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To determine San Mateo Junior College District's 1969-70 needs for additional instructors and the number of student-contact hours to be assigned to each, a survey was made of the district's practices during the preceding two years. The report is based on the assumption that the number of student-contact hours should vary by subject in each of the instructional divisions. Tables show the number of student-contact hours for each subject, the number of faculty teaching full-time, and the number of weekly student-contact hours for each full-time faculty member at the district's two colleges: San Mateo and Canada. With a new junior college opening in the autumn of 1969, faculty needs were tabulated on the basis of anticipated student enrollments at the three colleges, student transfers to the new college, and faculty transfers to the new college. (DG)

# REPORT
# ON FACULTY LOAD
# AND FACULTY PROJECTIONS

College of San Mateo

Research Report 1969-1

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# A REPORT ON FACULTY LOAD AND FACULTY PROJECTION

This report should provide a basis for discussing teacher load and determining the number of instructors needed in the San Mateo Junior College District during 1969-70 school year. Information is provided and questions are raised, but no attempt is made to provide a "best" answer.

## PART I - Teacher Load

The question, "What is a reasonable teaching load?" has been the subject of a great deal of discussion in all educational institutions. This discussion can be expected to continue until someone finds a way to accurately assess the quality component of teaching. One can identify the various tasks performed by an instructor, determine the proportion of an instructor's time that is devoted to each task, and over a period of time one can develop a quantitative description of load for instructors in a given discipline. Such a description assumes an equal amount of effort, motivation, ability or quality, etc., of instructors; but such an assumption simply cannot be supported. Some measures have been developed to measure certain aspects of quality, such as the degree of interaction between student and teacher; but until a comprehensive means is developed, the discussion of "reasonable load" will continue.

At the present time, the San Mateo Junior College District uses a quantitative measure based upon hours spent with the class in a lecture or laboratory situation in a particular discipline. The method has been evolved over a number of years and has been revised periodically as inequalities became apparent. Basically, the system can be described as a "restrictive patchwork." If a given discipline can support a change in teaching load based on common sense, logic, or by comparison of load with some other district, then the definition of load may be revised. This patchwork attribute eliminates any prospect of a "status quo" condition, which would seem desirable. But the basis for change can be subject to considerable variation because of the subjective judgment that must be rendered to evaluate the reason for change. The method would seem to be restrictive in terms of teaching methodology since the traditional lecture-laboratory session in a designated space must be adhered to or an instructor would lack sufficient teaching units to constitute a full load. Specifically, very small classes (10 - 15 students), very large classes (100 - 200 students), individual instruction, the use of multimedia for instructional aids, open ended classes that take more or less than one semester to complete, or other structional changes required to use any different teaching methodology are difficult to accommodate under the present system.

It may also be suggested that the concept of college autonomy in educational practices within the district will be difficult to achieve if all colleges are forced to use the present system of determining teacher load. Lack of autonomy in this regard is a very real possibility since load means dollars and the district dollars are in short

supply. In view of these concerns, another way of determining teacher load should be considered.

Another approach to load could be based upon the individual student and the amount of time he spends with his instructor--the number of contact hours each week. If this were done, the teacher's load figure would still be subject to periodic examination, modification, and a patchwork condition. At the same time, it does not adequately account for teaching quality; but it would seem to facilitate the opportunity for changing teaching methodology more readily. Thus, the capability for improving the quality of instruction would be more readily available and the apparent restrictions of the present system could be overcome.

The first step is establishing teaching load according to student contact hours is provided in Tables A and B that follow.

TABLE A TEACHER LOAD AT COLLEGE OF SAN MATEO

| S U B J E C T | Student Contact Hours | | Full-time Faculty | | Ratio - SCH/FTE | |
|---|---|---|---|---|---|---|
| | 1967 | 1968 | 1967 | 1968 | 1967 | 1968 |
| **Business Division** | | | | | | |
| Accounting | 2555 | 2145 | 5.00 | 4.34 | 511 | 494 |
| Commercial Law | 327 | 312 | .60 | .60 | 545 | 520 |
| General Business | 4189 | 4159 | 8.94 | 8.06 | 469 | 516 |
| Mathematics | 1657 | 1344 | 3.19 | 2.59 | 519 | 519 |
| Shorthand | 1457 | 1380 | 2.67 | 2.80 | 546 | 467 |
| Typing | 2160 | 1600 | 3.27 | 2.51 | 661 | 637 |
| Subtotal | 12,345 | 10,940 | 23.67 | 20.90 | 522 | 523 |
| **English Division** | | | | | | |
| Composition (1A, 1B, A) | 10,484 | 9599 | 24.00 | 22.00 | 437 | 436 |
| Composition (50, 57) | 6639 | 6739 | 12.50 | 14.43 | 531 | 467 |
| Journalism | 498 | 331 | 1.53 | .93 | 325 | 356 |
| Literature | 1247 | 1330 | 2.46 | 2.33 | 507 | 571 |
| Reading | 1920 | 2115 | 4.21 | 4.00 | 456 | 529 |
| Speech | 1524 | 1579 | 3.80 | 3.87 | 401 | 408 |
| Subtotal | 22,312 | 21,693 | 48.50 | 47.56 | 460 | 456 |
| **Fine Arts Division** | | | | | | |
| Art | 4562 | 3985 | 9.46 | 8.80 | 482 | 453 |
| Drama | 1055 * | 2853 | 3.40 | 3.23 | 310 * | 883 |
| Music | 2595 | 2660 | 5.26 | 6.27 | 493 | 424 |
| Subtotal | 8212 | 9498 | 18.12 | 18.30 | 453 | 519 |
| * Excludes hours by arrangement | | | | | | |
| **Foreign Language Division** | | | | | | |
| French | 1529 | 1463 | 3.73 | 3.40 | 410 | 430 |
| German | 1006 | 867 | 3.20 | 2.40 | 314 | 361 |
| Russian | 264 | 264 | .80 | .67 | 330 | 394 |
| Spanish | 2079 | 1829 | 5.40 | 4.60 | 385 | 398 |
| Subtotal | 4878 | 4423 | 13.13 | 11.07 | 372 | 399 |
| **Health Occupations** | | | | | | |
| Dental Assisting | 1284 | 1116 | 2.40 | 2.13 | 535 | 524 |
| Nursing (R.N.) | 1258 | 2319 | 5.00 | 6.75 | 252 | 344 |
| Nursing (L.V.N.) | 1560 | 1429 | 4.00 | 4.00 | 390 | 357 |
| Subtotal | 4102 | 4864 | 11.40 | 12.88 | 360 | 378 |

TABLE A (Continued) TEACHER LOAD AT COLLEGE OF SAN MATEO

| S U B J E C T | Student Contact Hours | | Full-time Faculty | | Ratio - SCH/FTE | |
|---|---|---|---|---|---|---|
| | 1967 | 1968 | 1967 | 1968 | 1967 | 1968 |
| **Life Science Division** | | | | | | |
| Anatomy | 835 | 920 | 2.00 | 2.00 | 417 | 460 |
| Bacteriology | 287 | 298 | .67 | 1.00 | 428 | 298 |
| Biology/General | 5459 | 5374 | 10.07 | 9.03 | 542 | 595 |
| Botany-Forestry | 564 | 702 | .87 | 1.40 | 648 | 501 |
| Health | 1404 | 924 | 1.60 | 1.44 | 878 | 642 |
| Zoology | 516 | 627 | 1.66 | 1.33 | 311 | 471 |
| Subtotal | 9065 | 8845 | 16.87 | 16.20 | 537 | 546 |
| **Math-Engineering** | | | | | | |
| Architecture | 897 | 727 | 2.27 | 1.87 | 395 | 389 |
| Engineering | 1167 | 740 | 2.60 | 1.80 | 449 | 411 |
| Mathematics | 6174 | 5555 | 13.47 | 11.66 | 458 | 476 |
| Subtotal | 8238 | 7022 | 18.34 | 15.33 | 449 | 458 |
| **Physical Education** | 16,472 | 15,224 | 23.36 | 21.82 | 705 | 698 |
| **Physical Science Division** | | | | | | |
| Astronomy | 986 | 958 | 1.27 | 1.27 | 776 | 754 |
| Chemistry | 5221 | 4281 | 10.01 | 8.64 | 522 | 495 |
| Geology | 1344 | 896 | 2.05 | 1.53 | 656 | 586 |
| Physical Science | 549 | 588 | .60 | .73 | 915 | 805 |
| Physics | 2194 | 2101 | 4.00 | 3.82 | 549 | 550 |
| Subtotal | 10,294 | 8824 | 17.93 | 15.99 | 574 | 552 |
| **Social Science Division** | | | | | | |
| Anthropology | 756 | 806 | 1.13 | 1.13 | 669 | 713 |
| Economics | 2133 | 1924 | 3.67 | 3.47 | 581 | 554 |
| Education | 426 | 458 | .67 | .67 | 636 | 683 |
| Geography | 893 | 417 | 1.73 | .80 | 516 | 521 |
| History | 8694 | 8262 | 13.80 | 13.60 | 630 | 608 |
| Philosophy | 2532 | 2531 | 4.20 | 3.60 | 603 | 703 |
| Political Science | 4443 | 4625 | 6.93 | 7.33 | 641 | 631 |
| Psychology | 6505 | 5935 | 10.40 | 9.60 | 625 | 618 |
| Sociology | 1239 | 1259 | 1.80 | 2.00 | 688 | 630 |
| Subtotal | 27,621 | 26,217 | 44.33 | 42.20 | 623 | 621 |

TABLE A (Continued) TEACHER LOAD AT COLLEGE OF SAN MATEO

| S U B J E C T | Student Contact Hours | | Full-time Faculty | | Ratio - SCH/FTE | |
|---|---|---|---|---|---|---|
| | 1967 | 1968 | 1967 | 1968 | 1967 | 1968 |
| Technical Division | | | | | | |
| Aeronautics | 3887 | 4447 | 7.80 | 9.00 | 498 | 494 |
| Data Processing | 1472 | 1413 | 2.73 | 2.99 | 539 | 473 |
| Drafting | 1664 | 1890 | 3.95 | 4.21 | 421 | 449 |
| Electronics | 2847 | 3605 | 6.07 | 6.73 | 469 | 536 |
| Machine Tools | 1044 | 816 | 2.13 | 2.07 | 490 | 394 |
| Manufacturing | 292 | 384 | .80 | .80 | 365 | 480 |
| Tech. Illustration | 447 | 666 | 1.00 | 1.93 | 447 | 345 |
| Technology | 912 | 612 | 2.06 | 1.40 | 443 | 437 |
| Telecommunications | 826 | 552 | 2.20 | .87 | 375 | 634 |
| Welding | 534 | 531 | 1.46 | 1.53 | 366 | 347 |
| . . Subtotal | 13,925 | 14,916 | 30.20 | 31.53 | 461 | 473 |
| Student Services | | | | | | |
| Guidance | 930 | 839 | 1.33 | 1.20 | 699 | 699 |
| Vocational Division | | | | | | |
| Cosmetology | 2079 | 2597 | 4.83 | 6.00 | 430 | 433 |
| Home Economics | 1181 | 1161 | 2.80 | 2.07 | 422 | 561 |
| Horticulture | 269 | 140 | .40 | .53 | 672 | 283 |
| Police Science | 1029 | 1030 | 1.79 | 1.66 | 575 | 620 |
| Subtotal | 4558 | 4928 | 9.82 | 10.26 | 464 | 480 |
| Grand Total | 142,907 | 138,233 | 277.00 | 265.25 | 516 | 521 |

TABLE B TEACHER LOAD AT CAÑADA COLLEGE

| S U B J E C T | Student Contact Hours | Full-time Faculty | Ratio - SCH/FTE |
|---|---|---|---|
| **Business Division** | | | |
| Accounting | 430 | 1.00 | 430 |
| Commercial Law | 126 | .20 | 630 |
| General Business | 663 | 1.56 | 425 |
| Math | 381 | .78 | 488 |
| Shorthand | 235 | .91 | 258 |
| Typing | 465 | .75 | 620 |
| Subtotal | 2300 | 5.20 | 442 |
| **English** | | | |
| Composition | 2183 | 5.83 | 375 |
| Reading Composition | 1733 | 3.70 | 468 |
| Journalism | 135 | .60 | 225 |
| Literature | 303 | .63 | 481 |
| Reading Skills | 430 | .67 | 645 |
| Speech | 411 | 1.21 | 338 |
| Subtotal | 5195 | 12.64 | 411 |
| **Fine Arts** | | | |
| Art | 1161 | 2.00 | 581 |
| Drama | 437 | 1.28 | 340 |
| Music | 824 | 2.21 | 373 |
| Subtotal | 2422 | 5.49 | 441 |
| **Foreign Language** | 921 | 3.67 | 252 |
| **Guidance** | 283 | 1.00 | 283 |
| **Life Science** | | | |
| Anatomy | 174 | .41 | 425 |
| Bacteriology | 90 | .19 | 480 |
| Biology | 1137 | 2.00 | 569 |
| Botany-Forestry | 450 | .81 | 556 |
| Genetics | 96 | .22 | 436 |
| Health | 590 | .67 | 885 |
| Zoology | 234 | .73 | 320 |
| Subtotal | 2771 | 5.03 | 551 |
| **Mathematics** | 1137 | 3.27 | 348 |
| **Physical Education** | 2898 | 5.21 | 556 |

TABLE B (Continued) TEACHER LOAD AT CAÑADA COLLEGE

| S U B J E C T | Student Contact Hours | Full-time Faculty | Ratio - SCH/FTE |
|---|---|---|---|
| Physical Sciences | | | |
| Astronomy | 168 | .20 | 840 |
| Chemistry | 957 | 1.69 | 666 |
| Geology | 222 | .77 | 288 |
| Physical Science | 171 | .21 | 789 |
| Physics | 240 | .56 | 428 |
| Subtotal | 1758 | 3.43 | 513 |
| Social Sciences | | | |
| Anthropology | 294 | .40 | 736 |
| Economics | 396 | .80 | 495 |
| Education | 88 | .13 | 662 |
| Geography | 357 | .43 | 830 |
| History | 2113 | 3.40 | 620 |
| Philosophy | 369 | .60 | 615 |
| Political Science | 1260 | 2.13 | 593 |
| Psychology | 1521 | 2.40 | 635 |
| Sociology | 381 | .60 | 635 |
| Statistics | 45 | .20 | 225 |
| Subtotal | 6824 | 11.09 | 615 |
| Vocational | | | |
| Home Economics | 479 | 1.13 | 424 |
| Food Technology | 202 | 1.47 | 137 |
| Police Science | 288 | .60 | 480 |
| Subtotal | 969 | 3.20 | 303 |
| Grand Total | 27,478 | 59.23 | 464 |

The format of the tables was based upon the assumption that the number of student contact hours should vary by subject in each of the instructional divisions; that is, the number of student contact hours for an instructor in English 1A should be different from the number for an instructor in physical education since the teacher work load per student would not be the same. Tables A and B show the number of student contact hours for each subject, the number of faculty teaching full time, and the number of weekly student contact hours for each full-time faculty member. Table A, which concerns College of San Mateo, provides these figures for the fall semesters 1967 and 1968; and Table B, concerning Cañada, is based upon fall semester, 1968 only. These time periods were selected because staffing patterns are based upon initial enrollment rather than the expectation that students will drop out of college.

Essentially, this is an attempt to examine what has been done in the district over the past two years. One cannot simply accept these figures as provided since they infer that conditions over the past two years were typical in the San Mateo Junior College District. Examination of these tables show that the differences between the two colleges and between the fall semesters of 1967 and 1968 are generally too great to be attributed to chance alone. The causes of these differences are apparent; but even with these differences, the figures do provide a beginning point for establishing a given number of student contact hours as a reasonable load in accounting, speech, French, etc. It should also be noted that a teaching load study at other Northern California junior colleges will provide similar figures for comparison purposes and the results of this study are currently available.

In addition to judging the adequacy of the various ratios that are reported, the reader may also be interested in knowing that the present system apparently perpetuates conditions that would seem to cause inequalities. For example, one instructor teaching a given subject or subjects which are precisely the same as those taught by another instructor may be serving twenty, forty or sixty more students

than his colleague. Then again, instructors in two different subjects which would seem to require similar efforts may be serving a very dissimilar number of students.

Another difficulty apparent in the current unit-load system is that some instructors carry a very large number of one- or two- unit courses in order to have a full-time load, and a colleague in the same department with a full load actually assists considerably fewer students. The discrepancy in this regard can only be described as huge. A corollary at this point is the instructor whose load consists primarily of the introductory courses, who works with a much larger number of students than a colleague in his department who teaches few such courses.

The points mentioned above are intended as criticisms of the present system; however, they represent no call for a "witch hunt." This would not only be inappropriate, but would fail to recognize that the present system can be used to evolve a different procedure that may be more functional and equitable. It is the contention of this report that the present system can be improved and needs to be improved.

In arriving at a load figure that seems reasonable, a procedure similar to the following might be used. In 1967 the student contact load in accounting classes at College of San Mateo was 511; in 1968 it decreased slightly to 494. Based on these figures, one could say the average was approximately 500, and that each accounting instructor would be teaching the same number of students (within 10) as any other accounting instructor. Ten students in accounting generate 50 student contact hours; therefore, each instructor would have no fewer than 450 and no more than 550 student contact hours. This could also be accomplished statistically by establishing one standard deviation from the mean (or one-half standard deviation, etc.) as being a normal load, which would provide a range in accounting at one standard deviation of 450 to 550 or 475 to 525 at one-half standard deviation.

It will be apparent to those who follow this example closely that some guidelines to ensure educational quality would be needed.

To use a gross example, no one could simply meet with all of his students one hour each week. Sound educational practices would continue to be the concern of instructors, division chairmen, the Committee on Instruction, and the administration in implementing any change in the correct load procedure.

PART II - Faculty Projections

With the opening of Skyline College next fall and Cañada College in its second year of operation, it can be anticipated that enrollment at all three colleges will change next year; consequently, the number of faculty needed by each college will change because enrollment determines the number of staff members that will be needed.

The number of students who enroll next fall will be influenced by a variety of conditions; foremost among these are the following:

1. Cañada will be in its second year of operation and the experience of other junior colleges suggests that enrollment will be higher than expected. For example, an increase of 11 percent can usually be anticipated in the San Mateo Junior College District; but past experience indicates that during the second year of operation of a new college in a district, an increase of 20 to 30 percent in enrollment at that college has actually occurred. Thus, the 1968 enrollment at Cañada of 2,000 students can be expected to increase between 400 and 600 students.

2. Skyline College will be opening in an area where the San Mateo Junior College District traditionally has not drawn large numbers of students. Because of the proximity of this college to such students, it seems reasonable to expect that Skyline will attract a number of students who would not have gone to college in the past. At the same time, operating efficiency dictates that Skyline will open with at least 2,000 students.

3. The proportion of Freshman students who choose to continue a second year at junior college is increasing. Enrollment at College of San Mateo this year was higher than anticipated, for example, and for the most part these were continuing students. In the past, apparently these same students went to four-year colleges. It would seen that increase in continuing students is due, in part, to the unwillingness of four-year colleges to accept students who have not completed two years of junior college.

4. It is not known at this time whether four-year colleges in our service area will be forced by financial limitations to admit fewer high school graduates. This has already been suggested by several of the four-year colleges in Southern California. If this were to occur here, it is possible that approximately 300 more students would enroll in the district.

5. Other considerations that could influence enrollment to some degree include: student response to special programs such as the College Readiness Program--Automotive Technology at Skyline College or Food Technology at Cañada College; and changes in Board policy; or changes in the national policy relating to the draft.

There are several ways one can project next year's enrollment based on the above factors. One way is to consider last year's enrollment, increase it by 11 percent, add the Cañada influence and the possibility that a number of high school graduates accepted by State colleges will be reduced, resulting in a total of 12,300 students expected for fall 1969. Another approach is to simply assume last year's history will repeat itself and a total of 12,123 students could be expected for fall 1969. A third approach would be to (a) consider the number of high school graduates we have attracted over the past five years plus graduates from outside the County, and (b) the proportion of continuing students who can be expected to return plus special and other students; and on the basis of a straight line projection about 11,700 students could be expected plus 700 from the two sources (a and b) mentioned above for a total of 12,400 students. A fourth method of projecting enrollment is to take the weekly student credit hours as of the first attendance week in 1966 and 1967, assuming a linear relationship, project 11,571 students plus 700 students from the two sources (a and b) mentioned above for a total of 12,271 students.

Essentially, these projections suggest that 12,100 to 12,400 students can be expected to enroll in the San Mateo Junior College District in fall semester, 1969. Based upon the assumption that it is better to be slightly understaffed than over staffed since it is easier to add staff, if necessary, than reduce staff; it is estimated that staffing should be accomplished to accommodate 12,100 students.

This enrollment would be distributed to allow 2,000 students at Skyline, 2,500 at Canada, and 7,600 at San Mateo. The 2,000 students at Skyline are considered necessary for an efficient educational operation. Enrollment of 2,500 at Canada seems realistic based upon past experience, and approximately 7,600 may be expected to enroll at College of San Mateo. It may also be noted that these figures are representative of the Entitlement IV application and the Ten Year Master Plan.

It will be noted that these projections suggest a reduction in teaching faculty at College of San Mateo and an increase in faculty at Canada and Skyline colleges. The usual method of accomplishing these changes involves a detailed review of courses by division chairmen in concert with the administration to decide where their best judgment indicates changes can be made. As a comparison point for this process, a somewhat different procedure is presented through Tables C, D, and E. This procedure takes into account student enrollment converted to student contact hours as well as prior teaching load as shown in Tables A and B.

It is assumed that the above student projections are reasonably accurate and that the ratio of student contact hours per full-time

instructor is reasonable. Obviously, if the ratio were lowered (as could occur at Skyline and Cañada), more teachers would be needed; and conversely, if the ratios are raised, fewer teachers would be needed. Projections provided in these tables are simply guidelines and will require evaluation based on experience.

Table C suggests that approximately 35 less full-time teachers will be required at the College of San Mateo in 1969. For example, the Business Division would require 2.6 less full-time teachers, or a reduction of approximately 39 teaching units, resulting in the elimination of approximately 11 sections in business courses. In general business courses by 5 sections, business mathematics by 1 section, shorthand by 1 section, and typing by 1 or 2 sections. Another example is the Physical Education Division, which could be reduced by 3.2 full-time instructors, or 47 teaching units under the present system, resulting in a decrease of 59 sections (1.25 teaching units per two-hour, 1/2-unit class). Therefore, the number of sections eliminated will vary according to the number of teaching units each eliminated section contains.

Table D for Cañada College is based on the current year's experience, which would be considered atypical for some subjects. In effect, the current load may be too low or too high. In any event, Cañada College should plan to add approximately 23 more full-time instructors to teach 251 units, or about 137 sections in fall 1969. It should be noted, however, that the student load at Cañada College is relatively low compared to College of San Mateo and if the load at Cañada is increased somewhat, then the number of additional instructors required will be reduced accordingly.

Table E provides projections for Skyline College and has been based wholly on the experience of Cañada College. The projection of student contact hours assumes an enrollment of 2,000 students at 15.5 contact hours each; however, Cañada College, which enrolled that number of students, dropped to about 28,000 contact hours by the first attendance week. Initially, a staffing pattern of approximately 60 instructors would seem realistic for Skyline College.

Finally, it is apparent that some instructors will choose to transfer from San Mateo College to Cañada or Skyline. It may be necessary to transfer other instructors, however, and some system to ensure an equitable distribution should be developed. In effect, the San Mateo Junior College District can be expected to require 50 additional full-time teachers in 1969, but not all of those instructors will be new to the district.

TABLE C FACULTY PROJECTIONS FOR COLLEGE OF SAN MATEO

| SUBJECT AREA | Student Contact Hours | | | Full-time Faculty | | Change | |
|---|---|---|---|---|---|---|---|
| | Current | Projected | Ratio | Current | Projected | Units | Sections |
| **Business** | | | | | | | |
| Accounting | 2145 | 1829 | 494 | 4.34 | 3.7 | -9 | -2 |
| Business/General | 4471 | 3815 | 519 | 8.66 | 7.3 | -15 | -5 |
| Mathematics | 1344 | 1148 | 519 | 2.59 | 2.2 | -4 | -1 |
| Shorthand | 1380 | 1176 | 467 | 2.80 | 2.5 | -5 | -1 |
| Typing | 1600 | 1362 | 637 | 2.51 | 2.1 | -6 | -2 |
| Subtotal | 10,940 | 9330 | 523 | 20.90 | 18.3 | -39 | -11 |
| **English** | | | | | | | |
| Composition (1A, 1B, A) | 9599 | 8166 | 436 | 22.00 | 18.7 | -50 | -17 |
| Composition (50,57) | 6739 | 5747 | 467 | 14.43 | 12.3 | -31 | -10 |
| Journalism | 331 | 283 | 356 | .93 | .8 | -1 | -0- |
| Literature | 1330 | 1127 | 571 | 2.33 | 2.0 | -5 | -2 |
| Reading Skills | 2115 | 1811 | 529 | 4.00 | 3.4 | -9 | -1 |
| Speech | 1579 | 1349 | 408 | 3.87 | 3.3 | -9 | -3 |
| Subtotal | 21,693 | 18,483 | 456 | 47.56 | 40.5 | -105 | -33 |
| **Fine Arts** | | | | | | | |
| Art | 3985 | 3404 | 453 | 8.80 | 7.6 | -17 | -6 |
| Drama | 2853 | 2427 | 883 | 3.23 | 2.7 | -8 | -3 |
| Music | 2660 | 2262 | 424 | 6.27 | 5.3 | -15 | -5 |
| Subtotal | 9498 | 8093 | 519 | 18.30 | 15.6 | -40 | -14 |
| **Foreign Language** | | | | | | | |
| French | 1463 | 1249 | 430 | 3.40 | 2.9 | -8 | -2 |
| German | 867 | 742 | 361 | 2.40 | 2.0 | -6 | -2 |
| Russian | 264 | 224 | 394 | .67 | .6 | -1 | -0- |
| Spanish | 1829 | 1555 | 398 | 4.60 | 3.9 | -10 | -3 |
| Subtotal | 4423 | 3770 | 399 | 11.07 | 9.4 | -25 | -7 |
| **Health Occupations** | | | | | | | |
| Dental Assisting | 1116 | 954 | 524 | 2.13 | 1.8 | -4 | -1 |
| Nursing (A.A.) | 2319 | 1979 | 344 | 6.75 | 5.8 | -15 | -3 |
| Nursing (L.V.N.) | 1429 | 1213 | 357 | 4.00 | 3.4 | -9 | -0- |
| Subtotal | 4864 | 4146 | 378 | 12.88 | 11.0 | -28 | -4 |

TABLE C (Continued) FACULTY PROJECTIONS FOR COLLEGE OF SAN MATEO

| SUBJECT AREA | Student Contact Hours | | | Full-time Faculty | | Change | |
|---|---|---|---|---|---|---|---|
| | Current | Projected | Ratio | Current | Projected | Units | Sections |
| **Life Science** | | | | | | | |
| Anatomy | 920 | 789 | 460 | 2.00 | 1.7 | -5 | -1 |
| Bacteriology | 298 | 259 | 298 | 1.00 | .9 | -1 | -0- |
| Biology/General | 5374 | 4571 | 595 | 9.03 | 7.7 | -20 | -7 |
| Botony-Forestry | 702 | 601 | 501 | 1.40 | 1.2 | -3 | -1 |
| Health | 924 | 789 | 642 | 1.44 | 1.2 | -3 | -1 |
| Zoology | 627 | 530 | 471 | 1.33 | 1.1 | -3 | -1 |
| Subtotal | 8845 | 7539 | 546 | 16.20 | 13.8 | -35 | -11 |
| **Math-Engineering** | | | | | | | |
| Architecture | 727 | 624 | 389 | 1.87 | 1.6 | -3 | -1 |
| Engineering | 740 | 636 | 411 | 1.80 | 1.5 | -4 | -1 |
| Mathematics | 5555 | 4725 | 476 | 11.66 | 10.0 | -25 | -8 |
| Subtotal | 7022 | 5985 | 458 | 15.33 | 13.1 | -32 | -10 |
| **Physical Ed.** | 15,224 | 12,970 | 698 | 21.82 | 18.6 | -47 | -59 |
| **Physical Science** | | | | | | | |
| Astronomy | 958 | 813 | 754 | 1.27 | 1.1 | -3 | -1 |
| Chemistry | 4281 | 3651 | 495 | 8.64 | 7.4 | -18 | -5 |
| Geology | 896 | 766 | 586 | 1.53 | 1.3 | -3 | -1 |
| Physical Science | 588 | 495 | 805 | .73 | .6 | -1 | -0- |
| Physics | 2101 | 1791 | 550 | 3.82 | 3.2 | -9 | -3 |
| Subtotal | 8824 | 7516 | 552 | 15.99 | 13.6 | -34 | -10 |
| **Social Sciences** | | | | | | | |
| Anthropology | 806 | 683 | 713 | 1.13 | 1.0 | -2 | -1 |
| Economics | 1924 | 1637 | 554 | 3.47 | 3.0 | -7 | -2 |
| Education | 458 | 389 | 683 | .67 | .6 | -1 | -0- |
| Geography | 417 | 353 | 521 | .80 | .7 | -1 | -0- |
| History | 8262 | 7045 | 608 | 13.60 | 11.5 | -31 | -10 |
| Philosophy | 2531 | 2168 | 703 | 3.60 | 3.1 | -7 | -2 |
| Political Science | 4625 | 3946 | 631 | 7.33 | 6.2 | -16 | -5 |
| Psychology | 5935 | 5054 | 618 | 9.60 | 8.2 | -21 | -7 |
| Sociology | 1259 | 1072 | 630 | 2.00 | 1.7 | -4 | -1 |
| Subtotal | 26,217 | 22,347 | 621 | 42.20 | 36.0 | -90 | -28 |
| **Technical** | | | | | | | |
| Aeronautics | 4447 | 3793 | 494 | 9.00 | 9.0 | -0- | -0- |
| Data Processing | 1413 | 1202 | 473 | 2.99 | 2.5 | -6 | -2 |
| Drafting | 1890 | 1614 | 449 | 4.21 | 3.6 | -9 | -2 |

TABLE C (Continued) FACULTY PROJECTIONS FOR COLLEGE OF SAN MATEO

| SUBJECT AREA | Student Contact Hours | | | Full-time Faculty | | Change | |
|---|---|---|---|---|---|---|---|
| | Current | Projected | Ratio | Current | Projected | Units | Sections |
| Electronics | 3605 | 3075 | 536 | 6.73 | 6.7 | -0- | -0- |
| Machine Tools | 816 | 695 | 394 | 2.07 | 2.1 | -0- | -0- |
| Manufacturing | 384 | 330 | 480 | .80 | .8 | -0- | -0- |
| Tech. Illustration | 666 | 565 | 345 | 1.93 | 1.6 | -4 | -1 |
| Technology | 612 | 518 | 437 | 1.40 | 1.4 | -0- | -0- |
| Telecommunications | 552 | 471 | 634 | .87 | .9 | -0- | -0- |
| Welding | 531 | 448 | 347 | 1.53 | 1.5 | -0- | -0- |
| Subtotal | 14,916 | 12,711 | 473 | 31.53 | 30.1 | -20 | -5 |
| Guidance | 839 | 719 | 699 | 1.20 | 1.0 | -3 | -1 |
| Vocational | | | | | | | |
| Cosmetology | 2597 | 2214 | 433 | 6.00 | 5.1 | -14 | -1 |
| Home Economics | 1161 | 990 | 561 | 2.07 | 1.8 | -4 | -1 |
| Horticulture | 140 | 118 | 283 | .53 | .4 | -0- | -0- |
| Police Science | 1030 | 872 | 620 | 1.66 | 1.4 | -4 | -1 |
| Subtotal | 4928 | 4194 | 480 | 10.26 | 8.7 | -24 | -3 |
| TOTAL | 138,233 | 117,800 | 521 | 265.25 | 229.7 | -522 | -196 |

TABLE D FACULTY PROJECTIONS FOR CAÑADA COLLEGE

| SUBJECT AREA | Student Contact Hours | | | Full-time Faculty | | Change | |
|---|---|---|---|---|---|---|---|
| | Current | Projected | Ratio | Current | Projected | Units | Sections |
| **Business** | | | | | | | |
| Accounting | 430 | 620 | 430 | 1.00 | 1.4 | +6 | +1 |
| Business/General | 663 | 930 | 425 | 1.56 | 2.2 | +10 | +3 |
| Commercial Law | 126 | 194 | 630 | .20 | .3 | +1 | -0- |
| Math/Business | 381 | 542 | 488 | .78 | 1.1 | +5 | +2 |
| Shorthand | 235 | 310 | 258 | .91 | 1.2 | +5 | +1 |
| Typing | 465 | 659 | 620 | .75 | 1.1 | +5 | +2 |
| Subtotal | 2300 | 3255 | 442 | 5.20 | 7.3 | +32 | +9 |
| **Language Arts** | | | | | | | |
| Composition | 2183 | 3062 | 375 | 5.83 | 8.1 | +34 | +11 |
| Composition (Reading) | 1733 | 2441 | 468 | 3.70 | 5.2 | +23 | +8 |
| Foreign Language | 921 | 1317 | 252 | 3.67 | 5.2 | +22 | +4 |
| Journalism | 135 | 194 | 225 | .60 | .9 | +4 | +1 |
| Literature | 303 | 426 | 481 | .63 | .9 | +4 | +1 |
| Reading Skills | 430 | 620 | 645 | .67 | 1.0 | +5 | +2 |
| Speech | 411 | 581 | 338 | 1.21 | 1.7 | +8 | +3 |
| Subtotal | 6116 | 8641 | 375 | 16.31 | 23.0 | +100 | +30 |
| **Fine Arts** | | | | | | | |
| Art | 1161 | 1627 | 581 | 2.00 | 2.8 | +12 | +4 |
| Drama | 437 | 620 | 340 | 1.28 | 1.8 | +8 | +3 |
| Music | 824 | 1163 | 681 | 2.21 | 1.7 | +8 | +3 |
| Subtotal | 2422 | 3410 | 539 | 4.49 | 6.3 | +28 | +10 |
| **Guidance** | 283 | 388 | 283 | 1.00 | 1.4 | +6 | +3 |
| **Life Science** | | | | | | | |
| Anatomy | 174 | 233 | 425 | .41 | .5 | +1 | -0- |
| Anthropology | 294 | 426 | 736 | .40 | .6 | +3 | +1 |
| Bacteriology | 90 | 116 | 480 | .19 | .2 | -0- | -0- |
| Biology | 1053 | 1512 | 609 | 1.73 | 2.5 | +12 | +3 |
| Botany | 294 | 426 | 482 | .61 | .9 | +4 | +1 |
| Forestry | 156 | 232 | 780 | .20 | .3 | +1 | -0- |
| Genetics | 96 | 116 | 436 | .22 | .3 | +1 | -0- |
| Health | 590 | 814 | 885 | .67 | .9 | +3 | +1 |
| Zoology | 234 | 349 | 320 | .73 | 1.1 | +6 | +1 |
| Life Science | 84 | 116 | 311 | .27 | .4 | +2 | +1 |
| Subtotal | 3065 | 4340 | 565 | 5.43 | 7.7 | +33 | +8 |
| **Physical Ed.** | 2898 | 4069 | 556 | 5.21 | 7.3 | +31 | +39 |

TABLE D (Continued) FACULTY PROJECTIONS FOR CAÑADA COLLEGE

| SUBJECT AREA | Student Contact Hours | | | Full-time Faculty | | Change | |
|---|---|---|---|---|---|---|---|
| | Current | Projected | Ratio | Current | Projected | Units | Sections |
| **Physical Sciences** | | | | | | | |
| Astronomy | 168 | 233 | 840 | .20 | .3 | +1 | -0- |
| Chemistry | 957 | 1356 | 666 | 1.69 | 2.0 | +5 | +2 |
| Geology | 222 | 310 | 288 | .77 | 1.1 | +5 | +1 |
| Mathematics | 1137 | 1589 | 348 | 3.27 | 4.6 | +20 | +7 |
| Physical Science | 171 | 232 | 789 | .21 | .3 | +1 | -0- |
| Physics | 240 | 349 | 428 | .56 | .8 | +4 | +1 |
| Subtotal | 2895 | 4069 | 430 | 6.70 | 9.1 | +36 | +11 |
| **Social Sciences** | | | | | | | |
| Economics | 396 | 543 | 495 | .80 | 1.1 | +4 | +1 |
| Education | 88 | 116 | 661 | .13 | .2 | +1 | -0- |
| Geography | 357 | 504 | 830 | .43 | .6 | +2 | +1 |
| History | 2113 | 2983 | 620 | 3.40 | 4.8 | +22 | +7 |
| Philosophy | 369 | 504 | 615 | .60 | .8 | +3 | +1 |
| Political Science | 1260 | 1783 | 593 | 2.13 | 3.0 | +13 | +4 |
| Psychology | 1521 | 2170 | 635 | 2.40 | 3.4 | +15 | +5 |
| Sociology | 381 | 543 | 635 | .60 | .9 | +5 | +2 |
| Statistics | 45 | 77 | 225 | .20 | .3 | +1 | -0- |
| Subtotal | 6530 | 9223 | 611 | 10.69 | 15.1 | +65 | +21 |
| **Vocational** | | | | | | | |
| Home Economics | 479 | 658 | 424 | 1.13 | 1.6 | +7 | +2 |
| Food Technology | 202 | 310 | 137 | 1.47 | 2.1 | +10 | +3 |
| Police Science | 288 | 387 | 480 | .60 | .8 | +3 | +1 |
| Subtotal | 969 | 1355 | 303 | 3.20 | 4.5 | +20 | +6 |
| TOTAL | 27,478 | 38,750 | 464 | 59.23 | 81.7 | +351 | 137 |

TABLE E FACULTY PROJECTIONS FOR SKYLINE COLLEGE

| SUBJECT AREA | Contact Hours | Ratio | Faculty | Units |
|---|---|---|---|---|
| Business | 2604 | 442 | 5.9 | 90 |
| Language Arts | 6913 | 375 | 18.4 | 276 |
| Fine Arts | 2728 | 539 | 5.1 | 76 |
| Guidance | 310 | 300 | 1.0 | 15 |
| Life Sciences | 3472 | 565 | 6.1 | 90 |
| Physical Education | 3255 | 556 | 5.9 | 90 |
| Physical Sciences | 3255 | 430 | 7.6 | 114 |
| Social Sciences | 7378 | 611 | 12.1 | 1800 |
| Vocational | 1085 | 300 | 3.6 | 54 |
| TOTAL | 31,000 | | 65.7 | 2605 |