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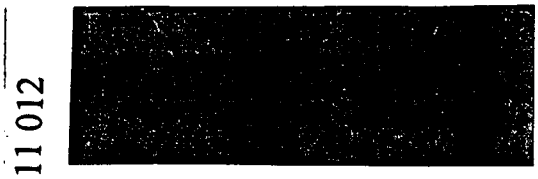
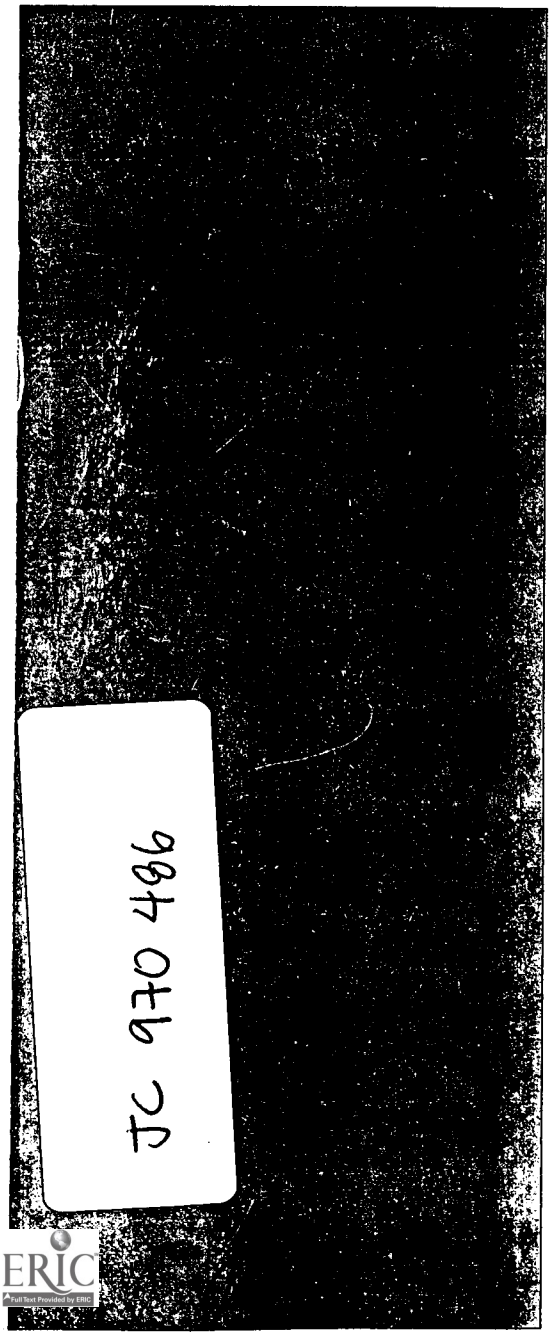
ABSTRACT

Focusing on the appropriate use of prerequisite courses, this document discusses good practices for implementing prerequisites as developed by the Academic Senate of the California Community Colleges. The first section provides an introduction to the use of prerequisites, discussing the need to balance student access and success, as well as state and local control. The second section describes the basic content review process for preparing student advisories for recommended preparation, while the third discusses levels of scrutiny for establishing prerequisites for transferable courses, courses in sequences, and out-of-sequence communication or computer skills. This section also describes the three levels of scrutiny used: basic content review, documented content review, and data collection and analysis. The next sections discuss the steps required to use an assessment processes for placement, the determination of corequisites, and the establishment of health and safety prerequisites. Next, methods for establishing program prerequisites and limitations on enrollment are reviewed, highlighting cases for limiting enrollment, such as performance courses, honors programs, and block enrollment. Strategies are then listed for enforcing prerequisites, including on-line computer checks, batch runs with involuntary drops, and roster checks, and procedures for dealing with student challenges are discussed. Finally, implementation strategies are provided for reviewing prerequisites and procedures for ensuring that teachers follow course outlines are described. An appendix provides 55 questions from the field regarding the implementation of prerequisites with answers developed by the Academic Senate. (HAA)





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DISCLAIMER

The answers given here do not carry any legal standing in the interpretation of statute or regulation. The purpose of this document is to raise issues of concern to the field and explore possible implementation strategies to solve them. This document does not set new policy or recommend changes to existing policy, regulation, or statute.

Curriculum Committee, 1996-97

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Introduction

Prerequisites are an essential tool in the construction of curriculum for courses in which student success is highly dependent on previously acquired knowledge or skills. However, effective use of prerequisites requires a balance of several countervailing factors. (Used in this general sense the term prerequisites applies also to corequisites and other limitations on enrollment.)

Applied overzealously, prerequisites which go beyond needed skills will unnecessarily limit students' access to courses and inhibit their ability to make normal progress toward fulfilling their educational potential and may drive qualified students away causing financial loss to the college. Used laxly or not at all, weak or non-existent prerequisites do not inform students of skills needed to succeed in their courses. Instructors will find course goals hard to achieve when precious class time is needed to teach such unprepared students. In fact, these situations often create pressures to reduce academic standards. The tendency of unprepared students to drop out will create unfilled seats for which the college will generate no income and make it seem that the instructional program is weak and ineffective.

Properly set prerequisites benefit all: students, faculty, and the college. Students know what is expected of them without being denied access, faculty teach prepared students and have a positive classroom environment, and the college has efficient educational programs.

Appropriate prerequisites also require a balance between externally imposed mandates and local control. State standards help to assure that prerequisites do not deny access but yet uphold academic standards--the balance stated above. But local control must be maintained over the mechanisms employed to institute prerequisites and to empower faculty in assessing academic standards. Striking this balance was one of the goals of the framers of the Title 5 prerequisite regulations passed in September of 1993.

As good practices for putting these regulations into place are discussed in this paper, keep in mind the balance between access and success and between state and local control.

Advisories for Recommended Preparation

An instructor may wish to give advice to students on skills which will enable them to get more out of a class. ***Advisories for recommended preparation*** are intended to identify skills which will broaden or deepen a student's learning experience but without which the student will still succeed in the course. The college does not block student enrollment for lack of advisory skills. Students are free to ignore the advice.

As is suitable for a recommendation, not a great deal is required to establish advisories. The process is known as a ***basic content review***. Each local college is expected to develop its own content review process. Typically, the content review process

is accepted by vote of the curriculum committee and the academic senate and a form and/or explanation for content review is included in the college curriculum handbook. A good model for content review is that outlined in Method #23 in *Matriculation Evaluation: Phase III Local Research Options (California Community Colleges Chancellor's Office, June 1992)*. In short, three steps are involved.

First, the discipline faculty who teach the course examine their class materials: course outline, syllabus, text, exams, and so forth. The point is to list skills that it would be a good idea for students to have but which are not necessary to pass the class. If, in the opinion of the discipline faculty, the students would be highly unlikely to succeed without one or more previously-acquired skills, then the faculty should consider proposing a prerequisite.

Next, the faculty should agree, either by consensus or vote, on the skills to recommend. Finally, the best means by which students can acquire these skills should be identified. This is usually a course--but not always. Examples of non-course advisories might include typing speed for a computer course, a high school biology class for a college biology class, or eligibility for English 1A for a history class. Note that many of these would be difficult to establish as prerequisites.

To obtain curriculum committee approval for an advisory, the originating faculty typically 1) present a rationale which summarizes the process used and 2) include the advisory skills in the course outline [Title 5 §55202(a)]. If the process is clear and the course outline coherent, committee approval is routine.

Levels of Scrutiny for Prerequisites

The method to establish a prerequisite, called the ***level of scrutiny***, varies with the type of course: 1) prerequisites for transferrable courses can be established by a basic content review plus identification of similar prerequisites used at three UC or CSU campuses; 2) courses within or across sequences, especially vocational courses which have no UC or CSU equivalents, can have prerequisites by going through a documented content review; and 3) out-of-sequence communication and computation skills (and non-course prerequisites) require data collection and analysis in addition to content review.

Many transferrable courses have standard prerequisites that are well recognized in the discipline. The analysis begins with ***basic content review*** as described under advisories but with a higher level of rigor: identifying skills without which the student is highly unlikely to succeed. Agreement of the discipline faculty on these skills, either by consensus or vote, is important. In some cases it may help to have each faculty member rank the skills, for example on a scale such as 1-to-5, for the degree of impact on student success. A mean score above certain level, e.g. 4, might be recommended before advancing the skill for the prerequisite. The appropriate course which teaches these skills is then proposed. If a similar course is used as a prerequisite at ***three or more UC or CSU campuses***, the prerequisite is justified [Model District Policy II.A.1.a.].

Documentation presented to the curriculum committee might consist of 1) a summary of the process and rationale, and 2) copies of the catalog descriptions of the target and prerequisite courses at three UC or CSU campuses--perhaps with a narrative if the comparability of the courses is not obvious, and 3) a list of the prerequisite skills in the course outline. The curriculum committee approves the course and the prerequisite by separate action, applying the criteria that 1) the content review process has been followed, 2) the UC/CSU and proposed college courses are comparable, and 3) the course outline is complete, well integrated, coherent and meets Title 5 standards.

The second level of scrutiny is ***documented content review*** [Model District Policy II.A.1.b.]. This analysis is sufficient to establish prerequisites within a sequence or across a sequence, such as prerequisites for a vocational courses which have no UC/CSU equivalents. Excluded are communication or computational skills--which require data collection and analysis. The term "in a sequence" does not imply that the courses are numbered or lettered sequentially--or even that the courses are in the same discipline. If the course content of A is structured to lead into course B and students normally take B after A, clearly the courses are sequential. Examples include so-called "service courses" such as "Chemistry 70, Pharmaceutical Chemistry" (in the chemistry discipline) as a prerequisite for "Pharmacy 101: The Chemical Basis of Pharmacology" (in the pharmacy technology discipline).

The fundamental difference between a basic content review and a documented content review is the need to present evidence that the identified prerequisite skills are covered in the proposed prerequisite course.

Again, the curriculum committee approves the course outline and the prerequisite by separate action. In evaluating the proposed prerequisite, the committee is generally checking that 1) the content review process was followed, 2) the proposed prerequisite course does indeed teach the needed skills (and that both the target and prerequisite course outlines demonstrate this--perhaps using a grid analysis such as that shown below), and 3) the course outline is complete, well integrated, coherent and meets Title 5 standards.

Target Course Prerequisite Skills

Prerequisite Course Student Outcomes	1	2	3
1		X	
2	X		
3			X

The analysis of the exit skills in the prerequisite course and the entry skills needed for the target course often leads to curriculum change.

- Courses in a sequence may not have a smooth flow of topics. Some shifting of content between courses may help.
- Discussions among instructors of the two courses may lead to the discovery of topics or teaching methods which make the prerequisite skills more effective for the target course. For example, science faculty need students to graph scattered experimental data but graphing may be taught in the prerequisite math class using points that fall neatly on a line.
- It may be that not all of the prerequisite skills are taught in the proposed prerequisite course. Options to deal with this include 1) teaching the prerequisite skill within the target course itself, 2) adding the topic to the content of the proposed prerequisite course, and 3) shifting the needed topic from another course into the proposed course. For example, 9 of the 10 skills needed for C may be taught in B but 1 may be taught in A. By moving that topic to B, the prerequisite to C could be B alone rather than both A and B.

The curriculum committee should be sure that any gaps in prerequisites are covered. If not all the needed skills are taught in the prerequisite course, how are students to learn them?

The highest level of scrutiny is ***data collection and analysis***. This analysis is applied to out-of-sequence communication and computation skills and non-course prerequisites. Examples are "English 1A: Freshman Composition" as a prerequisite to "History 17A: Early United States History," "Math 1A: Calculus" as a prerequisite to "Physics 4A: General Physics" and "Computer Science 20: Basic Programming within the last three years" as a prerequisite to "Computer Science 25: Intermediate Programming." (The latter is called a *recency* prerequisite, establishing how recently the prerequisite course has been taken.)

The basic premise is that the college must demonstrate, using sound research practices, that students are highly unlikely to succeed without these skills. The Model District Policy, II.A.1.g.(3), states, "The research design, operational definition, and numerical standards, if appropriate, shall be developed by research personnel, discipline faculty, and representatives of the Academic Senate." The college should establish a procedure for developing such research designs. This procedure should be approved by the curriculum committee and the academic senate and should appear in the college's curriculum handbook.

The Model District Policy II.A.1.g. lists three options for student success: 1) grades, either mid-term or final; 2) the instructor's evaluation of the student's readiness for the course, and 3) the student's own self-evaluation of his or her readiness. (A fourth option, assessment, can be used as a measure and will be covered in the next section.)

When using grades, success is a "satisfactory grade" of A, B, C, or CR [Title 5 §55200(d)]. Final grades are certainly a well-recognized measure of student success, but mid-term grades may be a better yardstick for readiness--given that students who drop a course late in the term rarely do so because of a lack of prerequisite skills. When doing a

grade analysis, classifying 'W' withdrawals (drops after the add/drop date) and 'NG' no grades (drops before the add/drop date) is quite advantageous. Some W's and NG's result from lack of student readiness, but others are attributable to job changes, family responsibilities, and so on. Should a W or NG be counted as non-success or left out of the study entirely? One approach is to ask instructors to make the determination. Did the drop occur for non-academic reasons, job changes, family situations and so on? If so, leave the W or NG out of the sample. If not, include the student in the sample. As you will see, sample size, particularly that of the "non-success" population, is critical in producing a meaningful statistical result.

Besides grades, success may be ascertained by an evaluation of readiness by the instructor or student. Typically, instructors and/or students are surveyed for this information. A good practice is to use a scale such as 1-to-5 or 1-to-10 from "very prepared" to "not prepared at all." The five or ten point spread produces a more meaningful correlation with whether or not the student had the prerequisite. The survey may be more effective when administered about one-third of the way into the course. This gives enough time for students to attempt course material but is not so late in the term that the survey just duplicates the final grade results.

Standard research methods to evaluate the relationship between having the prerequisite and success in the course include:

1) a ***correlation coefficient*** such as the Pearson r (useful for continuous data such as grade-to-grade correlations, often corrected for factors such as restriction of range),
2) a matrix or four-cell table and accompanying ***chi-square*** (for discrete categories of data such as the "yes/no" answer to "does the student meet the prerequisite?," and
3) a matrix or four-cell analysis showing ***net increase in accuracy***, a comparison of the percentage of the students who succeed in the course before and after imposing the prerequisite. (Applying the prerequisite should show a significant gain in the percentage of students succeeding.)

The details of these methods can be gleaned from standard statistics texts, and, in particular, Method #23 in *Matriculation Evaluation: Phase III Local Research Options (CCCCCO, June 1992)* and Appendix A in *Assessment Validation Project Local Research Options (CCCCCO, February 1991)*. The diagram below may be useful in visualizing these methods.

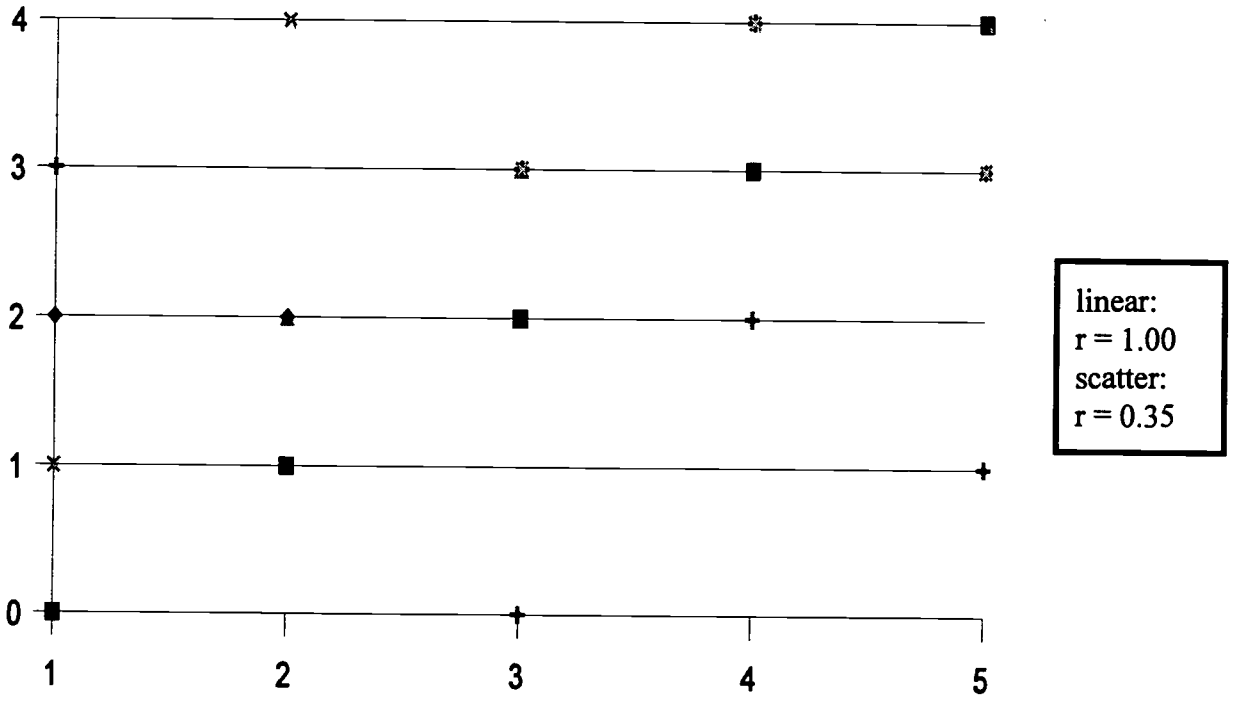
prerequisite?

success?	YES	NO
YES	66 right	1 wrong
NO	9 wrong	24 right

The Four Cell Process

Goals: 1) minimize students who pass without the prerequisite and thus would be denied access (here only 1), 2) significant chi-square, typically > 3.84 (here χ^2 = 60, significant at the 0.05 level, 3) maximize right/wrong ratio, typically ≥ 2:1 (here 90:10 = 9:1), 4) maximize incremental gain in success, typically by ≥ 10% (here before applying the prerequisite 67/100 = 67%, after applying the prerequisite 66/75 = 88%; 21% gain).

Prerequisite Grade vs Readiness



The numerical standard to justify the prerequisite is entirely a local decision. Typical standards are above approximately 0.35 for Pearson r, 3.84 for chi-square, 2:1 for right/wrong ratio, and 10% incremental gain in accuracy.

The above methods give meaningful results only with reasonably sized samples. This is the origin of the suggestion for 100 in the total sample and 20 in the non-success group. Problems arise with ***small sample sizes*** such as courses of 20 students taught only once a year. Waiting five years for data is not practical. Although this is a thorny problem, some suggestions may help.

1) It may be that the prerequisite is not essential and could be replaced by and advisory on recommended preparation. Advisories are taken seriously by students and may be sufficient to assure good student success. In addition, many instructional techniques can help less well prepared students: out-of-class review sessions, tutoring, review reading and/or problem assignments, and so forth.
2) Use all research methods at your disposal to increase sample size and produce a meaningful statistical correlation. If student demand for the course is high, open an additional section. Count W's and NG's as non-success unless determined by the instructor to be non-academic related drops. Collect success data for all three measures and use the most statistically significant result. Use several statistical measures and use the results that seem most appropriate. If dependence on prerequisite skills is strong, correlations will be high enough that even small samples (i.e., 40) may be meaningful.

New courses do not have a tract record on which to base research analysis of the need for a communication or computation skills prerequisite. When a ***math or English prerequisite for a new course*** appears to be needed, as an outcome of the established curriculum approval process, the Model District Policy [II.A.1.g(4)] provides for the establishment of the prerequisite for a two-year provisional period while the data is collected and analyzed.

Every effort should be made to inform students of the faculty's best advice for preparation. On a practical level, it may even be more effective to set the skills as advisory. In this way, students are advised of the recommended skills, and, typically, sufficient numbers of students will enroll both with and without those skills to make an analysis meaningful. It may be, however, that the prerequisite is needed to be formally part of the course outline to meet other requirements such as those imposed by intersegmental articulation standards (e.g., freshman composition as a prerequisite for the IGETC critical thinking-English composition course).

Assessment Processes as Prerequisites

The steps required to use an assessment process for placement advice are sufficient to meet the research requirements to establish that assessment process as a prerequisite [Title 5 §55202(c)]. To fully implement an assessment process requires 1) that any instrument used be on the Chancellor's Office approved list, 2) local validation of cut-off

scores, 3) the use of multiple measures, and 4) checking for disproportionate impact on historically underrepresented groups and, if found, implementing a plan to ameliorate the disproportionate impact [Title 5 §55524]. These regulations have been in place since 1990 and are generally well understood.

It is good practice to use the assessment result in concert with the equivalent course when listing the prerequisite in the course description. For example, an electronics class might have a math prerequisite listed in the catalog as "Prerequisite: Math 101 or equivalent skills demonstrated through the math placement process." This allows students the alternative of placing into the course through assessment, or, if starting the math course sequence at a lower entry point, to take electronics after passing the appropriate math course.

Typically, the curriculum committee establishes the assessment as an *alternative* to the course. Justification of the prerequisite is then based on the level of scrutiny applied to the *course*. Evidence that the assessment result is appropriate to include along with the course listing consists of the research needed to validate the assessment process (on Chancellor's list, appropriate cut-off scores, justified multiple measures, lack of disproportionate impact) for the prerequisite course in the discipline sequence. For example, the college may have a math sequence such as 100 (intermediate algebra), 101 (trigonometry), 102 (precalculus), 1 (calculus), etc. The curriculum committee first establishes Math 101 as the prerequisite to the Electronics course using data collection and analysis (computational skill prerequisite). Then the curriculum committee adds "or equivalent skills demonstrated through the math placement process" when evidence is available that the assessment process is valid. The "appropriate skill level" would be that which would place the student in Math 102, thus demonstrating that the student had mastered the math skills up through Math 101.

It should be pointed out that Title 5, §55530(c) states that, "Whenever possible, students should be permitted to avoid additional testing by submitting scores on recently taken tests that correlate with those used by the district. Districts should thus develop ways to recognize the results of assessments students may have obtained in other districts. This would constitute another way for students to satisfy a prerequisite: appropriate assessment result in another district.

Corequisites

The levels of scrutiny to be applied to ***corequisites*** are the same as those for prerequisites. Corequisites are to assure "that a student acquires the necessary skills, concepts, and/or information, such that a student who has not enrolled in the corequisite is highly unlikely to receive a satisfactory grade in the course or program for which the corequisite is being established" [Title 5 §55201(c)(3)].

The basic concept involved in corequisites is that content in the two corequisite courses is so intertwined that a student cannot reasonably pass either class without the other. One example might be a nursing clinical practice lecture class and the coresponding in-hospital clinical class. Another might be a computer programming lecture class and the associated lab class in which the student actually writes programs. Because such ***paired courses ("two-way" corequisites)*** are part of the same sequence, justification typically consists of a documented content review. Information submitted to the curriculum committee might reasonably be 1) a narrative-style rationale and 2) a section in each course outline on "corequisite skills" which is clearly connected to the "student outcomes" section in the other outline.

Another situation for which corequisites meet a curriculum need is that of an ancilliary course whose content is dependent on a main course, but the content of the main course can stand alone, a so-called ***"one-way" corequisite***. An example would be a general education geology lecture class and an associated geology lab class. The lab class has the main class as corequisite because the principles of geology are essential before doing field work. Students may take the lecture class alone to meet general education requirements but may add the lab to meet the laboratory requirement as well. A common occurrence is that students taking only the lecture may become inspired to subsequently enroll in the field course. To enable this option, the catalog description of the field course, Geology 10L, might be "Corequisite: Geology 10 (may be taken previously)." The lecture course, Geology 10, would have no corequisite.

Health and Safety Prerequisites

Health and safety skills constitute a separate category of prerequisites [Title 5 §55201(c)(4), Model District Policy II.A.1.f.]. Such a prerequisite is established by a documented content review. In identifying the needed skills, faculty should concentrate on those specific skills, concepts, and information without which the students would create a hazard to themselves or those around them. Those skills must be listed in the course outline, and faculty should suggest a mechanism both for how the student would acquire those skills and how the college would determine that the student possesses them. Two options for achieving these latter two objectives are described as follows.

In some cases it may be that ***the needed skills are taught in another course***. For example, the nursing program may have a course, or a separate instructional unit in a course, such as "Safe Practices in Clinical Situations." By demonstrating that the health and safety prerequisite skills for the target course are taught in this particular course (perhaps using the grid method above), sufficient documentation is provided. If the skills are a single unit within a more general course, however, it is essential that successful mastery of those health and safety skills be a requirement for passing the class. In the case of a program such as nursing, the separate safety course could be used as a program prerequisite which students would have to meet before enrolling in the program.

It may be possible to distill the necessary health and safety skills down to a single document such as "Procedures for a Safe Chemistry Lab" or "Avoiding Hazards in the Machine Shop." If so, the document could be made available to students in advance of the class and an ***assessment*** made of students' comprehension of the information. To satisfy the need for multiple measures, testing of comprehension of both written and oral information is possible. Written assessment could be in the form of an objective test. It would be necessary to validate appropriate cut-off scores and to assure that no group of students is disproportionately impacted. Oral assessment is achieved by showing the students a video tape giving instructions for avoiding typical hazards. The students are then asked to respond aloud to a series of questions asked orally (with very structured prompts and assessment of sufficient student responses).

Thus, when health and safety skills are found to be essential to avoiding hazards to students and those around them, four approaches are possible.

1) Teach the skills within the course and do not allow students to enter hazardous situations until those skills are demonstrated. No prerequisite is needed.
2) Teach the skills as a separate course or a unit within an existing course and make that course a prerequisite to the target course in which the student will encounter the hazardous situation(s).
3) Teach the skills in a separate course which becomes a prerequisite to the program in which the hazards exist.
4) Provide information on the skills in a separate document, video, etc. and then assess the skills using multiple measures.

Ability to avoid the creation of hazards is often closely tied to students' communication and computation skills. Health and safety prerequisites must be based on very specific skills associated with the particular hazards that students will encounter. Use of a general English or math course as a health and safety prerequisite is not allowed. Remember that such general communication and computation skill prerequisites must be established by data collection and analysis.

Program Prerequisites

An educational program is "an organized sequence of courses leading to a defined objective, a degree, a certificate, a diploma, a license, or transfer to another institution of higher education" [Title 5 §55000]. Programs are approved by the Chancellor's Office and are published in the *Inventory of Approved Degree and Certificate Programs*. Several sections of Title 5 are relevant to program prerequisites.

> §55201. Policies for Prerequisites, Corequisites, and Advisories on Recommended Preparation.
> (b)(1) Determinations about prerequisites and corequisites shall be made on a course-by-course or ***program-by-program*** basis.
> (c)(2) The prerequisite will assure, consistent with Section 55002(a)(2)(D), that a student has the skills, concepts, and/or information that is presupposed in terms of the course or ***program***

for which it is being established, such that a student who has not met the prerequisite is highly unlikely to receive a satisfactory grade in the course (or at least one course within the ***program***) for which the prerequisite is being established.

§58106. Limitations on Enrollment
In order to be claimed for purposes of state apportionment, all courses shall be open to enrollment by any student who has been admitted to the college, provided that enrollment in specific courses or ***programs*** may be limited as follows:
(a) Enrollment may be limited to students meeting prerequisites and corequisites established pursuant to Sections 55200-55202 of this Division,
(b) Enrollment may be limited due to health and safety considerations, facility limitations, faculty workload, the availability of qualified instructors, funding limitations, the constraints of regional planning, or legal requirements imposed by statutes, regulations, or contracts. The governing board shall adopt policies identifying any such limitations and requiring fair and equitable procedures for determining who may enroll in affected courses or ***programs***. Such procedures shall be consistent with one or more of the following approaches:
(1) limiting enrollment to a "first-come, first-served" basis or using other nonevaluative selection techniques to determine who may enroll; or
(2) limiting enrollment using a registration procedure authorized by Section 58108; or
(3) in the case of intercollegiate competition, honors courses, or public performance courses, allocating available seats to those students judged most qualified; or
(4) limiting enrollment in one or more sections of a course to a cohort of students enrolled in one or more courses, provided however, that a reasonable percentage of all sections of the course do not have such restrictions....

In summary, program prerequisites may be established by justification for a single course or a collection of courses within the program or for performance in the entire program. Limitations on enrollment may be established by identifying the constraining factor (facility limitations, faculty workload and so on) and ensuring fair and equitable practices for limiting enrollment. Programs cannot have a separate admission process; students are *admitted* to the college (open access) and *enrolled* in its courses and programs, although an application for such program enrollment is permitted. The pool of students qualified to enroll in a program is created by identifying those who have met the prerequisites for the program. If fewer seats are available for courses in the program than the number of qualified students in the pool, a non-evaluative process must be used to determine who will be in the classes. Beyond the registration priority system established for all courses at the college through Title 5 §58108, determination of which students will enroll in the program may be based on health and safety considerations; limitations imposed by statute, regulation or contract; or a selection process such as first-come-first served, waiting list, or lottery. The Board of Trustees must act to establish policies for registration priorities, health and safety limitations, statutory/regulatory/contractual limitations, and the nonevaluative selection process to be used.

Thus the activities involved in selecting students for enrollment in programs fall into two areas: establishing prerequisites and other limitations on enrollments and then devising a process for selection among those in the qualified pool.

The structure of programs which typically need prerequisites usually begins with students taking courses from the general curriculum and then, based on that performance, advancing to specific courses that constitute the program. One example might be a biotechnology program, during the first year of which, students take general courses in biology, math, chemistry, and physics. Based on satisfactorily completing these fundamental courses, students are selected for enrollment in the program, consisting of specific biotechnology courses, for their second year of study. Another example would be a nursing AA degree program in which students would be expected to meet general education requirements and satisfactorily complete core courses in biology, chemistry and safe clinical practices before being selected to enroll in the program. Only those enrolled in the program would be eligible to take the specific courses that constitute the two-year nursing program.

Establishing program prerequisites follows the same levels of scrutiny as prerequisites for courses. For a ***course prerequisite***, justification requires basic content review plus 3 UC/CSU equivalencies for transferrable courses, documented content review for courses within or across sequences and for which UC/CSU comparability is not available, and data collection and analysis for communication and computation skills. ***Non-course prerequisites*** also require data collection and analysis. ***Health and safety*** prerequisites require documented content review. The process is typically to find the course within the program which is most dependent on the prerequisite skills under consideration. Then, using the appropriate scrutiny, justify the prerequisite for that course and thus for the program. It may be that this process is best applied to a collection of courses or for performance in the entire program. Some examples may help.

- A biotechnology program may have an advanced course in toxicology for which certain skills in chemistry are essential. Through a documented content review, those skills are identified, and general college chemistry is found to have each of those skills among its student outcomes. This is justification for having general chemistry as a prerequisite for the course and thus for the program.
- An emergency medical technician program has a series of critical care courses for which understanding of human anatomy is essential. No one course is dependent on all the aspects of anatomy, but, when taken together, success in the critical care series is highly dependent on the skills taught in human anatomy. Thus the course in anatomy constitutes a prerequisite both for the critical care series and for the entire program.
- An electronics program contains a course in circuit diagrams in which students are highly unlikely to succeed without certain algebra skills, found to be taught in intermediate algebra. Through data collection and analysis (following the college-based process), success in the circuit course is found to be highly dependent on success in intermediate algebra. This means that intermediate algebra can be a program prerequisite as well.
- A dental hygiene program is observed to have an unacceptable drop-out rate. Profiling those who have unsuccessfully left the program indicates that poor grades in a composite of anatomy, physiology, and chemistry seem to be a common factor. Being a non-course prerequisite, the GPA in these classes is

correlated by sound research practices to the success rate in the program as a whole, with the greatest gain in accuracy obtained at a cut-off of 2.75 in the composite GPA for anatomy, physiology, and chemistry, thus establishing a prerequisite for the program.

- A fire science program is operated under an instructional agreement with the county. The contract, as adopted by the Board of Trustees, specifies that the work experience portion of this program requires a Fire Fighter Academy 1 Certificate and an EMT certificate. This contract is sufficient justification for these certificates as a limitation on enrollment in the work experience course (§58106) but NOT to the program as a whole (as this is not specified in the contract). Note that this is a limitation on enrollment, not a prerequisite. As such, establishing this limitation for the course cannot be generalized as a limitation on enrollment in the program because this would go beyond the language of the contract. Note also that contracts are NOT sufficient justification for prerequisites [§55201(c)(1)].
- A commercial photography program is having trouble with high drop out rates. A content review shows complex analytical and critical thinking skills that may be acquired in a variety of degree-credit courses. In an attempt to identify those who have those skills, a study is done on the correlation between GPA in previous degree-credit courses and performance in the program, both by course and in the program as a whole. No acceptable level of correlation is found, and no prerequisite is established.
- A nursing program has been using a point system for enrollment in the program consisting of points for GPA in all college courses, for GPA in science courses, for grade in English 1A, and for performance in an interview. Content review shows skills needed in sciences, English, and interpersonal skills as well. Through sound research practices, the two GPA factors are found to be significant at 2.75 overall GPA and 3.00 GPA in science courses and are thus retained as program prerequisites. Research shows that the grade in English 1A is not well correlated with student success in the program or its courses. English 1A is retained as an advisory on the basis of the content review. The faculty is concerned about the lack of an English prerequisite and the impact on safety in clinical situations. As a result, a course entitled "Safe Clinical Procedures" is implemented and a documented content review places this course as a program prerequisite. The interview process is found to be too inconsistent to meet the requirements of Title 5 and is eliminated. The qualified pool of those with an overall GPA of 2.75, a GPA of 3.00 in the sciences and a passing grade in "Safe Clinical Procedures" still exceeds the number of seats available in the program. Thus a waiting list process is instituted, using the registration priority system for general courses, and is approved by the Board of Trustees.

The last example illustrates the final step in producing a workable enrollment system for impacted programs. Usually, the process begins with a requirement for students to fill out an application for enrollment (not admission) to the program by a certain cut-off date. After the pool of qualified students is determined by using prerequisites, non-evaluative enrollment measures must be used to determine who among those remaining will actually get a seat in the program's courses. Typically, one of three processes is used.

- A ***waiting list*** is established, the priorities within the pool of qualified applicants being determined using non-evaluative criteria such as those in the registration priority system used for general courses in the college. Examples of such factors which can produce a prioritized list include continuing enrollment status, total units at the college, percentage of W's, and matriculation status. The same type of letter-by-an-acceptance-date process is used to fill the seats in the program. The waiting list can be rolled over to the next year with new qualified applicants added to the bottom. This gives students who are not accepted in a given year some indication of when they would make it into the program. Alternatively, the old and new applicants can be reprioritized each year. This practice has engendered some student complaints regarding uncertainty in predicting when they will actually be allowed to enroll in the program.
- Enrollment is determined by ***first-come-first served***. Post marked dates on the required application determine the order in which qualified students are accepted. If one of those selected does not accept by a certain date, the next person on the list is sent an acceptance letter. By rolling the list over from year to year, students are given more certainty of the year in which they will be allowed to enroll.
- A ***lottery*** is held to determine who is enrolled. If 24 seats exist for the program, 24 names are chosen randomly, and those applicants are sent acceptance letters asking them to respond affirmatively by a certain date. A negative or non-response removes the students from the list and more names are drawn from the hat and the process repeated until a full complement of students is obtained. Some colleges hold previous applications over for the following year and some require students to reapply. Even if old applications are retained, there is little predictability as to when a given student will actually be allowed to enroll. **This factor probably makes a lottery the least favored of these three choices.**

In addition to requiring justification for limitations on enrollment, Title 5 §58106 requires the Board of Trustees to act upon ***which*** non-evaluative enrollment method the college will use. This is typically just a general policy without the specifics of the procedures as discussed above.

Other Limitations on Enrollment

Section 58106 of Title 5 specifies that all courses shall be open to enrollment by any student who has been admitted to the college but allows the Board of Trustees, *by enacting specific policies and requiring fair and equitable procedures*, to limit enrollment in specific courses or programs by using:

1) prerequisites and corequisites;
2) health and safety considerations;
3) practical considerations such as facilities limitations, faculty workload and availability, and funding limitations;
4) registration systems such as first-come-first-served or a priority system within the constraints of §58108;
5) statutory, regulatory, or contractual requirements;
6) for intercollegiate competition, honors, or public performances courses, procedures allocating available seats to those judged must qualified; or
7) limiting enrollment in one or more sections of a course to a cohort of students, provided that no more than a reasonable number of sections are restricted.

The last three of these "other limitations" will be covered in the following categories: 1) performance courses (intercollegiate competition and public performances), 2) honors courses, 3) blocks of courses or sections, and 4) legal requirements (statutory, regulatory, or contractual). See the Model District Policy II.C. It should be pointed out that these are NOT prerequisites and are not subject to the levels of scrutiny described earlier in the paper.

Because curriculum is an academic and professional matter, the policies and procedures adopted by the Board to enact these four "other limitations" should be based on recommendations of the academic senate. (See the Model District Policy II.C.) It would be good practice for the academic senate to develop such policies with a campus-wide committee. Typically, this would be the senate's Educational Policy committee or other standing or ad hoc group. These policies should be passed as resolutions of the senate and sent to the Board as recommendations.

Performance courses may have limitations such as tryouts for intercollegiate athletic teams and auditions for courses involving public performance, e.g., band, orchestra, theater, competitive speech, chorus, journalism, and dance. The Model District Policy specifies that such limitations: 1) should not block student access to a degree or certificate, 2) should be reviewed during the regular six-year program review cycle, and 3) should not result in disproportionate impact on historically underrepresented groups.

For example, consider a Drama 1A course which contains a public performance of a stage play and, as a consequence, requires a successful audition for enrollment. This course cannot then be a requirement for an AA degree in drama. It could, however, be part of a list of restricted electives, any one of which must be taken to get the drama degree. In this way students who do not audition successfully have an option to take another

course to get a degree in drama. Note that it is not the audition itself which triggers these strictures but rather its use to limit enrollment. It could be that ALL students are allowed to enroll in the course and the audition is used to determine the roles within the performance. All must have an opportunity to benefit from instruction (§51006). All will get an equivalent experience, although some may do so in lead roles, others in supporting roles, and perhaps some through acting in front of the class rather than in the public performance.

The Model District Policy also specifies that the course outline list the degrees and certificates for which the performance course is a restricted elective and include the other courses the student has the option to take. In cases such as this, the program requirements are typically listed in the college catalog, so not a great deal of effort should be involved in gathering this information.

Performance courses must be reviewed on a regular six-year cycle to determine if the audition or try-out is still needed. The basis for the review is up to the faculty in that discipline. One of the considerations should be the impact on historically underrepresented groups. Model #12 in *Assessment Validation Project Local Research Options (February 1991)* gives an example of research methods to do this analysis. If bias is found, it may be possible to broaden the base of participation through recruiting efforts or better articulation with related programs in feeder high schools.

The "fair and equitable procedures" requirement of §58106 implies that students should be fully aware of the limitations on their enrollment. The course description in the catalog and schedule of classes should contain a statement such as "enrollment subject to audition; see page XXX" and the full information on the audition (date, time, place, skills assessed, etc.) should appear on page XXX or in another referenced publication easily accessible to students.

Honors courses, or sections of courses, if used to restrict enrollment as the other limitations in this section, must be enacted by Board policy (upon recommendation by the senate), usually as an "honors program." As with performance courses, honors courses cannot block student access to a degree and must be structured in a fair and equitable manner. The Model District Policy, however, does not specify any special program review or disproportionate impact studies for honors courses.

The criteria for enrollment in an honors program (really, its courses and sections) can be based on any fair and equitable criteria. Typically, students are expected to maintain a respectable GPA and continue in good status in the college. The catalog description of honors courses and the schedule of classes description of honors sections might be something like "enrollment limited to honors students; see page XXX." Again, page XXX or another readily available publication would tell students how to become part of the honors program. With this restriction, only those students identified by the college as part of the honors program--following the Board adopted policy--would be permitted to enroll in these courses and sections. A less restrictive process is to designate the courses or sections as "designed primarily for honors students; see page XXX." In this way, any

student is free to enroll. Honors students may be identified as a cohort of students and then enrolled as a group in the course, but any remaining seats can then be filled through regular enrollment. This type of honors program does not limit enrollment and so takes no special Board action.

Some honors courses are uniquely designed, but most are modifications of existing courses. To what extent does the curriculum in an honors course or section differ from the regular course or section? If it is the *section* of the course which is designated as honors, then the required student outcomes are the same as for all sections. The "honors" nature is justified by optional topics beyond those in the course outline and/or the stimulation offered by being among more talented students. If it is the *course* which is honors, then a unique course outline must be written and presented to the curriculum committee. It is NOT sufficient to just turn in the same outline as for History 17 and call it honors History 17H! Each course must meet a distinct need in the curriculum and must have a unique course outline of record. History 17H would be expected to have more advanced student outcomes, a broader and deeper content, more challenging assignments, more invigorating instructional methods, more rigorous grading, and/or an exceptional text and instructional materials. Creation of honors courses is not to be undertaken lightly. A good deal of planning is involved, particularly because the creation of such new courses means that they must be articulated separately from the base course.

Blocks of courses or sections are identified to create a cohort of students who will all enroll together in that set of classes. Again, limiting enrollment in such blocks of classes cannot create a barrier to attainment of degrees and certificates. It is specified by the Model District Policy that, if part of a restricted elective for a degree, course outlines of block-enrolled sections must list that degree and the other courses on the restricted elective list as options for students. Typically, cohorts of students are part of a special program such as GAIN, PACE, or Puente. As with the other limitations, restricting enrollment in courses or sections for the specific use of students in these programs requires Board action. There is no specification of special reviews or impact studies for block enrollment.

To maintain fair and equitable practices, courses or sections for block enrollment are identified in the catalog and/or schedule with language such as "enrollment limited to those in the Puente program; see page XXX" where the mentioned page lets students know how to become part of the Puente program. With such a limitation in place, just students in the specified cohort may enroll. A less restrictive approach might say "designed for students in the Puente program; see page XXX." The students in the cohort would be enrolled as a block, and then remaining seats could be filled through regular enrollment.

It may be that enrollment in certain courses is restricted because of ***statutory, regulatory, or contractual*** requirements. The Board policy in establishing such limitations need only cite the regulation or statute. Adoption by the board of a contract for an instructional agreement containing enrollment limitations is sufficient to put such contractual enrollment restrictions in place.

For example, Title 22, Section 101216(g)(3) of the California Code of Regulations, established by the state Department of Social Services, specifies that all those providing services in a child care facility--including volunteers doing so as part of a course--shall be in good health and shall pass a tuberculosis test.

> Title 22, California Code of Regulations: Division 12, Chapter 1
> Child Day Care General Licensing Requirements
> 101216 Personnel Requirements
> (g)(3) The good physical health of each volunteer who works in the facility shall be verified by:
> (A) A statement signed by each volunteer affirming that he/she is in good health.
> (B) A test for tuberculosis performed not more than one year prior to or seven days after initial presence in the facility.

A course such as "Early Childhood Development 12: Preschool Practicum" would then have a catalog description specifying "Enrollment limited to those in good physical health with TB clearance."

In another case, the college may have an instructional agreement with the county fire department to provide work experience training. The contract may specify the certificates such students should possess. A course such as "Fire Science 95: Work Experience" might then have a statement such as "Enrollment limited to those with a State Fire Fighter I Academy Certificate and an EMT Certificate." Note that courses designed for the employees of a particular public or private entity must still maintain open enrollment, Title 5 §58051 and 58051.5.

Again, these are NOT prerequisites. The only action required is that of the Board in citing appropriate laws or regulations or in accepting the terms of the contract. In its action the Board must specify the fair and equitable procedures to be used in implementing such limitations on enrollment. In approving outlines of record for such courses, the curriculum committee would merely record in its own minutes the citation of the applicable Board of Trustees minutes.

Strategies to Enforce Prerequisites

Prerequisites, by their very nature, assure that only students who have the necessary skills or knowledge are permitted to enroll in the target class. That notion is reinforced by Title 5 §55200(a): "'Prerequisite' means a condition of enrollment that a student is ***required to meet*** in order to demonstrate current readiness for enrollment in a course or educational program" (emphasis added). Thus colleges are required to develop mechanisms for enforcing enrollment blocks on students who do not have the stated prerequisites. The Model District Policy, Section I.E., says that such enforcement "must be done in some ***consistent*** manner and not left exclusively to the classroom instructor." It goes on to specify that "every attempt shall be made" to enforce such limitations ***prior*** to enrollment.

The most comprehensive method to enforce prerequisites is undoubtedly the use of ***computer checks***. Most colleges now have student historical records on file and the capacity to flag enrollment requests which do not meet prerequisite criteria. In most cases it is a matter of searching the historical file to ascertain if the student has taken the particular prerequisite course.

Some situations can be a bit more complex, however. A quite common occurrence is that of a student who has taken the prerequisite course at another institution. It is extremely important that students are notified of the prerequisite blocking system both in writing when they apply and during orientation. Particularly, students with course work at other colleges should have their records on hand--for a variety of reasons, just one of which is to have their transcript analyzed for course work equivalent to college prerequisites. Of course, this implies that the college has a mechanism in place to do transcript analysis and enter the results in the computer to remove the blocks. It is good practice for community colleges within each region to have agreed-upon comparability of courses, particularly in math and English. This comparability might be displayed, for example, in grid form as shown below. With such information close at hand, it becomes a relatively straight-forward clerical task to find the comparable courses on the transcript. Those doing such an analysis should have computer clearance to enter the appropriate codes to clear the blocks.

English Sequence Comparability Chart - City College				
City College	Lake College	River College	Valley College	Level
English 200A	English 98A	English 201	English 8	1
English 200B	English 98B	English 202	English 9	2
English 100A	English 99A	English 101	English 100A	3
English 100B	English 99B	English 102	English 100B	4
English 1A	English 100A	English 1A	English 101A	5
English 1B	English 100B	English 1B	English 101B	6

When an assessment process is used as a prerequisite, the placement result must be entered into the computer and accessed during the prerequisite check. In the case of math and English, many colleges establish a number for the "steps in the ladder" of the sequence. This allows the assessment recommendation to be entered with the same code as the corresponding course in the sequence. Comparable courses at other colleges can also be entered with that coding system. For example, student A might have placed into the English sequence by taking an assessment test which, combined with the college-approved multiple measures, led to a placement code of 4 (fourth step in the English sequence; see above chart). Student B started with the entry level English course at the

college and has now passed courses to earn the same placement code of 4. Student C took English courses at a neighboring college which were comparable to those at the present college to give the same placement code of 4. Student D challenged the prerequisite and demonstrated knowledge equivalent to a placement at level 4 of the English sequence. (See the next section for a discussion of student challenges.) By the way, these four options constitute the only legitimate ways to remove a prerequisite computer block. No one person, not a counselor, not the instructor of the course signing an add card, not the college president, can remove a waive a prerequisite. No one can allow a student to "walk by" a prerequisite.

Computer checks can be done on-line while the student is standing at the registration window. However, the extensive computer searching necessary can slow down the process considerably, for example, from 20 seconds or so to something like a minute or more. This may not seem like much, but when multiplied by the number of students registering, a considerable delay can result. When implementing such an on-line computer check system, it is prudent to budget for the hardware to produce a reasonable increase in computing speed and memory if processing time is anticipated to be a problem. Most colleges have put such systems in place gradually, testing the impact on the system and making adjustments accordingly. Because of the complex nature of the process, most colleges initially just use computer checks for a subset of courses, typically math, English, and ESL.

A common situation which arises when using computer blocks is the need to enroll students in the target course for the spring term while they are still in the midst of taking the prerequisite in the fall term. A common approach is to program the computer so that active enrollment in the prerequisite course also removes the block. Once grades are available, a computer run is done to identify those who did not succeed in the prerequisite course. Those students are involuntarily dropped from the course and sent a letter to that effect. It is imperative that students be warned of this consequence when enrolling. It will also change the students fee status, usually necessitating a refund. It is also a good idea to print out a roster of such involuntarily dropped students for use by the instructor of record. In this way, students who may mistakenly show up for class can be notified of the situation by the instructor.

An increasingly popular innovation is telephone registration. While programming prerequisite checks for on-line phone registration is certainly feasible, it is not often a high priority when instituting such a system. However, it is not unreasonable to plan for its addition to the system. Even without on-line blocks, the issue of prerequisite enforcement can still be addressed. It may be possible to trigger a recorded message when a student attempts to enroll in a course with a prerequisite. Depending on the approach favored by the college, the student could be instructed to come to the college in person to enroll in such classes or could be told that prerequisites will be checked at a later time, and, if found lacking, result in the student being involuntarily dropped.

An alternative for colleges with limited computer capacity--or limited staff resources to do the necessary programming--is to substitute ***batch runs at periods of low activity*** for on-line computer checks. It may be possible, for instance, to do a computer run each night to identify those who have enrolled without the necessary prerequisites. Those students are involuntarily dropped from the course and sent a letter to that effect. The disadvantage is that these students are no longer physically present to deal with the consequences: choosing a more appropriate class, paying the correct fee for the adjusted units, and so forth. It therefore becomes essential for the college to provide students with accessible information and adequate warning of the outcome of enrolling in a course for which they do not have the prerequisite. Those students will be involuntarily dropped from the course, may need to choose a more appropriate class, and will have to request a refund of fees.

Less effectively, a computer run could be done at the time rosters are printed, involuntarily dropping students who do not have the prerequisite, sending a letter to those involved, and printing a list of such students for each class affected to be sent to the instructor of record.

Non-automated prerequisite checks are allowed as long as they are applied consistently. Each student entering a given course should be checked for prerequisites in the same manner. Probably the most common non-computer method in use is that of ***roster checking***. In this method the instructor checks the printed roster against a record of those students who have met the prerequisite. Those who do not are identified and informed by the instructor on the first day of class. If this system is to work effectively, the college must provide a reliable record of students who are qualified for courses with prerequisites. Several examples may help to illustrate the point. College A has a complete historical data base of student grades but no automated computer blocking mechanism. Instructors teaching classes with prerequisites, do, however, have access to the system and can query the data base as to whether or not students on their roster have met the prerequisite. (In this example, instructors have a "right to know" because they are enforcing the college policy on prerequisites.) College B maintains a data base of English course grades and assessment results in the division office. Students are required to get a print out authorizing their enrollment in the appropriate English class and present that print out at registration. College C also maintains an English data base in the division office but makes it available only to English instructors for roster checks. College D has a "paper data base" consisting of an alphabetical print out of students who have either taken English or the assessment and the appropriate placement level. College E has a paper data base that consists of photocopies of past student grades and assessment results. Instructors must leaf through these to ascertain the prerequisite status of their students. As you can tell, examples A to E vary from the more to the less technological and so also gradually become less consistent and place a greater burden on the classroom instructor. Such departmental or divisional roster checks tread perilously close to violating the Model District Policy statement that prerequisite enforcement be "not left exclusively to the classroom instructor." They also do not follow the Model District Policy guideline that "every effort be made" to check prerequisites prior to enrollment. More than that, instructors checks allow

the instructor access to the level of preparation of the individual students. This opens the instructor--and the college--to claims of prejudicial or discriminatory behavior if this information is used to the detriment of the student. They do, however, meet the letter of the regulation, Title 5 §55202(g).

> The determination of whether a student meets a prerequisite shall be made prior to his or her enrollment in the course requiring the prerequisite, provided, however, that enrollment may be permitted pending verification that the student has met the prerequisite or corequisite. If the verification shows that the student has failed to meet the prerequisite, the student may be involuntarily dropped from the course if the applicable enrollment fees are promptly refunded . . . .

Student Challenges

The Board policy on prerequisites must include the bases and process for an student to ***challenge*** a prerequisite [Title 5 §55201(b)(4)]. The grounds for a student to challenge a prerequisite are set forth in Title 5 §55201(f): 1) the prerequisite has not been established following the district's policy; 2) the prerequisite has not been established in accord with Title 5; 3) the prerequisite is discriminatory or applied in a discriminatory manner; 4) the student can demonstrate knowledge equivalent to the prerequisite; and 5) the student progress is unduly delayed because the prerequisite course is not reasonably available. The regulation points out that "the student shall bear the initial burden of showing that grounds exist for the challenge." The college will resolve the challenge in a "timely manner" and, if the challenge is upheld, allow the student to enroll in the class. The Model District Policy, in section I.B.1., specifies that the challenge be resolved within 5 days and that a seat in the class, if available, be held for the student for that time. The Model District Policy also states that the evaluation of equivalent knowledge be done by a faculty member in the discipline but, if possible, not by the instructor of the section of the course into which the student is attempting to enroll. The Policy also states that, when an appeal is decided by a single person rather than a committee, the student be given the right to an appeal.

Most colleges have met the requirement for a student challenge process with 1) a Board policy, 2) a detailed process, and 3) a form for the student to initiate the process. Adequate information about the challenge process must be in the catalog and schedule of classes. It is good practice to publish the information in the student handbook, or any other such written material, and to present the concept of prerequisites and the student right to challenge during orientation. It is NOT good practice to just hand students a challenge form. This is a complex issue which is best covered by a one-on-one discussion with a competent staff member. Many times students pursue the challenge because they are uninformed about the prerequisite process, and a bit of sensible conversation can settle the matter without initiating a time-consuming paper process. It is a good idea to have the contact staff person be in an accessible office. Commonly, students are asked to go to the matriculation office or to the appropriate division office.

The majority of challenges cite equivalent knowledge as the basis. In these cases the form and attached documentation are reviewed by a faculty member who teaches the course which has the prerequisite being challenged. Because such challenges often occur during registration periods when classes are not in session, it is important for the office where the student made first contact to get in touch with the appropriate faculty member as soon as possible. Most instructors recognize the importance of having qualified students in their classes and are more than willing to take the time to drop by the college and go over the documentation. Some areas where challenges are common, such as English, might want to form a committee to become well aware of the process and to stand available to review challenges.

The "timely manner" required in Title 5 to settle the challenge is refined to "five working days" by the Model District Policy. Many colleges also require the challenge to be filed before the first day of class. If the challenge is filed later than that, or there is no space available in the class, the challenge establishes the student's eligibility to enroll in the course for the next term.

In evaluating equivalent knowledge, instructors must be consistent in applying standards. For example, a common challenge on equivalent knowledge is that of a computer science sequence for which a student submits materials related to work experience in the field. If one student is judged to have met the prerequisite by being an experienced programmer, the next such challenger must also. It is good practice for discipline faculty to have a written description of the kind of evidence which has been accepted as precedent for establishing equivalent knowledge. It may even be possible for the person first contacted by the student to relate the substance of this past practice to the student to aid in the preparation of documentation.

A note of caution is appropriate here. Granting a student request to waive a prerequisite on the basis of equivalent knowledge does NOT give the student academic credit for that course. For example, a student may be allowed to enroll in French 3 by demonstrating knowledge equivalent to French 2, but no credit for French 2 will be granted. If the students needs credit for French 2, to meet degree or transfer requirements for example, it might be more appropriate to advise the student to pursue the college's credit by examination process. If successful, French 2 would appear on the student's transcript with the appropriate units AND the student would also meet the prerequisite for French 3.

When more than one faculty member is not available to review a challenge, the student has the right to an appeal. This may be a subsequent review by another faculty member on a content basis or by an administrator on a process basis. It is good practice for the instructor(s) doing the review to not be the instructor of record for the section of the course into which the student is asking to be placed. When this is not possible, it is a good idea for the initial contact person to remove any references to the identity of the student.

If measures such as these are not taken, a situation may develop in which the student feels that knowledge about the challenge is being used in a prejudicial or discriminatory manner by the instructor in the class. Where possible, routine practices should remove even the possibility of discrimination.

Implementation Strategies for Reviewing Prerequisites

This section will address various ways which colleges have found to be effective in putting the prerequisite requirements into place. At this point in time, colleges are at various stages of implementation and not all of this will be relevant to each situation. Even if your college is well into the prerequisite process, some of the discussion of the early stages may give you hints for improvement.

If a college has not initiated a comprehensive plan to meet the standards, a ***prerequisite team*** should be considered to do the work needed. Listed below are some key functions of those who might be on the team.

- Faculty Curriculum Committee Chair or Co-chair
  Because the institution of prerequisites, corequisites, and advisories requires Curriculum Committee review and changes in the course outline of record, the role of the committee chair is central.
- Chief Instructional Officer (or administrator charged with curriculum support)
  Institutional support for the prerequisite process is essential. Advancement of the needed policies, assignment of classified staff and reassigned time for faculty to do the work requires administrative support. Changes in the catalog and schedule are substantive and need administrative coordination.
- Matriculation Coordinator
  Prerequisites affect the implementation of almost all of the other seven components of matriculation. In addition, the strategies developed for implementation of prerequisites must be included in the matriculation plan. In areas where deviations from the Model District Policy are sought, the coordinator can work with the Chancellor's Office to obtain approval. Prerequisite compliance is maintained through the matriculation site visit process for which the matriculation coordinator is the point person.
- Institutional Researcher
  Prerequisites require both a content review and a data collection process, areas of expertise of the institutional researcher. Assessment validation, also a function of the researcher, is required before placement results can be used as prerequisites.
- Counseling Professional (dean of counseling or a counseling faculty member)
  Coordination with student services is key for components such as orientation, multiple measures and student rights.

- Management Information Systems (MIS) Professional
  Computer blocks are an efficient tool for prerequisite enforcement and require good understanding of the prerequisite process on the part of those setting up the system.

After the team becomes well informed about the Title 5 regulations and the Model District Policy, a ***Board Policy*** should be constructed. Section 55201(b) gives the minimum areas such a policy should address:

- a process for establishing prerequisites, corequisites, and advisories, such process to require that the prerequisite or corequisite be "necessary and appropriate for achieving the purpose for which it is being established;"
- specification of the level of scrutiny to be applied, minimally a content review and specifically data collection and analysis for communication and computation skills used as prerequisites or corequisites;
- procedures to assure that courses with prerequisites or corequisites are taught to the course outline; and
- a process for review at least every six years.

The next step is typically ***identification of the prerequisites, corequisites, advisories, and other limitations on enrollment currently in use***, that is, listed in the catalog. Because colleges have been given six years (through November 4, 1999) to review legally established prerequisites (see the list below), it is not necessary to immediately toss out the entire collection of prerequisites. Those which do not meet Title 5 standards should be removed, as well as those approved subsequent to the effective date of the new regulations (October 1, 1993) which were not reviewed in accord with the new regulations. Those which were "grand parented" and so do not need to be reviewed until November 4, 1999 are specified in Title 5 §55201(d) as:

1) those established before July 6, 1990, and are part of a sequence of degree-applicable courses within a discipline; or
2) those established between 7/6/90 and 10/1/93 which met the requirements of the regulations at the time; or
3) those required by statute or regulation; or
4) those part of a lab-lecture corequisite pair; or
5) those required by four year institutions.

The result will be two lists: those which will immediately be removed from the catalog and not enforced and those which can stay in place but will require review within six years.

It may also be that, in the joint opinion of discipline faculty and the curriculum committee, ***some prerequisites are not really needed***. It is a good idea to send out the list of prerequisites which will need to be reviewed to the faculty with a recommendation that they consider which among them should be continued and undergo the new review process. By responding in writing to the curriculum committee stating those prerequisites which can be dropped and those which can be converted to advisories, the committee can act to refine the current needs of the college in terms of prerequisites needed to maintain

academic standards in its courses and programs. The result will be a refined, and most likely significantly reduced, list of prerequisites, corequisites, advisories, and other limitations which will need to be reviewed.

In reviewing the need for prerequisites, the discipline faculty and the curriculum committee should consider the available ***alternatives to prerequisites***. It may be that student success can be enhanced without the need to limit access through prerequisites. Faculty may wish to enrich those portions of the course content which are taught early in the term and serve to provide foundation skills for learning material taught subsequently. Many of us realize that student success is not just dependent on previous skills but is connected to a whole host of characteristics including study skills particular to the subject, access to study time and place, and an encouraging atmosphere both in the classroom and outside. As a result, many of us have instituted practices such as tutorials, study groups, math/writing/you-name-it labs, review sessions, mastery learning styles, classroom research, and so on. It may very well be that, through dedication to these techniques, students who enter our courses poorly prepared can nonetheless finish them having achieved the stated student outcomes.

While this initial refining of needed prerequisites is occurring, the team can work on ***setting up policies and procedures*** for the process. These include:

- content review;
- data collection and analysis;
- student challenges;
- health and safety;
- program prerequisites and enrollment practices;
- other limitations: performance, honors, and block enrolled courses; and
- identifying regulatory, statutory, or contractual limitations.

Many colleges find it useful to design forms for each of these functions and to gather the procedures and forms into a "prerequisite guide" to assist faculty in the process. Consideration of the methods of enforcement to be used for prerequisites should take place at this time as well.

Of course, not all of these policies can be put in effect immediately and not all prerequisites can be reviewed at once. Priority should first be given to stopping illegal practices. Then a ***time line*** should be developed to accomplish full implementation by 7/1/00. Because so many of these college practices interact, some pieces must be in place before others. Most colleges have a validated set of assessment practices for math, English, and ESL. For those who do not, this is an urgent need before prerequisites in those areas are realistic. For example, imposing for intermediate algebra an enrollment block on those students who have not passed beginning algebra, without the option of placing into the course through assessment, would require every new student to begin at the bottom of the math ladder! A second early priority in the time line should be the

enforcement mechanism. If resources are not available to begin on-line computer blocks in the near future, provisional strategies should be employed. It is significant to note that, in order to have prerequisites, the college must meet the regulatory imperative to provide an enforcement mechanism.

As colleges begin to apply the appropriate levels of scrutiny, content review and UC/CSU equivalency are generally found to be easiest to do first. Targeting those courses which have prerequisites which need data collection and analysis will give the researcher an opportunity to create a priority list to accomplish the reviews by the 7/1/00 deadline. The most profound revisions generally are perceived to be those associated with bringing the prerequisite practices of programs, such as nursing and dental hygiene, into line with the new regulations.

As new courses and modifications of existing courses come before the curriculum committee, the prerequisite team can provide guidance in identifying ***courses for which the curriculum committee should require new prerequisites***. One of the responsibilities of the curriculum committee, under Title 5 §55002(a)(2)(D) is to determine when a prerequisite or a corequisite shall be required. If, for example, a philosophy course outline requires extensive essays and research papers, it would be reasonable for the curriculum committee to discuss with the originating faculty the need for an English prerequisite. However, options to address this perceived need are still open to the faculty. They include 1) teaching the skills within the course itself, such as instituting a unit on writing a research paper for the social sciences; 2) providing necessary support such as tutorials, special reviews, access to the writing lab, or even block enrollment in an English course, so that students can achieve the expected outcomes even without a high level of previously acquired skills; and 3) reducing the level of expectation in the course to the point that students would not be highly unlikely to succeed without the prerequisite. (This latter option is the least attractive, resulting in a lowering of course standards.) If the course remains at a level that the curriculum committee continues to see as needing prerequisite skills, this decision would initiate the appropriate level of scrutiny to ascertain whether or not, indeed, the committee's perceptions are supported by that scrutiny. In the above philosophy course example, an historical look-back study may show that students have been succeeding in the course even without specified English skills. In other words, the research outcome would determine if the prerequisite was imposed.

Once established prerequisites must be reviewed every six years. Advisories must be reviewed on a regular basis as well. Colleges usually have an existing program review process designed to meet the needs of accreditation standards. It is usually straightforward to combine ***prerequisite review and program review***. The basis of the prerequisite review, as stated in the Model District Policy I.D., is "to establish that each is still supported by the faculty in the discipline or department and by the curriculum committee and is still in compliance with all other provisions of this policy and with the law."

Teaching to the Course Outline

One of the required features of the Board Policy on prerequisites is a formal process to assure that courses with prerequisites are taught in accord with the course outline. Actually, Title 5 has contained a requirement to teach to the course outline for some time. The recently amended prerequisite regulations have added the requirement for a formal agreement to teach to the course outline standards used to justify the prerequisites. The two Title 5 citations are:

> 55201(a)(4) Conduct of Course. Each section of the course is to be taught by a qualified instructor in accordance with a set of objectives and with other specifications defined in the course outline of record.
>
> 55201(b)(2) Procedures to assure that courses for which prerequisites or corequisites are established will be taught in accordance with the course outline, particularly those aspects of the course outline that are the basis for justifying the establishment of the prerequisite or corequisite.

Considering that approaches such as making every such instructor sign a written oath would be quite onerous, a viable option is to insert a requirement to teach to the course outline in the bargaining agreement. This also establishes teaching to the course outline as a contractual standard so that its adequacy can be determined during faculty ***peer review***.

A strong college commitment to the standards in the course outline is a must. Discipline instructors are the originators of the course outlines of record and the prerequisite skills included in them. Research has shown that ***instructor variability*** is usually a major factor in determining student success. [See Design #21 in *Matriculation Evaluation: Phase III Local Research Options (June 1992)*]. It is not unreasonable that each instructor covers, at a minimum, the content specified in the course outline and ensures that students achieve the stated outcomes. Instructors are free to use methods and assignments within the scope of the types and examples given in the outline, but strict adherence to the minimum standards of content and student outcomes is imperative. It is particularly important that new instructors, both full and part time, receive full institutional support in understanding these standards and achieving them.

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Prepared by The Academic Senate for California Community Colleges

DISCLAIMER

The answers given here do not carry any legal standing in the interpretation of statute or regulation. The purpose of this document is to raise issues of concern to the field and explore possible implementation strategies to solve them. This document does not set new policy or recommend changes to existing policy, regulation, or statute.

Prerequisite Questions and Answers from the Field
1995-96

1. *Critical Thinking English 1 Prerequisite; Extending the Review Period Beyond 7/1/96 for Prerequisites Established from 7/4/90 to 11/4/93.*

Our Philosophy 11 Critical Thinking course is approved to meet IGETC with a prerequisite of English 1 (which is required by the transfer institutions). The course was approved by our curriculum committee in 1992 which means we can't keep the prerequisite without validation before July 1, 1996. So, we remove the prerequisite for this year to collect data and validate the prerequisite. We are not sure that this is enough time to get reasonable data. Is there a way we can extend the research period? Does this time without the prerequisite affect the transferability of the course?

You are in a "Catch 22" situation. The Model District Policy says "Prerequisites or corequisites established between July 6, 1990, and October 31, 1993, shall be reviewed by July 1, 1996." IGETC requires the English 1 prerequisite to continue in place.

Here is a suggestion. The "by July 1, 1996" restriction is in the Model District Policy but not in Title 5. [Read §55201(b) and (d).] By Title 5 you have up to six years to do the review (interpreted to extend through November 4, 1999). To deviate from the Model District Policy you need Chancellor's Office approval. This should be no problem for your situation. Write a letter to the Chancellor's Office explaining the details and requesting permission to keep the prerequisite in place while you are doing your research for a time period not to extend beyond November 4, 1999. This deviation from the Model District Policy should also appear in your Matriculation Plan Update which was filed with the Chancellor's Office in October. Include an addendum to your letter with the modified plan update.

2. *Enforcement of Prerequisites: Enforcement After Registration*

   a. **I read Section 55202(g) to mean that we are to enforce all legally established prerequisites at the time of registration. I understand the Title 5 section to provide for an enrollment in a spring term class, for example, where the student is currently enrolled in the prerequisite course during the fall term and the registration activity for spring is taking place in fall. My copy of Title 5 indicates that this section was operative 11/4/93. Do I correctly conclude that as of that time we should have been enforcing prerequisites prior to enrollment?**

   b. **If we are still not enforcing the prerequisites at the time of registration, what is the penalty for failing to do so?**

With regard to 55202(g) requiring prerequisites to be enforced prior to registration, the citation goes on to say, "provided, however, that enrollment may be permitted pending verification that the student has met the prerequisite or corequisite. If the verification shows that the student has failed to meet the prerequisite, the student may be involuntarily dropped from the course if the applicable enrollment fees are promptly refunded." This means that

you can enroll the student and THEN verify whether or not the student has the prerequisite. This "pending" status applies to the case you cite, enrollment for a spring class before the prerequisite class has been completed in the fall term. (It would also apply to any other case in which determination of the prerequisite status was uncertain, such as the verification of a course taken elsewhere, as you mention you are studying.) Good practice at many colleges has been to enroll the student, then, when grades are entered for the fall term, do a computer run to find those who did not pass the prerequisite class. These students are then retroactively dropped and their fees refunded. Good practice is to accomplish this before the first day of the spring term and notify the student by mail. Also, a special "roster run" can be done and given to the instructors to let them know which students on their enrollment roster did not meet the prerequisite the previous term and are not then officially in their class (in case they do show up). This lets instructors know how many open seats they may have to fill.

You asked about the "penalty for failing to do so." Two issues arise. First, one of the grounds for challenge of a prerequisite is "the prerequisite is in violation of this Article" [55201(f)(2)]. If you are not following the prerequisite regulations, this could be the basis for a student challenging your whole process. Second, in previous years and again next year, the matriculation site visits will check on the college's prerequisite policies, procedures, and implementation. Problems will be noted in the recommendations and the college will be expected to remedy the situation. In the past, serious violations have threatened the college's matriculation allocation.

3. ***Enforcement of Prerequisites: Delays on Complete Enforcement; Use of Pilots***

We are positioned administratively to enforce the prerequisites as of fall 1996, however, several faculty prefer to delay until spring term 1997 as they want more time to prepare a process by which we could establish equivalent courses. No one knows how many of our 24,000 plus students will ask to have a transcript evaluated before registration because they have taken a course at another college and want to use that to satisfy a prerequisite to one of our courses. Can we delay?

Some in the work group have asked if we could conduct a pilot project by selectively enforcing prerequisites in several departments at the time of registration. The purpose would be to test the administrative and computing processes designed to grant equivalencies and block registration in the computer for those students who do not meet the established prerequisite. Can we legally conduct a pilot project?

I am also reading section 58108 regarding registration and enrollment procedures and noticed lead sentence mentions procedures for registration being "uniformly administered." Does a pilot project violate that provision?

Can we enforce corequisite requirements as a pilot project? The thinking here is that in those circumstances where two courses must genuinely be taken at the same time, the student will not be asking for an equivalency.

Can you delay your implementation plans? As you point out, technically the regulations went into effect on 11/4/93. To the extent that any of us have not followed them, we have been in violation. Procedurally, the Chancellor's Office gave colleges until the next matriculation plan update, 10/21/94, to have prerequisite policies and procedures in place, including enforcement. You must have SOME enforcement mechanism in place for each of your prerequisites or take them out of the catalog.

You may use "pilot projects" to try out various means of prerequisite enforcement, and you are right that uniformity and consistency are required. However, this applies to the consistency of the process from student to student. The enforcement of prerequisites in English, for example, must treat all English students uniformly as must the mechanism for enforcement of prerequisites in physics be consistent in treating all physics students in the same manner. But the English and physics enforcement methods need not be the same. Many colleges started computer blocking of enrollment in only certain areas, most commonly math and English. At the same time you could use some other method for Physics 1A as a prerequisite to Physics 1B such as a retroactive computer run like the fall-to-spring situation.

The possibility of using computer blocks for corequisites does look quite clean. The only caution may be that sometimes a student may drop one of the corequisite courses and your computer system would have to flag the other corequisite to be dropped as well.

4. ***Review of Prerequisites Established Prior to July 6, 1990***

If a prerequisite was in place prior to 1990 and if the course is degree applicable and is in a sequence of courses, can it remain in place until 1999? If it is to continue after 1999, must it be validated?

Prerequisites legally in place on July 6, 1990, which have remained legally in place since then, may continue to be enforced until reviewed prior to November 4, 1999 (six year review).

5. ***Review of Prerequisites Established Between July 6, 1990 and October 4, 1993***

If a course has a cross-discipline prerequisite and was put in place by a Board approved policy between July 7, 1990 and September, 1993, can the prerequisite be enforced until the next scheduled review? If it was not put in place by a Board-established policy, must it be scrutinized before it can be used?

If a prerequisite was legally established between July 6, 1990, and October 4, 1993, it may continue to be enforced until reviewed prior to July 1, 1996 (two year review).

6. *Removal of Prerequisites from the Catalog When Review Time lines are Not Met*

When must all prerequisites, corequisites and advisories be in the catalog? If prerequisites, corequisites and advisories are not done by certain dates (timeline) would they be removed from our catalogs?

The current Title 5 regulations on prerequisites became effective in October of 1993. Catalogs and schedules of classes were required be in compliance as of that date. Colleges were required to submit and updated matriculation plan (section 8 on prerequisites) by October of 1994. If you have prerequisite, corequisites, or advisories which do not meet the regulatory requirements, remove them immediately. Be sure that all newly approved prerequisites, corequisites, and advisories are approved by your curriculum committee and board in a timely manner allowing for their publication in both the catalog and schedule of classes. If you do not present this information in your schedule and catalog, you are in violation of Title 5 §55202(a)

7. *Time lines for Reviewing Prerequisites*

If prerequisites and corequisites have not been approved by September or October of 1996, must we remove all pre-corequisites from the catalog?
Please give the curriculum committee the timeline for course approval for:
Courses approved October 31, 1993 to present,
Courses approved from July 1990 to October 1993, and
Courses approved before July 1990.

No. You do not have to remove ALL prerequisites if you have not done the required approvals by October of 1996. As you point out above, the deadline for such approvals depends on when the prerequisite was legally established (and assumes that it has continued to be legal).

Courses approved October 31, 1993, to present must have met the approval standards (as they now exist) when they were considered and cannot be in place without meeting those standards. So, if you approved any pre/co/advisory/limitations after 10/31/93 without doing the appropriate scrutiny, remove them from your catalog and stop using them immediately. Courses approved from July 1990 to October 1993 must be reviewed to meet the appropriate level of scrutiny before July 1, 1996 [Model District Policy ID, but not in Title 5]. So, if you haven't done the review by now, stop using them and take them out of your catalog. This also assumes that you DID meet the regulations which were in place as of July 1990. If you did not legally approve these pre/co/advisories under these regulations, you cannot continue to use them.

Courses approved before July 1990. Again, you must have approved these as legal under the old regulations AND they must have remained legal under the July 1990 regulations. If so, you have six years to do the review according to the appropriate level of scrutiny [Model District Policy ID AND Title 5 §55201(b)(3)]. A question not directly answered by either the Model District Policy or Title 5 is the beginning and ending dates for this six year review

period. Through discussion with Chancellor's Office personnel, it has been agreed that the ending point is November 4, 1999 (six years from the date the regulation change became effective).

8. *Curriculum Committee Action to Require a Prerequisite*

Our curriculum committee reviewed a recently revised course outline for a transferrable social science course which was submitted without an English prerequisite but clearly needed one. We conditionally approved the course, specifying an English 1A prerequisite. Now we are getting flack from the social science faculty. What do we do?

If the curriculum committee under Title 5 §55002(a)(2)(D) "determines, based on a review of the course outline of record, that a student would be highly unlikely to receive a satisfactory grade unless the student has knowledge or skills not taught in the course, then the course shall require prerequisites or corequisites...." One of the approaches that might help in this situation is to present options to the originating faculty. At least three choices present themselves: 1) the prerequisite, 2) modifying the outline to teach the essential skills within the course itself (such as adding a unit on "writing research papers in the social sciences"), and 3) modifying the course outline to reduce the required skills to the point that the prerequisite is no longer needed (the least effective choice because it entails lowering standards). Either of the two "modification" options could be done to the point that the prerequisite can be replaced by an advisory. If the prerequisite remains the option of choice, the written response to the originating faculty should explain the process for establishing the prerequisite and offer specific assistance.

9. *Chancellor's Office Role in Prerequisite Approval*

Do prerequisites have to be approved by the Chancellor's Office or does or curriculum committee do the actual approval?

Prerequisites must be approved by the curriculum committee and should be presented, with appropriate documentation, by the discipline faculty following procedures approved by the curriculum committee and the academic senate under Title 5 §53200-204, collegial consultation.

10. *Prerequisites as "Upper Limits" on Skills and Knowledge*

Is it permissible to have a skill limitation as a prerequisite?

By "skill limitation" it is assumed you mean placing an upper limit on the skill, something such as "cannot type faster than 25 W.A.M." This would not be permissible. Prerequisites are based on establishing that "a student would be highly unlikely to receive a satisfactory grade unless the student has knowledge or skills not taught in the course" [Title 5 §55002(a)(2)(D)]

11. *Role of a Prerequisite Subcommittee*

It is my understanding that the prerequisite, corequisite and advisory subcommittee charge was to read and understand Title 5 regulations and create forms that could be utilized on our campus. It was also our charge as a subcommittee to give workshops on prerequisites, corequisite and advisories to inform faculty, etc. Who should be designated and/or responsible on campus when you have questions about prerequisites, corequisite and advisories, specifically on Title 5 regulations? In addition, please explain the hierarchy of responsibility for matriculation as it relates to prerequisite, corequisite and advisory implementation.

Since you have a committee working on prerequisites, it would be reasonable that these individuals be the primary resource for questions regarding prerequisites. This topic bridges both student services and instruction, so it would be reasonable to have members with broad expertise: counselors, instructors, articulation officer, researcher, etc. Your subcommittee should make regular reports both to the curriculum committee and to the matriculation advisory committee. The key leaders in this effort should be the matriculation coordinator and the curriculum committee chair and administratively the chief student services officer and the chief instructional officer. The Chancellor's Office monitors compliance with the prerequisite regulations through your matriculation plan and your annual progress reports and through matriculation site visits and audits. The Matriculation Progress and Expenditure Report is filed each October and is signed by the CEO, matriculation coordinator, and academic senate president.

12. *Role of Matriculation Coordinator in Prerequisites*

What is the role of the matriculation coordinator as it relates to Title 5 prerequisites, corequisite and advisories?

The matriculation coordinator is responsible for implementation of the college matriculation plan as well as keeping that plan current. The requirements for the plan are summarized in the document Matriculation Standards (available from the Chancellor's Office). Component 8 covers prerequisites, corequisites, and advisories on recommended preparation. It is expected that the matriculation coordinator works closely with everyone in the college to assure that the prerequisite standards are met. In addition, prerequisites are an academic and professional matter requiring collegial consultation between the academic senate and the board of trustees. Your local shared governance policies and procedures should address the specifics regarding how recommendations on prerequisite policies are developed and approved by the academic senate for presentation to the board.

13. *Role of a Prerequisite Subcommittee*

What is the role of the prerequisite subcommittee?

The initial role of the committee would be to set up the pre/co/advisory process at the college, including board policies, committee procedures, forms, etc. Any policies or

procedures developed (content review policy, data collection and analysis procedure, etc.) should be approved by the academic senate. In addition, the subcommittee should be a resource to those developing and reviewing prerequisites: doing presentations, holding workshops, etc. Finally, the subcommittee should do a pre-review of course outline proposals to assure that pre/co/advisory policies and procedures have been followed before the course outline comes to the full curriculum committee for approval.

14. ***Physical and Learning Disabilities as Prerequisites***

For Physical Education 642 (Adapted Fitness) is it permissible to have as a pre-corequisite: "Recommended verification of physical or learning disability or motor problems?"

This question brings up several issues. First, "recommended verification" implies that you are just giving advice to the student, and, as such, this would be an advisory for recommended preparation, not a pre- or corequisite. (As such, it could be established only by a content review of the entry skills for the course compared with skills assessed in the verification.)

Second, assuming that the intention is to limit enrollment to those with a verified physical or learning disability, such a prerequisite would not be permissible. An option which might meet your needs is to create a cohort of such students and enroll them as a group in the course. First, through your Disabled Students Programs and Services office, students have access to such verification or a process by which external verification can be certified. Students do not have to be recipients of DSPS services (that is, part of the DSPS program) to have such a verification accomplished. In this way you have created a cohort of students which can then be block enrolled in PE 642. As such, this is a limitation on enrollment, not a prerequisite. See Model District Policy II.C.3 and §58106. The catalog statement would then read, "Intended for those with verified physical or learning disabilities or motor problems (see page XXX)." On page XXX of the catalog and schedule of classes you would describe the verification process. Coming under §58106, these policies and procedures should be passed by the board of trustees. My guess is that your DSPS board policies already cover much of this.

In response to an inquiry as to whether special classes for students with disabilities may be closed to nondisabled students (as in establishing the prerequisite you mention), the Chancellor's Office rendered the following legal opinion (L 90-13, 4/23/90):

> Special classes authorized under Education Code Section 78440 and those in state hospitals may be claimed for apportionment funding even if they are not open to all students. Nevertheless, nondiscrimination requirements and DSP&S program regulations would seem to prohibit closing special classes unless the college can clearly demonstrate that the presence of nondisabled students would preclude or substantially interfere with the education of the disabled students.

Thus you may designate courses such as the one you describe as *intended* for those with verified disabilities and enroll such a cohort as a group, but you may not establish a prerequisite which prohibits the enrollment of nondisabled students.

15. ***Documentation of Prerequisite Skills Within the Course Outline of Record***

The entry skills of a course indicated the following:
Upon entering the course the student should be able to:
Apply the principles of critical thinking to identify, analyze, and evaluate simple college level readings. Is "simple college level readings" appropriate language? Should a grade level be assigned, such as 10th, 11th, 12th or 13th?

The detail of your content review process, at least to the degree your question poses, is certainly a local matter, so the following should just be considered opinion. Content review requires specific skills without which a student is highly unlikely to succeed. These skills must be stated with enough specificity for the curriculum committee to judge their appropriateness and with enough specificity to be able to demonstrate a match with student outcomes (exit skills) in the suggested prerequisite class. Consequently, "simple college level readings" is not appropriate language. Similarly, specification of a grade level is inappropriate. The prerequisite skills must be stated in the same language as student outcomes: active, behavioral objectives. What particular, individual skills comprise "simple college level reading?"

16. ***Criteria for Data Collection and Analysis: Use of Student Self-Assessment and Instructor Assessment of Students' Readiness***

When doing data collection and analysis, if all the students in Philosophy 11 say "yes, we need English 1 as a prerequisite" is that enough? How is a faculty member's appraisal of students' readiness different from "instructor consent" and how is it established?

To use "student self-assessment" for the success criterion, ask students if they felt they were well prepared for the course. To validate the prerequisite there should be a statistically significant difference between those who had the prerequisite and those that did not. That is, those who had the prerequisite felt that they were well prepared for the course to a much greater extent than those who did not have the prerequisite. The statistical parameters to determine the validity of this correlation should be spelled out in the research design for the prerequisite study following your college's procedure on prerequisite data collection and analysis.

A similar research design is used for "instructor's assessment of student readiness." Typically, about one-third of the way into the course, you survey instructors (for example, on a 1 to 5 scale) regarding student readiness. Instructors must not have access to knowledge about student preparation for this to be valid. The results must show a statistically significant difference between those with and without the prerequisite.

17. *Reading Level as a Prerequisite: Content Review plus Data Collection and Analysis*

How do we do content review for a reading level as a prerequisite?

First, your college should have a policy and procedure for doing content review. This should be recommended by the curriculum committee and matriculation advisory committee and approved by the senate. Several colleges have good models including LA City and Chabot. Second, content review is done by discipline faculty reviewing their materials (texts, assignments, etc.) To establish skills (in this case, reading skills) without which the student would be highly unlikely to succeed (in the professional opinion of instructors in the discipline). Then, once these skills are agreed upon, an appropriate course and/or assessment process should be identified by which the college can determine whether or not the student has these skills. For reading, a communication skill, the content review would be followed by the highest level of scrutiny, data collection and analysis. Your college should have a local procedure specifying how the research design for data collection and analysis is to be developed for each study done (following the general guidelines in the Model District Policy). This procedure should be developed jointly among the curriculum committee, matriculation committee, and whatever committee advises on research activities--and then passed by written resolution of the senate. Chabot and Bakersfield both have good prerequisite research design procedures.

18. *Possibility of Content Review Only for Math as a Prerequisite to Chemistry and Physics*

Regarding validating prerequisites, some of our physics and chemistry courses which are heavily math-oriented are not part of an established math sequence. However, because they are so math-oriented, would it be possible to do a thoroughly documented content review instead of the highest level of scrutiny for these courses? The argument is that the content is so closely related that a thorough content review could establish the necessity of the math prerequisite for the physics or chemistry course. Is that a possibility?

Regular chemistry and physics courses are not "computational courses in a sequence" as mentioned in Title 5. Their content is science, not math. They are dependent on students having computational skills BEFORE taking the class. As such, math prerequisites for physics and chemistry courses require the highest level of scrutiny: data collection and analysis.

19. *English Literature Courses as Part of the Communication Skills Sequence*

Can the English department do a documented content review to validate the necessity for the communication course (English 1) as a prerequisite to higher level literature courses?

Title 5 allows documented content review as sufficient grounds to establish a prerequisite in a "communication skill sequence." Can English 1 be justified as a prerequisite for English 2 (literature) using documented content review alone? That would depend on the college's

determination of whether or not English 2 is a "communication skill" course (which is a local decision). Most colleges consider communication skills to include all courses in English.

20. *Examples of Non-Course Prerequsites*

Give our committee (other than GPA and recency) examples of non-course prerequisites. What is recency, specifically?

Recency is placing a limit on the number of years which have passed since the student completed the prerequisite course, e.g., "English 1A within the last 5 years." This may be important in disciplines where the course content is changing rapidly (nursing, computer science, etc.). Other non-course prerequisites might include high school courses, employment experience in a particular vocation, or personal skills such as ability to work with the public. (Note that these skills would be difficult to assess and validate!)

21. *Use of a Non-approved Assessment Instrument for Research Only*

Our curriculum committee will be looking at some ESL courses which had their placement tests as prerequisites, but we are now moving them to recommended since they were not validated and they are not on the Chancellor's approved list. Is this acceptable, and would it require anything other than content review?

You may not use an instrument even for recommended placement (as an advisory) unless it has been approved. Title 5 §55521(a) states, "In implementing matriculation services, community college districts shall not, except as provided in subdivision (b) [which is ability to benefit], do any of the following: (1) use an assessment instrument which has not been approved by the Chancellor pursuant to Section 55524, except that the Chancellor may permit limited field-testing, under specified conditions, of new or alternative assessment instruments, where such instruments are not used for placement and are evaluated only in order to determine whether they should be added to the list of approved instruments. . . ."

What this means is that you may use non-approved assessment instruments only for research purposes designed to establish their validity. You should put together a research plan for such a validation study, begin implementing the research using the instrument to collect data. (Note that the only instrument in ESL currently on the Chancellor's Office list is the CELSA test.)

22. *Assessment Results Can be used for Advisory or Mandatory Placement*

Are assessment tests advisory only, not mandatory?

Assessment tests alone cannot be used for either advisory or mandatory placement. A test score with a secondary measure (multiple measures) can be used for either purpose, at the discretion of the discipline faculty and the curriculum committee. The test must have gone through the steps to be validated, except that a test may be given for research purposes, i.e.,

to establish the validity of the test. When using a test to gather research data, the college cannot communicate the results to the student or use the results in any way for advice or placement.

23. *Requirement to do Assessment Before Enrolling the Student in the Class, Not After*

Must multiple measures occur BEFORE a student is enrolled in a class, not after? That is, you can't send a student to a counselor as a multiple measure after the student is already enrolled in the class. Correct?

Assessment and placement based on multiple measures must occur BEFORE placing the student in the class.

24. *Instructors Access to Students' Assessment or Placement Results*

Is it illegal for the student's score on the multiple measures to be made available to the instructor?

The college should not make assessment or placement results available to instructors. Students have a right to privacy of their records except in cases in which the college employee needs to know the information for valid educational reasons. Instructors do not need to know students assessment or placement results in order to teach them. All students sitting in class on the first day should be qualified--the colleges is required to enforce prerequisites to make this so. Knowledge of assessment and placement information could open instructors to charges of discrimination if they treated some students differently than others.

25. *Use of In-Class Evaluations, e.g., Writing Samples, to Change Student Placement*

Once a student is enrolled in a class, with the student's consent, does the instructor have the authority to move the student to a higher level? Can the student be moved to a lower level? When can this be done? At any time during the semester? And what basis may an instructor use for moving a student? We were told that we could not use in-class essays for this purpose any longer.

Instructors do not have the authority to remove a student form a class unless that student does not have the legally established prerequisite. Instructors who review student preparation at the beginning of the class (with wiring samples, review quizzes, etc.) and then "suggest" to students that they may wish to move up or down in the sequence are in violation of Title 5. However, nothing prevents an instructor from discussing the move up or down if this conversation results from a regular interaction within the course design. In any case, students have the right to make this decision themselves.

26. *Use of Assessment Process as a Prerequisite*

a. **Can a single assessment test be used as a prerequisite or should the assessment process be a prerequisite? Does this mean multiple measures approved by the curriculum committee can be used as a determinant of a skill level that is established as a prerequisite for a course? For example, could we say that as a prerequisite for English 50.2 a student must complete English 50.1 with a grade of 'C' or better or demonstrate success through a particular score on the HWS and another multiple measure?**

The assessment process (not a test alone) can be used for mandatory placement if properly validated. Students who do not pass a prerequisite course cannot enroll in the target course. The curriculum committee does not approve multiple measures as such but rather approves the use of the validated assessment process as a prerequisite or advisory. Catalog course description language such as "Prerequisite: English 50.1 with a grade of 'C' or better or appropriate skills demonstrated through the English assessment process" would be typical.

b. **Give a few examples of the assessment process (for use outside the assessment skill areas for use within the same discipline sequence.)**

If you have valid assessment processes in math, English, and ESL, you can use the results of these evaluations as prerequisites. For example, the description for English 1A might include, "prerequisite: English 101B or appropriate skill level established through the English assessment process (see page XXX)." Or the description of Physics 4A might include, "prerequisite: Math 1A or appropriate skill level established through the math assessment process." In the English case just cited, only content review would be required because the courses are in sequence in the same discipline. In the Physics example, data collection and analysis would be required because the prerequisite is a computation skill (math). Your catalog and schedule of classes would explain these assessment procedures on "page XXX."

Currently, no assessment instruments outside of math, English, and ESL are being reviewed or approved by the Chancellor's Office. However, efforts are currently under way to expand the scope of assessment. Chabot College recently did a validation study for a chemistry assessment process, and a copy is attached.

27. *Skill Prerequisites Such As Typing Speed*

How do we validate a prerequisite that is a skill for our career courses? (e.g. Office Administration 1C has a prerequisite of completion of OA 1B with C or better, or ability to type 25 W.A.M. accurately by touch.)

Courses in a sequence in a discipline, such as OA 1B as a prerequisite for OA 1C, require only content review [Model District Policy IIAb, Title 5 §55201(b)(1)]. However, there are some cautions about adding the phrase "or ability to type 25 W.A.M. accurately by touch." First, assessing this skill would require an instrument (a typing test) which must be validated

and approved by the Chancellor's Office, the process for which involves an effort which may not justify the ends [Title 5 §55202(c), §55521, and §55524]. Second, as a non-course prerequisite, justifying this skill would require the highest level of scrutiny: data collection and analysis [Model District Policy II.A.1.g.]. As a consequence, a reasonable suggestion would be to substitute the phrase "or equivalent" and encourage students with existing typing skills to use the challenge process to establish that they can type 25 W.A.M. or more. As you know, the burden of proof is on the student, so the specific evidence you will accept is up to the discipline faculty in Office Administration. A suggestion would be that the results of one of the many computer-based typing tests (some of which may, indeed, be available on your campus) be considered appropriate.

28. ***Assessment Tests in Fields Other Than Math, English, and ESL***

a. How do we validate a typing test?

Refer to "Standards, Policies and Procedures for the Evaluation of Assessment Instruments Used in the California Community Colleges" published by the Chancellor's Office in April 1995. Your matriculation coordinator was sent a copy, or you may contact the Chancellor's Office at (916) 445-0103.

b. Are there any Chancellor-approved typing tests?

No. Currently, the Chancellor's Office is approving only English, ESL, and Math instruments for system wide use. In reviewing the list of locally developed and managed instruments none are listed outside these three disciplines.

29. ***High School Courses as Prerequisites: Highest Level of Scrutiny***

What about using a grade of 'B' for a high school class as a prerequisite? This is on a drafting course, the student could have a 'C' in our course but must have a 'B' in the high school course.

You may use a high school course with a 'B' grade as a prerequisite, but there are two things to keep in mind. First, as non-course prerequisites, high school courses require the highest level of scrutiny, data collection and analysis. (You would have to show that, without an 'A' or 'B' in the high school course, students are highly unlikely to succeed.) Second, the regulations require consistency in the use of prerequisites. In the case of high school courses, this may mean that you would have to require high school transcripts for all students who wish to enroll in the class. [This is so impractical as to make the use of high school grades nearly impossible.] The only reasonable alternative would be to have the students self-report their high school course and grade. I doubt if the results would be reliable enough to use.

30. *Alternatives to High School Courses as Prerequisites: Challenge Based on Equivalent Knowledge*

Can we use a high school prep course in chemistry as a prerequisite for our Anatomy Physiology 40 class? AP 40 is a prerequisite for the nursing program and the nursing program is already over its cap for AA degree units. AP 40 has as a prerequisite Chem 10, but including Chem 10 as a nursing program prerequisite will put the program over cap. The department will also accept the high school prep course which has the advantage of not adding units to the cap. Can we use the high school class as a prerequisite, and if so, does it need data validation or just content review?

You can use high school courses as prerequisites but only with difficulty. The nature of the difficulty and a recommendation for an alternative approach follow.

The regulations require consistency in implementation of prerequisites. It would be almost impossible for your college to enforce a high school course prerequisite. This would require transcripts for all students enrolling in Chem 10--not feasible. Being a non-course prerequisite, it would require data collection and analysis. Difficulties will abound with this: sample size, uniformity of high school chem course content, etc. And you don't really need to do this because there is a relatively simple alternative.

Have AP 40 be the prerequisite for the Nursing program and Chem 10 be the prerequisite to AP 40, stated as "Prerequisite: Chem 10 or equivalent." Encourage students to use the challenge process to establish equivalent knowledge. Be sure to work with the chemistry faculty in advance to nail down as much as possible what they will be looking for in terms of student documentation and competencies. You might even have a flyer prepared or explain the situation in the major sheets used by counselors and instructors in letting students know the requirements of the nursing program, chemistry program, etc. Establishing AP 40 as a nursing program prerequisite is a matter of doing a content review for the nursing course with the most anatomy and physiology content. If AP 40 is a vocational course, not transfer, then content review can be used to establish Chem 10 as a prerequisite. Otherwise, look for equivalent prerequisites at 4-year schools with similar anatomy and physiology courses. The nursing program units thus do not need to be expanded because, by taking AP 40, students will have either taken Chem 10 or its equivalent.

31. *Use of "Or Equivalent" in Prerequisite Catalog Listings*

a. **For some of our vocational courses, a course prerequisite is listed with the added statement "or equivalent skills." I notice in lots of catalogs "or equivalent" is used. What happens when we start blocking at registration with the "or equivalent" statement?**

The statement "or equivalent" is merely used to emphasize that the student may use the challenge process to establish that he or she has knowledge and skills equivalent to those specified in the prerequisite. The routine is: student files the petition attaching documentation (burden of proof is on the student), a seat is held for the student, within 5 days (typically) the

instructor(s) review the documentation and decide on its merits (using a documented, consistent set of standards), and the student is then either allowed to remain in the course or involuntarily dropped.

b. If the statement "or equivalent" is used, should that be handled by an assessment process?

It can be handled by an assessment process, although that is a local decision. The regulations just require consistency in the decisions. IF an assessment process is used, it must follow matriculation standards: 1) if an instrument is used, it must be on the Chancellor's list or locally validated, 2) cut off scores must be locally validated, 3) the placement must be based on multiple measures not a single assessment score, 4) the college must check for disproportionate impact on historically underrepresented groups, and, if found, must institute a plan to solve that problem.

32. ***Advisory Skills Are Not Required in Course Outlines***

Do you include "advisory skills" in your course outlines as well as prerequisite skills?

There is no requirement in the Model District Policy or Title 5 to document the advisory skills and the corresponding content review IN THE COURSE OUTLINE. In reviewing course outlines of record from many colleges, the VAST majority limit the course outline listing to prerequisites and corequisites. This is probably for the best--we have enough to do as it is and course outlines are complicated enough already!

33. ***Distinguishing Skills Needing Prerequisites and Advisories Using Content Review***

Do you require that a distinction be made on the Content Review form between the exit skills and entry skills required for a prerequisite separate from those required for an advisory if both are listed? We have a situation where the instructor is saying that the entry skills are the same for the prerequisite and advisory courses. The Content Review form lists the exit and entry skills for the prerequisite. Another Content Review form lists the exit skills for the advisory and the same entry skills as that listed for the prerequisite course. It seems to me that the entry skills should address those of the advisory on the form.

It appears that the instructor(s) of the course identified the entry skills needed. These skills must be judged by the instructor(s) (and confirmed by the curriculum committee) as either (1) skills without which a student would not reasonably succeed in the course--thus constituting a set of prerequisite skills or (2) skills which would enhance or broaden the students' learning but are not needed for success--indicating that the skills are advisory. WHICH OF THESE CASES IS BEING RECOMMENDED BY THE INSTRUCTOR(S)? It is the LAST step in the content review process to identify HOW the students will acquire the skills--to identify a course or courses or assessment process. (Note that it is thus not possible to have both a prerequisite course and an advisory course addressing the same entry skills as your note implies.)

34. *Use of Content Review Forms*

Should we use our existing form for corequisite and advisory content review or should a new form be created (for corequisite and advisory), i.e., a shorter form. (The form now reads corequisite and advisory course title and number matching to target course title and number.)

The use of forms is totally up to your curriculum committee and academic senate. Experience has shown the guiding principle to be how your discipline faculty would like to operate. Do they want specifics and structure? If so, go with forms. Do they want independence, versatility, and less paperwork? If so, just use guidelines. If you go with forms for content review, add one specifically for corequisites and make the modifications suggested above. (Comments specifically on the forms you sent are at the end of this commentary.) If you go for guidelines, just write up a description of what your curriculum committee wants to see. For example, you might require for prerequisites that the content review list the exit and entry skills with their matches, then certify that these are necessary for success and have been developed by the proper process. Your existing policy should serve as a reference to the faculty on how to do this, including the proper process for faculty to identify necessary entry skills (MDP IC3a2), the criteria for prerequisites (without them students are highly unlikely to succeed), corequisites (without skills learned in both courses students are highly unlikely to succeed in either), advisories (skills to broaden or deepen learning but not necessary for success), and health and safety (skills to prevent harm to the student or others). You could do this as well for other limitations on enrollment (blocks, honors, performance) and statutory/contractual. Forms are not always the answer!

35. ***Process for Discipline Faculty to Determine Need for Prerequisites, Corequisites, and Advisories and to Identify Courses to Meet that Need***

Can you only check one type of prerequisite/level of scrutiny?

Assuming your question to be, "Can you have more than one type of prerequisite for a course?," the answer is yes. If your question is "Can a given course be both a prerequisite and an advisory?," the answer is no. At any rate, here is a summary of the way things should be done.

When considering the establishment of a prerequisite, the discipline faculty would begin with a content review. By reviewing appropriate course materials, the faculty would identify a set of entry skills. The question then becomes, "are these skills such that, without them, students would be highly unlikely to succeed, that is, to pass?" If so, the faculty should recommend to the curriculum committee that these be prerequisite skills for the class (and list them as such in the course outline). Next the faculty would survey courses which teach these skills, identifying one or more courses (or other measures such as an assessment process) for which these skills are exit skills (student outcomes). In chemistry, for example, it is not unusual to have prerequisite skills in chemistry, math, and health and safety. If the faculty find (and the curriculum committee agrees) that the originally identified entry skills are not necessary for success, then the option still exists for the faculty (with curriculum committee agreement)

to establish these skills as advisory. It would again be necessary to identify a course (or other assessment process) by which a student could acquire these skills. It may be for that chemistry class that the chemistry and health and safety skills are prerequisites but the math skills are just advisory.

Once the type of requirement (pre-, co- or advisory) is finalized as a recommendation, then there may be additional steps beyond the content review which must be taken to establish the prerequisite. If the prerequisite course is not in a sequence in the same discipline, it may be established by citing three UC or CSU equivalent prerequisite (unless the prerequisite is in math or English). If it is a math or English (or non-course) prerequisite, then data collection and analysis is required. Note that the level of scrutiny is established only after the prerequisite has been identified. Also note that once a set of skills, such as in math, have been identified as prerequisite skills, one could not say that Math X is a prerequisite and Math Y is advisory. The determination of the need for a prerequisite PRECEDES the identification of the course which teaches those prerequisite skills.

36. ***Corequisite Content Review***

a. How do you handle corequisites? Our Content Review form asks about exit skills and entry skills. How do you handle this?

Corequisites are two courses whose content is so interdependent that they must be taken simultaneously. The content review process can be used, but the criterion is not JUST that without the skills in one course the student will not reasonably succeed in the other but FURTHER that skill a in course A must be learned before the student can learn skill b in course B--sort of a "back-and-forth" or "two-way" prerequisite. Course A is required for course B but also course B is required for course A.

It is also possible that the skills in course A are necessary for success in course B but that they may be acquired previous to OR concurrently with the course in which they are needed. This forms a "one-way" corequisite: course A may be taken before or during course B. Some lab or shop courses are this way. To take the activity course, one must have the theory course either previously or concurrently. The activity course description might read, "Corequisite: theory course A, may be taken previously."

b. Do we need content review with corequisites?

Yes. The Model District Policy IC3a requires that "the prerequisite or corequisite is an appropriate and rational measure of a student's readiness to enter the course or program as demonstrated by a content review...." Title 5 §55201(b)(a) states, "At a minimum, prerequisites, corequisites, and advisories on recommended preparation shall be based on content review...."

Your form does not have a description which would apply to corequisites. To establish courses A and B as corequisites, it must be clear that there are skills and abilities that students must acquire concurrently in courses A and B or the students will be highly unlikely

to succeed in both courses. On a practical note, you could use your "Prerequisite Content Review" form but ask that the skill listings be the student outcomes (exit skills) in courses A and B. Then in a form similar to your "Prerequisite Content Review Justification Worksheet" you might ask the discipline faculty to identify which of these skills are interdependent (skills without which the student would be highly unlikely to pass the other course).

By the way, this latter form seems to be a bit misleading. First, nowhere on this form or the previous one does it ask the discipline faculty to state that the proposed prerequisite skills are necessary for success or that they have used the proper review process [Model District Policy IC3a(2)]. Furthermore, it places an unnecessary emphasis on the DEGREE of match. If even ONE of the essential entry skills for course A is matched by an exit skill in course B, then there is sufficient justification for approving B as a prerequisite for A. (The matching process is of most use to discipline faculty when they are in the process of identifying the proper course which teaches the appropriate prerequisite skills.)

37. ***Corequisites for Lecture-Lab Pairings***

The course title Nutrition Delivery Systems 156 (lab) has a corequisite: Nutrition Delivery Systems F+CS 56 (lecture). Would sequential within disciplines be the type of corequisite checked?

The lab and lecture courses are corequisites within the same discipline. The level of scrutiny would be a documented content review establishing that without skills taught in 156 students would be highly unlikely to succeed in 56 and that without skills taught in 56 students would be highly unlikely to succeed in 156. At a practical level, list student outcomes for both courses and identify which are essential in each course to pass the other course.

38. ***Teaching Corequisite Skills Within the Target Course***

Should course content have previous assignments of the corequisite or prerequisite course or advisory in the first three weeks of the course?

Prerequisites are established on the basis that certain skills are necessary upon entry. If these skills are taught within the course itself, a prerequisite is not justified.

39. ***Communication Skills Courses as Corequisites to Non-communication Skills Courses***

a. **Child Development 46 has a corequisite of English 21. Should the type of corequisite be a course in communication skills or considered sequential?**

From reviewing the catalog description, it is clear that English 21 is a communication skills course. The appropriate level of scrutiny is data collection and analysis.

b. For Child Development 10 the corequisite is English 21. Do we use the exit skills of English 20 to compare with those for CD 10?

First of all, establishing English 21 as a corequisite to Child Development 10 requires the highest level of scrutiny: data collection and analysis. You would certainly NOT list the exit skills of English 20 for this analysis. For a corequisite, you must demonstrate (in this case with a research study based on empirical data) that, without the skills learned in English 21, students are highly unlikely to succeed in Child Development 10. Concurrently you must demonstrate that, without the skills learned in Child Development 10, students are highly unlikely to succeed in English 21. The last condition seems extremely unlikely. Follow the previously described process. BEGIN with a content review to establish what, IF ANY, communication skills are essential for students to have to be reasonably expected to pass Child Development 10. THEN find a class that teaches these communication skills at the level you need them. FINALLY do a research study to verify that they are essential.

40. ***Involuntarily Dropping Students Who Are Enrolled But Do Not Meet a Prerequisite***

Once a student is enrolled in a class, they cannot be required to leave. I am assuming that this means that, if they become enrolled and do not meet the prerequisite, they cannot be removed. The prerequisite must be enforced PRIOR to enrollment. Is this correct?

A student who is enrolled in a course with a valid prerequisite may be involuntarily dropped if that student does not meet the prerequisite. The most common case would be enrolling a student for the spring term at a date during the fall term when the student is taking the prerequisite class but has not yet completed it. When the fall term is done, the college could do a computer run of those who did not pass the prerequisites and then drop them from the class. Good practice would be to 1) notify currently enrolled students of this practice, 2) send a letter to those so dropped, and 3) notify the instructors in those classes so that they can know if a student in that situation shows up.

41. ***Denying Students Enrollment in a Course Based on Lack of a Valid Prerequisite***

Are validated prerequisites binding? That is, can a student be denied admission to class based upon a validated prerequisite?

Legally established prerequisites not only are binding but they MUST be enforced by the college. Students cannot be allowed to take a course without having the prerequisite. The mechanism of enforcement is up to the college, as long as some consistently applied method is used. This could include computer blocks but the college could also use retroactive computer runs to identify ineligible students after enrollment, give students a piece of paper when they satisfy a prerequisite and then have them present this for registration, or have instructors check prerequisites on the first day of class. (This latter is discouraged because of privacy and discriminatory concerns.)

42. *Prerequisite Checks for Students Added to a Class After Classes Have Begun*

Students can be added to classes the first day. Does the instructor need to make a reasonable effort to assure that the student has met the prerequisite?

Students who are added to a class during the add period after the first day of class must still be checked for prerequisites. The instructor's signature on an add card cannot substitute for a prerequisite check. No one can authorize a student to "walk by" a prerequiste. The method used to do the prerequisite check after classes have started should be the same as that used beforehand. Title 5 requires consistency in the methods used to enforce prerequistes.

43. *Prerequisites to Move from One Module to Another Within a Course*

a. Can you have a prerequisite with a module course?

No. Prerequisites are course-to-course. It is not permitted to have a prerequisite for a student to move from one module within a course to another module in the same course.

b. Can individual modules have lecture components?

The term "module" generally refers to packets of information learned as a whole within a course. One might organize a course into an introductory module, a module covering the next sequence of material, and so on. This internal structure of the course content is done entirely at the discretion of the instructor. There should be no reason for the curriculum committee to get involved with discussion of appropriate material to include in a given module.

44. *Review and Approval of Honors Courses*

What is the process and criteria our curriculum committee should use in reviewing and approving honors courses (and their limitations on enrollment). We have before us specifically a general humanities course, Humanities 30H, and a language course, Arabic 1H.

The process and criteria you should use are based on Title 5, the Model District Policy, the Curriculum Standards Handbook, and on your own local policies and procedures. In your particular district, your honors program consists of a series of separate courses, all of which are extensions of existing courses, except with an H designation (rather than specifying sections of courses as honors). Given this local procedure, the Curriculum Committee's first obligation is to assure that the course meets the standards set forth in Title 5 and the Curriculum Standards Handbook. Second, the Curriculum Committee must establish that the limitation on enrollment, i.e., the requirement that the student meet the criteria for the honors program, is justified for the course.

First, as separate courses, all the "H" courses must meet Title 5 and Curriculum Standards Handbook requirements. In your case, the only standard that might come into question is that of need. Chapter 3 of the Handbook is devoted to the "Five Approval Criteria for Courses and Programs." They are: Appropriateness to Mission, Need, Quality, Feasibility, and Compliance.

3.2 Need

There is a demonstrable need for a course or program that meets the stated goals and objectives, at this time, and in the region the college proposes to serve with the program.

In other words, the course outline of record for the honors course must establish that there is a unique role that this course plays in the curriculum--one that no other currently approved course can meet. The honors course should be able to demonstrate this need by having student outcomes and course content which are much deeper and broader than the corresponding non-honors course. The methods of instruction and evaluation as well as the assignments and texts should support this enhanced content. It would not be sufficient just to submit the course outline of Humanities 30H as identical to that of Humanities 30 with only an attachment stating that the course will be more extensive. The new course outline must actually DEMONSTRATE that uniqueness in order to establish the need in the curriculum for such an advanced honors course.

Really, this statement is true for all courses you review. If you cannot identify a unique role that a submitted course can play, such a course should not be approved.

In very practical terms, the department should include justification for the demand for the course. Because you will be limiting enrollment in the courses to only those in the honors program, are there indeed enough students to fill an entire section of Humanities 30H and of Arabic 1H? The criterion of need in the Curriculum Standards Handbook means that the Curriculum Committee should receive such evidence from the department before approving the course. This is especially significant in your honors system because, if you do not approve the course, students may still take the non-honors course to meet all degree and certificate requirements.

Regarding the second point, the approval of the honors status of the course should be established by Curriculum Committee review, as recommended by the Model District Policy:

IIC. Limitations on Enrollment

The types of limitation on enrollment specified below may only be established through the curriculum review process by the discipline or department faculty and the ***curriculum committee*** specified above including the requirement to review them again at least every six years, for example, as part of program review.

It is important to point out here that status as an honors course is NOT a prerequisite for the course but rather a limitation on enrollment and is thus subject to Title 5 Section 58106 rather than the regulations on prerequisites.

58106 Limitations on Enrollment

In order to be claimed for purposes of state apportionment, all courses shall be open to enrollment by any student who has been admitted to the college, provided that enrollment in specific courses or programs may be limited as follows:

(a) Enrollment may be limited to students meeting prerequisites and corequisites established pursuant to Sections 55200-55202 of this Division.

(b) Enrollment may be limited due to health and safety considerations, facility limitations, faculty workload, the availability of qualified instructors, funding limitations, the constraints of regional planning, or legal requirements imposed by statutes, regulations, or contracts. ***The governing board shall adopt policies identifying any such limitations and requiring fair and equitable procedures for determining who may enroll in affected courses or programs.*** Such procedures shall be consistent with one or more of the following approaches:

(3) in the case of intercollegiate competition, ***honors courses***, or public performance courses, allocating available seats to those students judged most qualified

Thus your Board of Trustees, in establishing the honors program through its board policies, has enabled the college to limit enrollment in specified courses. It might be advantageous for the Curriculum Committee to review this board policy because, as you can see from §58106, this policy is a requirement before the college can impose this limitation on enrollment. Once established, the college can limit enrollment in the honors courses to those students who are in the honors program. (Typically, this is done by block enrolling the honors students and then closing the section.) It is important that the college provide full disclosure to students regarding this limitation. I would recommend that the catalog and schedule carry a statement such as "enrollment limited to students in the honors program; see page XXX." The statement in your catalog seems adequate and is reproduced below.

ADMISSIONS TO THE HONORS/TRANSFER PROGRAM

Requirements:

1. Completing an application for admissions.
2. Securing approval from the Director, Honors Program.
3. Presenting official transcript from high schools showing a 3.0 GPA OR a 3.0 GPA in 15 units of transferrable college courses.
4. Establishing eligibility for English 101 OR completing English 25 with a grade of "C" or better.

CONTACT: B. Gwen Hill, Director Honors Program; Hector Aguilar, Honors Counselor

PLEASE NOTE: All four steps must be completed before admission to the program.

To begin with, your catalog description should refer to "enrollment in" the program, not "admission to" the program. Students are *admitted* to the college and *enroll* in its courses and program.

The nature of the specific criteria for honors courses or sections are recommended in the Model District Policy which your district adopted to meet the conditions of Section 8 of the Matriculation Standards. These criteria are:

II.C.2 Honors Courses

A limitation on enrollment for an honors course or an honors section of a course may be established if, in addition to the review by the faculty in discipline or department and by the curriculum committee as provided above, ***there is another sections or another course or courses at the college which satisfy the same requirements***. If the limitation is for an honors course and not only for an honors section, the college must also ***include in the course outline of record a list of each certificate or associate degree requirement that the course meets*** and of the other course or courses which meet the same associate degree or certificate requirement.

Your college meets the first requirement by virtue of having a non-honors course for every honors course, e.g., Humanities 30 and Humanities 30H. Be sure that sections of the non-honors course are offered whenever the corresponding honors course is offered in a given semester. Rather than the extensive list of degrees and certificates called for in the second requirement, your situation lends itself to a statement in the course outline such as "The degree and certificate requirements met by Humanities 30H are also met by taking Humanities 30." I would suggest that your Curriculum Committee take separate action, as reflected by two different motions in your minutes, the first to approve the course and the second to approve the limitation on enrollment.

A brief summary of the forgoing might be of help.

Honors courses must follow the complete curriculum review process and meet the standards for a degree applicable credit course as specified in Title 5 and the Curriculum Standards Handbook. Particularly the criteria of need must be met by assuring that the honors course has a unique and necessary role in the curriculum and has sufficient enrollment demand. Curriculum committee review of the course outline must establish that the content and outcomes are enhanced as well as the methods of instruction, evaluation, assignments, and texts.

Be sure that the board policy on the honors program is in place and being followed. Assure full disclosure by including in the catalog and schedule listings a statement for each honors course and section such as "enrollment limited to students in the honors program; see page XXX." Your honors program description is adequate for the "page XXX" disclosure. Provide for curriculum committee review of the honors status of the course based on the criteria that 1) the corresponding non-honors course is approved and offered whenever the honors course is offered and 2) a statement to the effect that the non-honors course meets degree/certificate requirements is included in the course outline.

45. *Performance Auditions as Limitations on Enrollment*

In our P.E. course (Ballet) the ultimate goal is to participate in the class and at the end the students will do a performance. May we use an audition for placement in the course content and would it not be in violation of limitations on enrollment?

This question can be answered in two ways. First, the assumption will be that successful completion of the course requires participation in a performance and thus requires skills which can best be established by audition. Second, the assumption will be that participation in a performance is only one of several ways that a student can demonstrate successful acquisition of skills necessary to pass the class.

Limitations on enrollment through successful completion of an audition are allowed if 1) there are other courses which a student can take to meet degree and certificate requirements, 2) that the course outline includes a list both of the degrees and certificates for which the performance course is a requirement and of the other courses which meet that requirement, and 3) the limitation is reviewed for disproportionate impact [Model District Policy IIC1 and Title 5 §58106(b)(3)]. Note that according to §58106(b) the Board of Trustees must establish policies to this effect. This would be the direction to take if the P.E. faculty felt that the student outcomes for the class were so closely tied to the actual performance skills of ballet that the only reasonable assessment of a student's successful completion of the course would be active participation as a performer in a publicly staged ballet.

In the second case, an audition would not be required to enter the course. Students of all levels of skills and abilities would enroll in the course and be taught ballet. However, it is still possible to use an audition-type evaluation WITHIN the course to determine which role a student would perform in the ballet. Indeed, it may even be the case that some students do not perform in the ballet at all. In this case the ballet performance simply serves as one of several ways in which a student may demonstrate (and the instructor may evaluate) the skills and abilities required for successful completion of the course. Those in the ballet would be evaluated on their performance on stage in the ballet while others might be evaluated on their skills demonstrated in an exercise viewed only by the instructor. The course outline of record, in the section on methods of student evaluation, should spell out these various methods appropriately.

46. *Criteria for Selecting a Course as an Honors Course*

For honors courses, do you know who makes a course an honors class? (Or is it that we merely have to find another section or another course or courses at the college which satisfies the same requirements?)

Honors courses are those which meet locally established criteria. Title 5 §58106 requires that the "governing board shall adopt policies identifying any such limitations and requiring fair and equitable procedures for determining who may enroll in affected courses or programs. Such procedures shall be consistent with..., in the case of...honors courses,...allocating available seats to those students judged most qualified...."

Your district has an honors program, which I assume is authorized in board policy, and identifies the following limitations (as they appear in your catalog):

> ADMISSIONS TO THE HONORS/TRANSFER PROGRAM
> Requirements:
> 1. Completing an application for admissions.
> 2. Securing approval from the Director, Honors Program.
> 3. Presenting official transcript from high schools showing a 3.0 GPA OR a 3.0 GPA in 15 units of transferrable college courses.
> 4. Establishing eligibility for English 101 OR completing English 25 with a grade of "C" or better.
>
> CONTACT: B. (Gwen Hill, Director Honors Program; Hector Aguilar, Honors Counselor
> PLEASE NOTE: All four steps must be completed before admission to the program.

To begin with, your catalog description should refer to "enrollment in" the program, not "admission to" the program. Students are *admitted* to the college and *enroll* in its courses and program.

As to WHO determines that a course is an honors course, it is done by a "review by the faculty in the discipline or department and by the curriculum committee" [Model District Policy IIC2]. If there seems to be an issue about the level or rigor of a course in order for that course to be an honors course, you should adopt a local policy on the matter. Because this is an academic and professional matter, you must discuss this with the academic senate. A reasonable outcome would be for the senate to create a subcommittee of the curriculum committee to develop the policy. The membership might reasonably be drawn from those teaching honors courses, those counseling honors students, and faculty on the curriculum committee. After the recommendation is developed by the subcommittee and reviewed by the curriculum committee, it would then be submitted for action to the senate and become the authorized criteria by which the discipline faculty and the curriculum committee determine that a course should be an honors course.

Beyond that, as you mention, when an honors course is established, there must always be courses available to students which also meet any degree or certificate requirements of which the honors course is a part.

47. ***Performance Auditions: Prerequisites or Limitations on Enrollment?***

For our Music 781 (Studio, Jazz Band) can the prerequisite read, "Audition at first class meeting" or "Confirmation of enrollment subject to audition?" If an audition is a prerequisite, would we consider other Limitations on Enrollment, would we have to do content review, and must the college researcher consider disproportionate impact?

The catalog and schedule of classes description would, indeed, read, "enrollment subject to audition, see page XXX" and the cited page would describe the audition process. The audition must be done BEFORE the student is enrolled. (Although not recommended, one

COULD give the first day of class as the audition date and time and then enroll students who passed the audition on the spot by giving them signed add cards.)

This is a limitation on enrollment, not a prerequisite. No content review is required. You must assure that any degree or certificate requirements which the audition course meets can also be met by another course or courses. You must list such degree and certificate requirements and the other courses in the course outline. And you must review the course within six years for disproportionate impact. (These last three requirements are in the Model District Policy IIC1, which I assume you have adopted, but they are not in Title 5.)

48. ***Performance Courses Which Do Not Meet Degree or Certificate Requirements***

For this performance course, must the course be to meet a degree or certificate requirement in order to complete this section?

No. If a performance course does not meet any degree or certificate requirements, no notation is required in the course outline. The only requirements are to establish the limitation by board policy according to §58106 and to do a review for disproportionate impact.

49. ***Distribution of Information Regarding a Performance Audition***

If an audition is a prerequisite for a music course, should the type of audition be included? (Should it state briefly what the audition will consist of in order to meet this prerequisite?)

Yes, the type of audition and of what it will consist should be provided to students. (Remember, this is a limitation on enrollment, not a prerequisite.) From Title 5 §58106(b), your board policy must specify "fair and equitable procedures for determining who may enroll in affected courses or programs." This means that you should have a definite audition process, fully disclosed to students (by publication in the catalog and schedule of classes), and employing selection criteria which are "fair and equitable."

50. ***Other Types of Limitations on Enrollment such as Faculty Workload and Facility Limitations***

The other limitations on enrollment have nothing to do with class size limitations. Please elaborate briefly.

Title 5 §58106 covers all types of limitations on enrollment. §58106(b) covers a variety of things including facility limitations and faculty workload (both of which affect class size) and performance courses. So when your college sets a class size and enforces it by not letting more students enroll, it is using a "limitation on enrollment" under §58106. When setting a class size limitation, the governing board must identify one of the rationales listed in this Title 5 section. In a similar manner, when your college allows only students who pass a jazz band audition to enroll in Music 781, it is using a "limitation on enrollment" under §58106.

51. *Definition of Limitations on Enrollment*

Define Limitations on Enrollment.

Read Title 5 §58106 thoroughly. The opening line is particularly significant. "In order to be claimed for purposes of state apportionment, all courses shall be open to enrollment by any student who has been admitted to the college, provided that enrollment in specific courses or programs may be limited as follows:" Thereafter follows a sequence of such limitations with the requirements for meeting each of them (prerequisites, faculty workload, honors courses, students on probation, etc.). In other words, once these provisions have been followed, the college can allow only students up to a set number in each class, allow only honors students to enroll in honors classes, allow only students who meet health and safety requirements to enroll in clinical nursing courses, allow only students who pass an audition to enroll in jazz band, etc.

52. *Role of CAN Numbers in Determining Three Equivalent UC/CSU Prerequsites*

We have a CAN book, but not all courses are CAN. Can we submit photocopies of three UC or CS catalogs?

The CAN status of a course has nothing to do with the level of scrutiny that calls for equivalent prerequisites at three or more UC or CSU campuses. CAN designations do not assure that prerequisites are equivalent. Only catalog descriptions can do that, so submit photocopies!

53. *Health and Safety: Prerequisite versus Limitation on Enrollment Imposed by Law or Regulation*

If a prerequisite for a course is imposed by law or contract, can you also check sequential and health and safety? Is the TB skin test, etc. considered a prerequisite?

Enrollment may be limited by health and safety considerations or legal requirements imposed by statutes, regulations, or contracts, Title 5 §58106. The board must recognize this in policy and establish fair and equitable procedures for implementation. Skills or knowledge necessary to prevent a hazard to the student or others may be established as a health and safety prerequisite, Title 5 §55201(c)(4). The board must either cite statute or regulation (not contract language), or accept the content review which establishes such a prerequisite. (See the Model District Policy IIA1f.) The requirement of a TB skin test could be established as a limitation on enrollment or as a prerequisite, depending on the source and justification for the requirement.

54. *Program Prerequisites: Courses, GPA, and Interview Point Systems*

Our nursing program has prerequisites of 1) anatomy, physiology and chemistry courses, 2) an overall GPA of 2.5 or better in all degree-applicable credit courses taken, and 3) an interview process to assess general knowledge and experience in the field. This results in a point total for each applicant which determines who is admitted to the program. How should this process be changed to comply with the current regulations? Please address methods for small programs such as ours.

1) Course prerequisites for a program are established by applying the appropriate level of scrutiny to at least one course in the program. For vocational courses such as nursing the scrutiny would be a documented content review [Title 5 §55201(b)(1) and Model District Policy II.A.1.b.]. Your college should have an adopted content review process for you to follow.

2) The use of an overall GPA of 2.5 or more is a non-course prerequisite which requires data collection and analysis [Model District Policy II.A.g.]. You must show, using "sound research practices" [Title 5 §55201(a)(1)], that students are "highly unlikely to receive a satisfactory grade in the course (or at least one course in the program)" [Title 5 §55201(c)(2)] without an entering GPA of 2.5 or more. Your college should have an adopted research process for establishing such prerequisites. An example process is given as #23 in *Matriculation Evaluation: Phase III Local Research Options* (June 1992). Factors to consider are total sample size (typically 100 or more), sample size of students without the prerequisite (typically 20 or more), the degree of correlation between having the prerequisite and succeeding in the course (such as $r \geq 0.35$) and a low ratio of "wrong" predications to "right" predications (such as right/wrong ≥ 2:1, see chart).

	prerequisite?	
success?	YES	NO
YES	right	wrong
NO	wrong	right

Success = 1) grade of 'C' or better, 2) instructor's assessment of student's readiness, or 3) student self-assessment of readiness [Model District Policy II.a.1.g(2)]

3) An interview process presents many challenges to establish as a prerequisite. Being a non-course prerequisite, it must be verified using data collection and analysis [Model District Policy II.A.g.]. In general, this means that retaining the interview and point system as a program prerequisite is not practical. You can, however, continue to require students to fill out an application and even conduct interviews. The purpose would be to gather information to assist students in succeeding in the program once enrolled (such as assigning a mentor) rather than as a prerequisite. By the way, students are "enrolled in the program and "admitted" to the college. There can be no separate admission process for a program [Title 5 §58106].

4) In place of "admitting" (enrolling) students on the basis of a point system, do the following. First, identify the pool of qualified applicants, that is, those which have the prerequisites. In your cases this would be a 'C' or better in anatomy, physiology, and chemistry plus an overall GPA of 2.5 or better. Second, use a non-evaluative process to determine who among those in the pool may enroll in the program [Title

5 §58106]. Examples include a waiting list, first-come-first-served (as in general college courses) and a lottery.

5) Small programs present special challenges to the research step in establishing prerequisites. The small sample sizes make many standard research methods problematic. Remember, though, that the methods are up to you--as long as they constitute accepted practice. Here are some ideas.

- Do a "look back" study over the last few years. You will be surprised how many students have enrolled in the program without your stated prerequisites.
- Consider raising the GPA requirement above 2.5 to perhaps 2.75. Do this by studying the performance of those below 2.75, a larger target population for the study. Do they succeed considerably less than those above 2.75 (i.e., $r \geq 0.35$ and right/wrong $\geq 2:1$)?
- Be sure to do the Pearson r correlation with individual GPAs correlated with individual course grades rather than above/below 2.75 GPA correlated with success/non-success. Increasing the spread of the data generally increases the correlation.
- Consider limiting the GPA requirement to those courses which you anticipate have the most impact on performance (e.g., science, math, English). The correlation may be higher.
- Rather than comparing the impact of a prerequisite on a single course, group all those who have done poorly in program courses as the "non-success" group. (Remember, the regulations say "satisfactory grade in...AT LEAST one course in the program....") Increasing the sample size of this sub-group will often allow the r value and right/wrong ratio to have more statistically reliable meaning.
- Evaluate students who drop as "non-success" if, in the opinion of the instructor, the students were not well prepared. This can be applied to both 'W' and 'NG' drops. Increasing the size of the "non-success" group will make the correlation more meaningful.
- Consider a multi-variable analysis. A series of single factors may each be marginally correlated to success, but in combination may provide a good prediction. Consult your researcher for a regression study to optimize weighting factors among the variables.

55. *Program Prerequisites: Health and Safety*

Our nursing faculty are concerned that removing our applicant screening process may result in students in clinical situations who cannot follow instructions well enough to protect patient health--and even their own and that of their coworkers. How can we solve this problem?

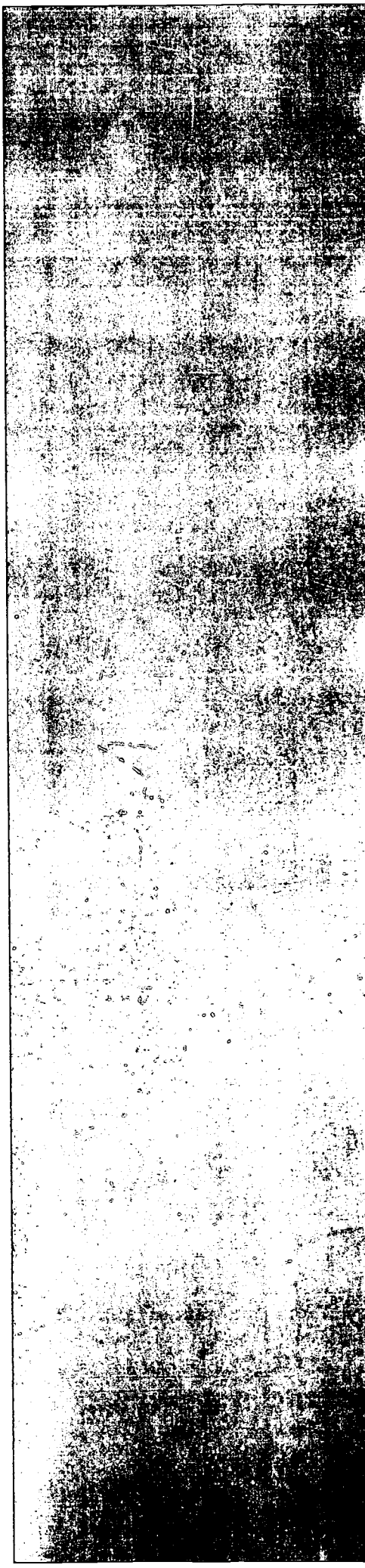
The use of health and safety prerequisites are intended to protect the safety of the students and those around them. Establishing such a prerequisite may be accomplished with a documented content review (not research) [Title 5 §55201(c)(4) and Model District Policy II.A.1.f]. Begin by examining course materials (such as dosage calculations and written and oral instructions given by a physician or supervising nurse). Make a list of skills without

which the students would create a hazard to themselves or others. Come to consensus on these skills and list them in the course outline. Then identify how a student would acquire those skills and how the college would determine that the student possesses them. A word of caution is appropriate here. Many times a safe environment requires sound communication and/or computational skills and you may consider instituting an English or math course as a prerequisite. This alternative must be justified by data collection and analysis, not via health and safety [Title 5 §55201(e) and Model District Policy II.A.1.c].

Two common practices are illustrated as follows. First, students may be advised to be appropriately prepared in English and math by using the appropriate courses as advisories for recommended preparation. This takes only a basic content review. Prior to taking the clinical course (or prior to enrolling in the program) students may be assessed for health and safety skills. An appropriate assessment process might be to give students written instructions as they would receive in a clinical situation. A score on an objective test given to cover this written material is validated for appropriate cut-off score. To meet the multiple measure requirement, the student could be given oral clinical-based instructions and then quizzed aloud--following structured protocols. A catalog description might be, "Recommended: English 1A and Math 100. Prerequisite: health and safety skills demonstrated through appropriate assessment (see page XXX)."

Any assessment instruments used in the process would need to be approved by the Chancellor's Office. One of the steps in this approval process requires the college to determine if the assessment results in a disproportionate impact on specific groups, including those with limited English proficiency. If such a situation is found, it is necessary for the college to provide resources to ameliorate the problem. For example, if, to avoid creating a hazard, the student must be able to respond in real time to instructions in English, an interpreter might be provided. However, when such disproportionate impact is found to be the result of a necessary condition related to course objectives, no such amelioration is required. For example, if the ability to respond to safety instructions in English in a machine shop was related to meeting objectives of the course which were needed for the student to obtain gainful employment as a machinist, the requirement would stand, even if disproportionate impact on limited English proficiency student resulted.

A second alternative might be to structure a course specifically designed to cover hazardous clinical situations, or perhaps to build this material into an existing course. As a course in a vocational sequence, the "hazardous situations" course could be established as a prerequisite to the clinical course--and thus to the program as a whole--by documented content review. Catalog wording for the clinical course or program enrollment might be, "Prerequisite: Nursing 200, Hazardous Clinical Situations."



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