ORDER OF BUSINESS

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To: Faculty-Staff Council
From: Curriculum and Instruction Committee:
Roy Anderson, D. Hensel, J. Rapp, H. Rhoads, and R. Frost, Chairman
Subject: Proposed Catalog Changes for 1967-68

I. SCOPE AND METHOD OF COMMITTEE STUDY

The proposed changes for the 1967-68 College catalog were summarized in the agenda for the May 10 Faculty-Staff Council meeting. Members of the committee have examined the proposals carefully, and where appropriate have discussed many of the proposals with division deans, department heads, and other members of the faculty, to ensure that adequate interdepartmental communications have taken place, to clarify possible duplications of courses, and to obtain a better understanding of certain proposals. In a few cases members of the departments proposing changes have appeared at committee meetings and presented useful explanations. Mr. David Cook, Curriculum Evaluator of the College, has attended several of the committee meetings and has supplied background information.

Because of limitations on the time and resources of the committee, certain aspects of the proposals, such as financial costs, which are primarily administrative problems, have not been studied. The committee has considered such matters as the best placement of courses so as to provide the highest quality of instruction, the avoidance of proliferation of courses, the adequacy of catalog descriptions of courses and curricula, and the breadth of the curricula as provided by adequate general education courses and provisions for electives.

The committee is concerned about all the factors that influence the quality of instruction, but believes that the primary responsibility for its improvement rests with the individual departments and faculty members. The committee has not, in general, questioned the detailed organization of major curricula, but notes and commends the extensive efforts in departments to improve them.

II. DISCUSSION

Master of Science Degree in Biology

A very important policy decision which must be made in connection with the proposals for the 1967-68 catalog concerns the offering of subject matter for master's degrees. The proposal for the Master of Science in Biology was originally made for the 1966-67 catalog and was approved by the Faculty-Staff Council on April 6, 1965. Final administrative approval was withheld pending a further study of criteria for offering such degrees. The proposal has again been recommended by the Applied Sciences Division for the next catalog.

No evidence has been presented to the Curriculum and Instruction Committee that the Biology proposal will not meet any reasonable criteria for the offering of the master's degree.
General Education

The Curriculum and Instruction Committee has not completed its study of General Education requirements. In the time available, it has not been possible to explore all the ramifications of possible desirable changes in general education courses, or to examine all the courses on the list of Required General Education courses, and the separate list of "Practical Arts" courses, for their suitability for general education purposes. The Committee recommends to the Faculty-Staff Council that a separate ad hoc faculty committee on general education be appointed to continue this study in 1966-67.

As promised in its February 8, 1966 progress report to the council, the committee has considered a number of proposed changes in the General Education requirements in connection with the material submitted for the 1967-68 catalog.

Speech

The State Code requires a minimum of 5 quarter units of general education in the area of "oral and written expression." This has been interpreted at Cal Poly (and at most, but not all, of the other State Colleges) as requiring work in oral communication in addition to that in English composition. The requirement for oral communication was inadvertently removed from the statement of College General Education requirements (on page 38 of the 1966-67 catalog) because of the elimination of the oral work in English 104, 105. All but two departments in the college will require Speech 201 in 1967-68; two departments (Mathematics and Physical Sciences) will require English 106. If this requirement is to be maintained it should be stated clearly in the list of College General Education requirements.

Mathematics

New courses and numbers require the addition of several courses to the general education list. So that general education credit may be given for required math courses, the following should be added:

Math 113, 114 for Agriculture majors
Math 210 for Business Administration majors
Math 131, 132, 133 for engineering, science, and mathematics majors.

Social Sciences

Changes proposed by the Engineering Division in their departmental general education requirements contain two proposals which have college-wide implications. Most of the changes proposed, which are designed to provide engineering students with the opportunity to have a greater selection in the Social Sciences, Literature and Philosophy, and Life Sciences, are within the framework of the general College requirements. The recommendation of such changes should be the prerogative of the individual department. Discussion of the two exceptions follows.
1. History 305 - The United States in World Affairs

Departments in the Engineering Division have proposed that Hist 305 be removed from the list of required general education courses and replaced with a free Social Sciences elective. This course is a part of a three course sequence, Political Science 301, American Government; History 304, Growth of American Democracy; and History 305, now required of all students on the San Luis Obispo campus. The Social Sciences Department conveyed the belief that it would be necessary to make changes in the preceding courses if they were not part of the full sequence. Since this is the only required course which discusses international relations, it is felt by the Curriculum and Instruction Committee that this course should continue to be listed as a requirement for all students.

2. Economics

Departments in the Engineering Division have proposed that Economics 201 be removed from the list of required general education courses and replaced with a free Social Sciences elective. Economics is not now specifically required by the College, but Economics 201 is now required by the curricula of every College department with the exception of English. This appears to represent a recognition by a heavy majority of the departments of the importance of a background in economics for the Cal Poly graduate. In the opinion of the committee, this should justify the inclusion of economics as a specific requirement in the Social Sciences section of the "Required General Education" list.

The Business Administration Department would have several responsibilities regarding this proposal. Among these responsibilities are: (1) to review the current economics offerings to determine the possibility of modifying the pre-requisites so more students will have a greater variety of courses from which to choose and (2) to determine the possibility of developing a general education survey course in economics which would be terminal in nature. This would still permit Economics 201 to be available, but primarily as the first course in a sequence.

Another proposal for a change in the general education requirements in the area of the Social Sciences has been recommended by the Applied Sciences Division. This proposal, originating in the Social Sciences Department, would delete Accounting 131, 132 from the list of courses acceptable for general education credit under the heading "Social Sciences."

Conflicts with Kellogg Courses

The merger of San Luis Obispo and Kellogg courses in the Required General Education list is confusing and has led to errors. English 216 listed under "Oral and Written Expression" is a literature course on this campus, and English 201, 202 and 203 listed under "Literature" are taught on this campus for English majors rather than as general education courses for non-majors as taught at Kellogg.
Description and Listing of Courses

There appear to be widely divergent views about the renumbering of courses. Some departments renumber their courses frequently, without hesitating to reassign numbers to different courses to obtain a consistent numbering system within the department. This has the disadvantage that it is difficult to evaluate student records and transcripts. Other departments avoid changing numbers for this reason, to the extent that the numbers used no longer reflect correctly the present level or scheduling of many courses. A future conversion to all-year operation may make the present choice of course numbers according to the quarter in which the course is taught obsolete. Attention has been called to this problem in the proposals from the Engineering Division. A restudy of the College course numbering system and the adoption of a uniform policy is desirable.

The descriptions of many courses do not list realistic prerequisites, either because of omissions or course changes. A realistic indication of the desirable background for each course would be especially helpful for transfer students and advisers of students electing courses in other departments.

Elective Courses

The Committee is concerned about the pressure to eliminate the opportunity to take free elective courses from the curricula. Free electives can provide some of the most effective general education for students, since the effectiveness of required courses is often limited by poor student motivation. A reduction in free electives also increases the problems of junior college transfer students, since it reduces the number of units of work for which they can receive transfer credit.

A related problem is the lack of availability of elective courses in some areas. Departments in all areas of the College should be encouraged to offer such courses, and where such courses are offered efforts should be made to see that enrollments are not unduly restricted for such reasons as inadequate staffing.

Mathematics

The changes proposed in the mathematics sequence for engineering and science students affect departments in all four divisions of the College. The proposals were initiated by the Engineering Division which originally requested a sequence of three-unit courses to replace the sequence which now begins with Math 118, (which has become the first college course for a majority of our students). The Mathematics Department prepared and submitted proposals for the three-unit sequence. A later request was made by the Engineering Division for consideration of a four-unit sequence, and proposed curricula sheets submitted by the Engineering Division departments show both sequences.

The discussions which the representative of the Curriculum and Instruction Committee had with individual Engineering department heads indicate that there is not complete unanimity regarding the change in the mathematics sequence. The majority of the Engineering Division department heads felt that the four-unit sequence would be most advantageous to the Division as well as to their own departments. At least five departments outside the Engineering Division are affected by this proposed change in the engineering and mathematics sequence, and unfortunately these departments were not fully apprised of the changes being considered. In addition, it appears that inadequate consideration was given to the role of mathematics courses as prerequisites for other courses. Discussions with the Physical Sciences
Department reveal that the new mathematics should be required as a pre-requisite to the physics sequence which engineers and other students take. This would require material changes in the curriculum proposals recommended by three of the engineering departments.

A strong argument presented to the Committee for the four-unit sequence is that it would permit the use of more advanced mathematics in concurrent engineering and science courses. A more general argument for four (rather than three) unit courses is that this may permit a student to take fewer courses of more units each, so that he may give more concentration to each subject. It may be noted that there is a strong trend among the State College and University of California campuses to change to four-unit course blocks as they introduce their new quarter-plan programs.

A possible disadvantage of the four-unit plan presented to the Committee is the problem of scheduling. Since a four-unit class would require a Tuesday or Thursday meeting, it would eliminate the possibility of scheduling laboratory classes at certain hours which would otherwise be useable. There does not seem to be any simple way to evaluate this problem; we understand that an administrative examination of this question is currently being made.

**Industrial Technology and Engineering**

There appears to be some disadvantage in the proposed change in name of the Technical Arts Department to "Industrial Technology" in a college which also has a department of "Industrial Engineering." This is confusing to students and staff.

There appears to be a need for the Industrial Engineering, Technical Arts, and Business Administration departments to meet to determine areas for which each will be responsible. Until these guidelines are drawn, there is a real problem of unnecessary course proliferation.

**Agriculture Division Proposals**

The Crops and Ornamental Horticulture departments are to be commended for their proposals to update their programs.

**Engineering Division Proposals**

The Aeronautical, Electrical, Electronic, Industrial, and Architectural Engineering departments are to be commended for the especially great efforts which have been made to update their curricula. Changes which have been made to encourage junior college students to complete their education at Cal Poly appear excellent.

Specific engineering recommendations affecting other College divisions have already been discussed; two further specific comments follow:

**Architecture**

The Architecture Department is proposing new courses and increases in unit values of old courses totalling 52 units. A substantial increase in departmental offerings is reasonable in view of the further development of the five year Bachelor of Architecture program. However, the committee believes that two aspects of the proposal require comment:
1. Forty-two units of new elective courses are proposed. The curricula for the Bachelor of Science (4 year) and Bachelor of Architecture (5 year) programs provide room for only 13 and 15 free elective units, respectively, in the students' programs -- all of these in the third and fourth (or fifth) years. This suggests that students will feel pressure to take all their elective courses in their own major, so that the electives will provide no opportunity for a broader general education.

2. Eleven units of the new courses are Arch 447, 457, 453, and 459, Landscape and Advanced Landscape, yet the Ornamental Horticulture Department is proposing that OH 220, Home Landscaping, be dropped from the catalog because of lack of student interest. Committee inquiry revealed that an emphasis on "space engineering" rather than ornamental horticulture is planned for the new courses, but also brought out the fact that faculty members in the Agriculture Division felt that adequate inter-departmental communication had not taken place before the presentation of these proposals.

Applied Arts Division Proposals

The Business Administration, Home Economics, and Technical Arts departments are to be commended for their work in preparing proposals for course and curricula revision. Comments on specific proposals follow:

English and Speech

The English and Speech department has requested that Eng. 207, Sp 201, 202, 301, 304, and 403 be changed from 2 to 3 units (one lecture and one two-hour laboratory to 3 lectures), and this request has not been endorsed by the dean of the division. Making this change for the first three of these courses would change the general education unit requirements and require re-listing of these requirements for many departments. Investigation of the request in connection with the proposal for the Speech courses has revealed a situation which deserves special comment.

1. Testimony presented to the Curriculum and Instruction Committee indicates that the practice of scheduling Speech as a lecture-laboratory course rather than as a lecture course is contrary to the accepted practice at other colleges and universities. However, members of the Curriculum and Instruction Committee have not been convinced that an effective course could not be taught in this unconventional pattern.

2. Testimony was presented that the lecture-laboratory pattern was introduced in the 1964-65 college catalog without any consultation with, or even the knowledge of, the Speech faculty. A proposal which had been prepared by Speech faculty members for the Speech minor was rewritten during the summer of 1963, and members of the Speech faculty reportedly did not see a copy of the revised August, 1963 proposal, which introduced the lecture-laboratory pattern, until February 17, 1964. Apparently faculty resentment at the former lack of consultation and the present reluctance to change this situation is a significant morale problem in the English and Speech Department.
3. The Curriculum and Instruction Committee believes that the most important factor in making a decision should be the welfare of the students. Testimony by a member of the Speech faculty indicated a belief that students are now being required to do more work for the three hours of speech class than is indicated by the two units of credit. This would be a difficult fact to verify, but it does suggest that the welfare of the students might be better served by further study or a compromise on this issue.

Applied Sciences Division Proposals

The most important proposal submitted by the Applied Sciences Division is the proposal for the Master of Science degree program in Biology which has already been mentioned above because of its College-wide implications.

The Mathematics Department is to be commended for its development of proposals for options in Applied Mathematics and in Mathematics Teaching, including a new series of courses in Computer Science, as well as for the extensive work it has done in preparing new course proposals and revisions in other areas.

The proposed concentrations in the Social Sciences Department of Social Sciences and Social Services should make a significant contribution to the Cal Poly program by providing more occupationally-oriented programs in that large department.

Problems of Consultation and Proliferation

Some departments proposing course or curricula changes have made commendable efforts to consult with other departments which would be affected. As noted elsewhere in this report, other cases were found where desirable consultation had not taken place. To locate such failures in consultation, it would be helpful if the "New Course Proposal" forms were provided with spaces for listing other departments which had been consulted informally (for example, by telephone conversation), or formally (by forwarding a copy of the "New Course Proposal" form, or the proposed curriculum sheet).

The problems of course proliferation and ill-defined areas of teaching responsibilities appear to require a more fundamental approach. These problems and the problem of avoiding oversights in inter-departmental consultation could be handled more efficiently by an administrative Dean of Instruction with the authority to bring together departmental representatives for discussions and settlements of such problems.
III. RECOMMENDATIONS

The Curriculum and Instruction Committee proposes that the Faculty-Staff Council make the following recommendations to the President of the College:

Master of Science Degree in Biology

It is recommended that the proposal for the Master of Science Degree in Biology as approved by the Faculty-Staff Council on April 6, 1965, be included in the 1967-68 catalog.

General Education

Speech

The statement of Required General Education of the catalog should state under "Oral and Written Expression":

6-9 units from Eng 104, 105, 106, 219, 301
2-5 units from Sp 201, 202, 305

Mathematics

Math 113, 114, 210, 131, 132, and 133 should be added to the general education list if the new course proposals are accepted.

Social Sciences

History 305 should not be removed from the required general education list.

Those departments which now require Econ 201 as part of their general education requirement should maintain this requirement. The statement of Required General Education of the catalog should include under "Social Sciences":

3 units of Economics (with a corresponding reduction to 3-9 units for the last Social Sciences category.)

The possibility of offering an alternate terminal course in economics for general education purposes should be encouraged.

Accounting 131 and its equivalent should be studied as to its validity as a Social Science general education requirement.

Conflicts with Kellogg Courses

The Required General Education list should be printed separately for the San Luis Obispo campus even if the catalog is not printed separately for 1967.
Description and Listing of Courses

A study should be made of the College course numbering system and its application to the present and proposed College courses.

A systematic re-examination of course descriptions shall be made to ensure that realistic prerequisites or desirable background are stated.

Mathematics

A representative, or representatives, of the Engineering Division should meet with representatives of the Mathematics, Physical Sciences, Agricultural Engineering, Printing Engineering and Management, Technical Arts departments, and Biological Sciences, to obtain final agreement on a program in mathematics which will meet the needs for all concerned.

Industrial Engineering, Technology, and Business

The Industrial Engineering, Technical Arts, and Business Departments should meet together for the purpose of determining how each can perform service work for the other, and to provide some guidelines for areas for which each of these departments will be responsible. This should be done as soon as possible to permit adequate discussion regarding course proposals by all concerned.

Speech

Further study involving members of the Speech faculty should be made to work out a Speech program which will meet the needs of the students as seen by both speech instructors and other members of the administration and faculty.

Problems of Consultation and Proliferation

The position of a Dean of Instruction should be established in the College.