DRAMA	24B	3•0	TWF	1130	CHAPMAN R	SAM107
2042•01	DRAMA	25B	2•0	T	0930-1122	NEFF T	SAM110
2061•01	DRAMA	26B	2•0	M	1130-0122	GARFIELD	SAM110
2071•01	DRAMA	27	1•0	M	0330	STAFF DRAMA	THEATR
	(BEGINS 2/1)		ARRG	6•0 HR		STAFF	THEATR
2071•02	DRAMA	27	1•0	M	0330	STAFF DRAMA	THEATR
	(BEGINS 4/12)		ARRG	6•0 HR		STAFF	THEATR
2099•50	DRAMA	30B	2•0	M	0700-1000	RODEWALD D	LA 116
7533•01	ECONOMICS	1A	3•0	MWF	0830	SCOTT D	H 15
7533•02	ECONOMICS	1A	3•0	TWF	1130	SCOTT D	H 103
7533•50	ECONOMICS	1A	3•0	M	0700-1000	SCOTT D	H 52
7543•01	ECONOMICS	1B	3•0	TTH	0930 F 1030	SCOTT D	H 103
7543•02	ECONOMICS	1B	3•0	MTTH	1030	SCOTT D	H 103
7543•03	ECONOMICS	1B	3•0	MWF	0130	SCOTT D	H 15
7[illegible]1	ECONOMICS	10	3•0	TTH	0930	GRASS R	FOR E
			DISC	F	1130	GRASS R	B 5

SCHEDULE OF CLASSES

The schedule of classes is printed at least twice. The first one is designed to indicate to staff probable courses, times and rooms. Everyone is invited to review and to request any desirable changes. These requests are analyzed and if possible, incorporated in the design. The second printing is near the time of the printing of study lists and actually comprises the true working schedule for the following semester.

BAKERSFIELD COLLEGE

STUDY LIST

E02355 ANSON GARY A FALL 1970 10/12/70

TICKET NUMBER	DEPT. NAME	SUBJ NUMBER	UNIT	DAY M	T	W	T	F	TIME	INSTRUCTOR	ROOM NUMBER	

NAME

STUDY LISTS

On the final run, only an occasional conflict will occur and these are usually easily solved. The output from the final run is merged with the personal data cards and then processed with a program called STUDY LIST. The output of the Study List program is used to print three copies of the study list. The original copy is filed with the student's application in a Visidex file and becomes the student locator for the Records Office. The second copy is sent to the student. The third copy is sent to the Counselor for the student's permanent file. The study list contains days and hours of class meeting, room numbers, and instructors' names. The study list cards are then used to develop grade cards, attendance cards, and class rolls.

BAKERSFIELD COLLEGE
February 4, 1971

LIST OF COURSES CLOSED FOR REGISTRATION SPRING 1971 DAY

Cumulative:	Added:	Cumulative:	Added:
Accounting 53A		Forestry 1	
Ag 42		Forestry 3	
Agron 2		Geog 1A	Geog 1A
Anthro 1		Geog 1B	
Anthro 2		Geol 1D	
Arch 31		Geol 10	
Arch 45		Geol 10L	
Art 2AB		Geol 11	
Art 3AB		Germ 1	
Art 3CD		Health Ed 1	
Art 6AB		Health Ed 2	
Art 6CD		Hist 4A	
Art 7AB		Hist 8A	
Art 7CD		Hist 17A	
Art 8AB		Hist 17B	
Art 11AB		Hist 18	
Art 11CD		Hist 19B	
Art 13AB		Hist 20B	
Art 13CD		Home Ec 40A	
Art 27AB		Home Ec 66	
Art 27CD		Life Sci 53	
Art 33A		Mach Shop 53B	
Art 33B		Marketing 53B	
Auto 53		Math 1	
Auto 54		Math A	
Auto 56B		Math C	
Auto 58A		Math D	
Auto 58B		Math 6A	
Auto 58AB		Math 22	
Auto 68A		Math 50	
Auto 68B		Math 52A	Math 52A
Auto 68AB		Math 60	
Biol 1A		Music 3A	
Biol 1B		Music 32	
Biol 11		Off Skills 50A	
Bus 51		Off Skills 63	
Bus 52		Philos 6A	
Bus Ad 1A		Philos 32	
Chem 1A		Phys Ed 4M	
Chem 2A		Phys Ed 4TS	
Data Proc 1		Phys Ed 5MD	
Econ 1A		Phys Ed 5MDL	
Econ 10		Phys Ed 5TS	
Elec Tech 1		Phys Ed 6A	
Elec Tech 59B		Phys Ed 6B&D	
Elec Tech 67		Phys Ed 6F	

LIST OF COURSES CLOSED FOR REGISTRATION

The List of Courses closed for Registration is updated daily from tally information when courses are closed to enrollment primarily because of limitation of staff or facilities. When courses reach their limits for enrollment and no new sections are possible then the course is listed on the List of Courses closed for Registration. The List is cumulative with new additions being shown daily.

SEMESTER	SCH. YR.	TICKET NO.	COURSE TITLE AND NUMBER	D/
TIME	DAYS	ROOM	INSTRUCTOR	INSTRUCTOR'S SIGNATURE

BAKERSFIELD COLLEGE

CLASS RECORD BOOK

MARK ATTENDANCE AS FOLLOWS:

◯ Absence Ⓧ Absence due to illness

Ⓐ Administrative excuse E Date entered

L Date withdrawn

MONTH

Date

	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	
1																					1
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TEMPORARY CLASS ROLL

On the opening day of instruction, each instructor for each course is provided with a printed roll sheet. He may add students to his roll through standard college procedures and he may drop students who fail to show. Permanent rolls are provided on the fourth week and conform to the census for audit purposes.