College Curriculum Committee
Meeting Minutes
Tuesday, June 14, 2011
2:00 p.m. – 3:00 p.m.
President's Conference Room

Item	Discussion
1. Minutes: May 31, 2011	Minutes approved as written. **M/S/C (Villanueva, Schultz)**

2. Announcements
  a. GE Deadline Review
 	
  b. Other
	Speaker: Carolyn Holcroft
	a. Reminder that the deadlines for GE apps are for all apps, new courses, courses previously grandfathered, and those courses that have been approved for IGETC/CSU GE that might also be appropriate for FH GE. Please bring to the attention of your faculty for possible discussion regarding GE in a broader sense.
	b. Eloise thanked all for their participation and she enjoyed working with the committee.

3. Need/Justification Statements	**Speaker: Cori Nuñez** Intro worksheet and review instructions. Please make sure that there is one version in each division that is compiled and when complete, forwarded to Nuñez to be entered in the active COR's.
4. New Course Development Process	**Speaker: Carolyn Holcroft** Although we do not have the time this year to develop, review and vote on a "best practices", this will be on the agenda for 2011-12 so that the process for creating and vetting a new course has a defined process.
5. Curriculum Committee 2010-11 Accomplishments	**Speaker:** Carolyn Holcroft Congratulations on the volume of work that has been accomplished this year. The hope expressed by some members was that if we could find some solutions for some of the larger curriculum issues of which we have become aware this year, then perhaps the focus of this committee could then move on to more "meaty" interesting topics.
6. Curriculum Planning 2011-12	**Speaker: Carolyn Holcroft** a. Ziegenhorn thanked Holcroft for this tracking document and commented that having the list available to follow thru the year is a great tool. It helps to see what we've done and what we've finished b. Content Review process will be discussed. State-wide Academic Senate has been working on guidelines for the CC's to modify/add their process to be in keeping with the Title 5 changes. c. Although there are quite a few faculty preparing to review their courses in light of the newly approved and upcoming TMC's, Holcroft reminded the committee that we are not being required to produce these. Some schools are replacing their current degrees with the Transfer degrees. We have chosen to add these degrees to our existing degrees in the instances of the 2 we just passed. Someone raised the question of how are we going to publish the Transfer degrees? Should we have a separate web page for the TMC degrees? There are provisions in place to review the progress of this program from a state-wide perspective? In other words, how is success going to be measured? d. CLEP e. Discussion idea: some brainstorming in strategies to retain students. Student success in general. LEAP has high

	impact ideas we could look at as possible implementation here at Foothill.
7. Report out from Division Reps	**AL:** Community-Based curriculum is being worked on. Bea Cashmore will return as CCC Rep for 2011-12.
	BH: Schultz unsure as who will be serving for 2011-12.
	BSS: History & Business TMC will be worked on in the near future. Bill Ziegenhorn and Patricia Gibbs will return as CCC Reps for 2011-12.
	CNSL: Issac Escoto and Andy Lee will serve as CCC Reps for 2011-12.
	CTIS:
	FA: Lauren Velasco has volunteered to assist with the Comm/Analytical Thinking GE sub-committee. Robert Hartwell and Kate Jordahl will serve as CCC Reps for 2011-12. Joe Ragey will assist at the division level.
	LA: Falk Cammin, Scott Lankford (Fall & Win) and Kella Svetich (Spring) will serve as CCC Reps for 2011-12.
	LIBR:
	PE: Barbara Shewfelt and Don MacNeil will serve as CCC Reps for 2011-12.
	PS: Kathy Armstrong and Mark Knobel will serve as CCC Reps for 2011-12. Adding a new department called Computer Science.

Atendees: F. Cammin, B. Cashmore, B. Day, I. Escoto, M. Francisco, R. Hartwell, C. Holcroft, K. Jones, M. Knobel, A. Lee, D. MacNeil, K. Messina, P. Murray, E. Orrell, G. Schultz, K. Svetich, V. Villanueva, B. Ziegenhorn
Minutes Recorded by: C. Nuñez

Foothill College Curriculum Committee
Working Topics for 2011-2012

Topic	Summary/Content	Possible Action	Priority/ Deadlines	Status
Prerequisites/Content Review Process	In March 2011 the BOG approved changes to Title 5 that remove the requirement for statistical evaluation of prereqs and allowing faculty to implement prereqs solely on the basis of rigorous and regular content review. Accordingly, the ASCCC is revising its paper describing best practices in establishing prerequisites, which can be found at http://www.asccc.org/papers/implementing-content-review-communication-and-computation-prerequisites	ASCCC developing guidelines for content review implementation. Once available, FH CCC will reexamine its content review process as this has not been done in many years	**High**	In progress
Process for Developing and Revising Interdisciplinary Courses	At Foothill, individual course development and approval takes place at the division level. Consequently, there is no easy system for interdisciplinary faculty to remain apprised of, and collaborate on, new courses being developed by faculty in another division. This has historically created difficulty when a course is developed that might be cross-listed or that could significantly affect enrollment in another division. First discussion occurred in CCC on May 31, 2011.	Devise process by which interdisciplinary courses are created and maintained with collaboration and transparency across divisions. Anticipate completing/implementing policy/procedure early Fall 2011.Training re: matching of disciplines, courses and FSAs at second meeting of Fall quarter 2011.	**High**	In progress

C-ID (Course Identification Numbering System)	This goal of this project is to assign a specific number to courses that commonly transfer between CCCs, UCs and CSUs (similar to the now-retired CAN system) in an effort to facilitate transfer. Participation requires bilateral agreements (i.e. colleges agree to accept each others' C-ID numbered courses). Intersegmental faculty are currently collaborating to develop course descriptors that will determine the standards by which individual courses may be assigned that C-ID number. FH has already submitted 30+ courses for review and faculty are strongly encouraged to participate in the development of descriptors for courses in their disciplines.	Discipline-specific list serve available at http://www.c-id.net/listserv.html. Discipline faculty strongly encouraged to review course descriptors, proposed model transfer curriculum and participate in listserv discussions.	**High**	In process
General Education Learning Outcomes (GELOs)	At the end of the 2010 Spring quarter, the FH CCC discussed the development of GELOs and subsequently adopted the four ILOs to function also as GELOs, with the stipulation that we would revisit this decision in 2010-2011. In addition, with transfer degree implementation, differences in GE patterns may become significant and warrant careful discussion. Topic not addressed in 10-11 due to time constraints. Priority for 11-12, with emphasis on review of GELOs and development of assessment plan.	Review GELOs and make changes as needed. Advise re: assessment plan. Begin review/discussion Fall 2011.	**High**	In process

Repeatability	BOG proposing to limit repeatability particularly in "activity" courses (e.g. PE, art, theater, etc.). ASCCC task force working with representatives from impacted disciplines as well as representatives from CIOs, chancellor's office, etc. Task force will gather input put together a position or set of positions that can be voted on at ASCCC Fall '11 Plenary Session. The goal is to come up with the most reasonable and effective proposals for addressing repeatability in order both to satisfy the BOG and make certain that we are still serving our students as appropriately and fully as possible.	Faculty should be aware of Fall '11 ASCCC resolutions re: repeatability as they are published, and provide feedback to Davison & Holcroft.	**Medium**	In process
Course Repetition http://www.cccco.edu/Portals/4/AA/Repeats and Withdrawals Title 5 Advisory 9-8-11 2.pdf	In July '11, the Board of Governors adopted new title 5 regulations limiting the number of times a student can repeat and withdraw from the same credit course (to alleviate substandard grade - D, F, W or NP) with a district able to claim apportionment. Regulations expected to take effect on October 12, 2011 with districts required to implement the new regs by summer '12. From the effective date, ALL repeats/withdrawals in a student's enrollment record are counted towards the new limit.	Disseminate info to faculty and staff so students can be appropriately advised.	**High**	In process

Transfer Bill: SB 1440 (and related bill AB 2302)	SB 1440 requires CCCs to offer associate degrees for transfer. These degrees require students to meet either the IGETC or CSU-Breadth requirements, plus complete a minimum of 27 quarter units in a major or area of emphasis as determined by the community college. The community college is prohibited from imposing any additional requirements for the transfer degree. Students receiving such degrees receive automatic admission to a CSU at junior level status. AB 2302 requests that UCs accept students with transfer degrees. Also requires the CO to establish a process to identify courses that satisfy lower division preparation requirements (C-ID). Bill passed into law on 9/29/10. FH CCC received implementation training 2/2/11. Soc and Psych AA-T degrees approved by CCC on May 17, 2011.	Math finalizing AS-T degree proposal. Comm and Kinesiology faculty beginning to develop TMC-aligned degrees. Faculty urged to continue participating in C-ID project.	**Medium** In process
Course Outlines of Record (CORs)	The COR is important not only because it is required by law, but also because it is a primary mechanism by which our curriculum quality is communicated to CSUs, UCs and the State Chancellor's Office. Foothill reviews CORs for Title 5 compliance on a three-year cycle (schedule maintained by division deans). Extensive guidelines are available in the ASCCC paper "The Course Outline of Record: A Curriculum Reference Guide." Guides and examples also available via the "Help Me" buttons in C3MS.	Faculty urged to ensure "needs/justification" field is complete. CCC reps and Deans will receive list of next courses due for Title 5 compliance updates during first week of Spring 2011 quarter.	**High** Ongoing.

Foothill GE Pattern	Foothill adopted new GE guidelines at the beginning of the 2009-2010 academic year, and CCC subcommittees subsequently began evaluating courses for inclusion under these new guidelines. Courses on GE list under old pattern grandfathered through '11-'12 only. Resolution to allow students to choose to use IGETC or CSU GE pattern for Foothill AA degree, and resolution to allow limited GE reciprocity, passed CCC on May 31 agenda and passed by FH academic senate on June 6, 2011, with implementation beginning Fall 2011.	Faculty encouraged to continue to submit courses for FH GE, CSU Breadth and/or IGETC approval. Beginning Fall '12, all courses on FH GE list must have been approved under the new GE guidelines. Deadline to submit applications for FH GE inclusion is Oct. 31, 2011.	**Medium**	Ongoing
College-Level Examination Program (CLEP) policy	Administered by the College Board, the program is intended to allowing students to earn college credit for satisfactory completion of a discipline-specific examination rather than by completing an actual college course. The Academic Senate of the CSU now supports the granting of credit for CLEP exams toward meeting GE requirements. Intersegmental faculty are also working to propose a policy about accepting CLEP credit toward Associate Degrees as well as IGETC. Foothill has not reviewed its CLEP policy in almost ten years. For more info: CLEP Exam descriptions ASCSU resolution on CLEP credit for GE	Review CLEP policy, and publish policy in College Catalog for transparency to students.	**Medium**	Not started

Noncredit Curriculum Process	Title 5 §55002 specifies that the process for development of curriculum must be mutually agreed upon between college administration and the academic senate. Because of concern from faculty teaching credit curriculum, it was mutually agreed that for at least the first year (2008-2009) noncredit curriculum would go first to the noncredit CC and then come to the CCC for final approval. However, the noncredit division would ultimately like to be able to develop and pass noncredit curriculum without having to gain approval from the CCC. For more info: Noncredit at a Glance	Review/revise current process as agreed upon	Medium	In process
Process for changing department titles/ four-letter indicators	Changing department titles and/or four-letter department indicators has the potential to impact courses and programs in other departments/divisions. CCC should discuss how best to enact and impart such changes across campus so that any potentially negative impact is avoided.	Develop formal process for changing titles and indicators	Med	Not started
Credit by Exam	Title 5 §55050 permits community colleges to award credit by exam, of which the nature and content is determined by discipline faculty. FHDA Board Policy 6030 sets district policy for credit by exam but this has not been reviewed since 1998. The ASCCC urges local senates to ensure that students are aware of opportunities for credit by exam (see resolution 9.08 F10).	CBE policy language revised and approved by CCC on April 19, 2011. **Work with APM committee to review current board policy and revise as appropriate**.	Medium	In progress administrative follow-up required

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Red-lining Policy	"Red-lining" is the practice whereby a student gets a sub-standard grade in a course at FH but then repeats the course at DA, FH crosses out the substandard FH grade (and removes it from the GPA) and allows the student to use the DA course and grade at FH.	Policy drafted, approved by CCC on April 19, 2011. **Finalizing petition form/process, ideally move to MyPortal during summer 2011.**	Medium	In progress; administrative follow-up required

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #: BUSI 35   **Division:** BSS

Course Title: Special Honors Project In Business

Catalog Description:

> Advanced readings, research, and/or project in business. Specific topics determined in consultation with instructor and student.

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission

1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

> In reference to section (a)(1), this course serves the primary mission of the California Community Colleges in that it provides academic instruction at the lower division level and provides students information to plan a course of study that will directly result in transfer to 4-year educational institutions with the intent of obtaining a degree.

2. *"A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members."*
    Adopted June 24, 2009
    This course is congruent with the Foothill College mission statement in that it:

> Supports the college's commitment to excellent in educational opportunities, provides a means to improve the student's opportunities in career preparation, lifelong learning and to transfer to a 4-year university, helps the students map out their academic goals in a more complete manner, and connects them with the faculty and staff who will be part of their lives while they are at Foothill.

Criteria B. -- Need (Explain)

> There is a demonstrable need for college special projects research courses. For many 4-year institutions the research courses taken by students make a significant difference in whether the student succeeds or not. The special projects research courses give students an opportunity to explore the discipline in a deeper manner and allows students to determine if a particular discipline is one they wish to focus on when they transfer. The course allows students to work in a seminar/ independent study format that allows them to improve their academic research and presentation skills.

Criteria C. -- Curriculum Standards (please initial as appropriate)

GV   The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.

_____   This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)

GV   This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)

GV   The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: Glenn Violett _____ **Date: 10/29/09**

Division Curriculum Representative: Patricia Gibbs_____ **Date: 5/25/11**

College Curriculum Co-Chairman: _____ **Date:** _____

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #: ENGR 40   **Division:** PSME

Course Title: INTRODUCTION TO CLEANTECH

Catalog Description:

Introduces the technical student to the field of clean energy technology, including modern energy systems and utility infrastructure, fossil fuel and renewable energy power generation, solar photovoltaic (PV) and wind technology, buildings as systems, green and LEED building, smart energy and active distribution (microgrid concept), transportation energy and advanced transportation solutions, and the future of sustainable energy systems. Overview of the energy industry, environmental and economic considerations, and key research and policy areas for clean and sustainable energy solutions. Provides students with a conceptual framework and foundation to proceed to more advanced study, as well as exploring emerging clean energy careers.

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission
1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

66010.4   (a)(1)

2. *"A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members."*
    Adopted June 24, 2009
    This course is congruent with the Foothill College mission statement in that it:

This course supports the career preparation mission of Foothill College

Criteria B. -- Need (Explain)

Students need the opportunity to prepare for new careers.

Criteria C. -- Curriculum Standards (please initial as appropriate)
MJF   The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.
MJF   This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)
MJF   This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. -- Compliance (please initial as appropriate)
MJF   The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: Marnie Francisco   **Date: 7/7/11**

Division Curriculum Representative: Marnie Francisco_____   **Date: 7/7/11**

College Curriculum Co-Chairman: _____   **Date:** _____

Foothill College Mission Statement:

Our Vision
Foothill College envisions itself as a community of scholars where a diverse population of students, faculty and staff intersect and are engaged in the search for truth and meaning. We recognize that by necessity this search must be informed by a multiplicity of disciplinary modes of inquiry. In order to ensure that every student has the opportunity to share in this vision, Foothill College commits itself to providing students with the necessary student support services, outstanding instruction, and opportunities for leadership both within and outside the classroom. By enacting this vision, the college ensures that it remains the distinctive and innovative institution it has been since its inception.

Our Values
HONESTY • INTEGRITY • TRUST • OPENNESS • TRANSPARENCY • FORGIVENESS • SUSTAINABILITY

Our Purpose
To provide access to educational opportunity for all with innovation and distinction.

Our Mission
A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members.

CCC System Office: Program and Course Approval Handbook—March 2003

Stand-alone Courses That Require Chancellor's Office Approval

New courses not part of an approved program, other than those that fall into one of the categories given blanket approval above, must be submitted to the Chancellor's Office for approval before being offered. This includes all non-degree-applicable courses. By definition, these courses are not part of any approved program.

Stand-alone courses will be reviewed using the same five broad criteria that are used for program approval:

• Mission
• Need
• Quality
• Feasibility
• Compliance

Approval Criteria

This section discusses the five criteria used by the Chancellor's Office to approve programs. A college must document that a proposed program meets all of these criteria before it will be approved. These criteria also broadly apply to the review of new courses.

These five criteria have been derived from statute, regulation, intersegmental agreements, guidelines provided by transfer institutions and industry, and the experience of those involved in the intersegmental and occupational review of courses, as well as the standards of good practice established in the field of curriculum design.

<u>Appropriateness to Mission</u>

The stated goals and objectives of the proposed program, or the objectives defined in the course Outline of Record, are consistent with the mission of the community colleges as established by the Legislature in the Education Code:

> **66010.4. Missions and function of public and independent institutions of higher education**
> The missions and functions of California's public and independent segments, and their respective institutions of higher education shall be differentiated as follows:
>
> (a) (1) The California Community Colleges shall, as a primary mission, offer academic and vocational instruction at the lower division level for both younger and older students, including those persons returning to school. Public community colleges shall offer instruction through but not beyond the second year of college. These institutions may grant the associate in arts and the associate in science degree.
>
> (2) In addition to the primary mission of academic and vocational instruction, the community colleges shall offer instruction and courses to achieve all of the following:
>
> (A) The provision of remedial instruction for those in need of it and, in conjunction with the school districts, instruction in English as a second language, adult noncredit instruction, and support services which help students succeed at the postsecondary level are reaffirmed and supported as essential and important functions of the community colleges.
>
> (B) The provision of adult noncredit education curricula in areas defined as being in the state's interest is an essential and important function of the community colleges.
>
> (C) The provision of community services courses and programs is an authorized function of the community colleges so long as their provision is compatible with an institution's ability to meet its obligations in its primary missions.
>
> (3) A primary mission of the California Community Colleges is to advance California's economic growth and global competitiveness through education, training, and services that contribute to continuous work force improvement.
>
> (4) The community colleges may conduct to the extent that state funding is provided, institutional research concerning student learning and retention as is needed to facilitate their educational missions

Curriculum falls within the mission when designed for lower division credit towards the degree, for purposes of transfer, occupational preparation, economic development, or career supplementation or upgrade. Non degree-applicable courses that develop the ability of enrolled students to succeed in college level courses, and adult noncredit instruction also fall within the mission. Community service and contract classes do not qualify for state funding, but are authorized if they are self-supporting.

For courses to be mission appropriate, they must provide systematic instruction in a body of content or skills whose mastery forms the basis of the student grade.
Following are some of the points the Chancellor's Office evaluates in judging whether a course or program fits within the system's mission:

• A program or course must be directed at the appropriate level for community colleges; that is, it must not be directed either at at a level beyond the associate degree or the first two years of college, or at the primary or secondary school level.

• A program or course must address a valid transfer, occupational, or basic skills purpose. It must not be primarily a vocational or recreational.

• A course must provide distinct instructional content and specific instructional objectives. It must not provide only an activity or service, without instructional content (e.g., assistive or therapeutic activity, use of college facilities or resources without specific instructional objectives, or assessment testing).

Programs and courses should also be congruent with the mission statement and comprehensive or master plan of the college and district.

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. The proposed new program would not cause harmful competition with any existing program at another college.

For transfer curriculum, need is presumed to exist if there is student demand for a program or course and its transfer applicability for a university major has been demonstrated; i.e., if it has been shown that the coursework required for the community college program substantially satisfies the lower-division coursework requirements for the corresponding university major.

For programs that are primarily occupational, or that respond to economic development interests, need must be demonstrated by supplying labor market information, an employer survey, and a job market analysis, or other comparable information that shows that jobs are available for program completers, and/or that job enhancement or upgrade are needed. In addition, a recommendation for approval must be obtained from the Regional Occupational Consortium.

The ordinary expectation is that labor market need must be shown within the service area of the individual college. However, if cooperative planning with neighboring colleges has occurred, labor market evidence for the region as a whole may be sufficient. (The composition of the 10 regions for vocational education, economic development, and workforce preparation purposes may be viewed on the World Wide Web at **http://www.cccco.edu/divisions/esed/voced/advisors/consortia.htm** .) Statewide or national labor market evidence may be included as supplementary support, but is not ordinarily acceptable in itself without specific service area or regional evidence of need. If the college believes the program has statewide or national importance and wishes to substitute statewide or national labor market evidence for local evidence, an explicit justification of why this is appropriate must be included.

Here are examples of the types of evidence of occupational need that may be submitted:

- Statistical projections of growth in specific jobs by county (or labor market area) from the Employment Development Department's Labor Market Information system. • Employer surveys.
- Industry studies.
- Regional economic studies.
- Letters from employers.
- Minutes of industry advisory committee meetings.
- Job advertisements, from newspapers or the World Wide Web.
- Newspaper or magazine articles on industry or employment trends.
- Studies or data from licensing agencies or professional associations.

Further specifics on occupational need are found in the Instructions for completing the application form for approval of a new occupational program (Appendix A).

Quality

Outlines of Record for each course meet all the requirements of Title 5, especially Sections 55002 and 55805.5. (See "Standards for All Courses, " p. 29.)
The program is designed so that successfully completing the program requirements will enable students to fulfill the program goals and objectives.
Courses and programs are integrated, with courses designed to effectively meet their objectives and the goals and objectives of the programs for which they are required.

Feasibility

The college has the resources realistically to maintain the program at the level of quality described in the new program application. This includes funding, faculty, and facilities and equipment.
The college commits to offering all the required courses for the program at least once every two years, unless the goals and rationale for the particular program justify a longer time frame as being in the best interests of students.
In the case of courses, the college has the resources needed to offer the course at the level of quality described in the Outline of Record.

Compliance

The design of the program or the course is not in conflict with any law. This includes both state and federal laws, and both statutes and regulations. It includes laws particularly affecting community colleges, as well as any other law that may affect the program or course (for example, licensing laws in a particular occupation).

Some of the areas of law in which compliance conflicts have arisen include:
- Open course regulations
- Course repeatability regulations
- Regulations requiring immediate supervision by a qualified instructor.
- Statutes and regulations on student fees.
- Prerequisite and enrollment limitation regulations.

- Particular provisions of the practice act for a health occupation.
- Constitutional prohibitions against political and religious activities in public instruction.

Because a number of compliance problems have arisen in the areas of fees and program admissions procedures, the Chancellor's Office has added a section to the program approval application asking colleges to discuss the fees charged and the program admission policies in programs for which approval is requested.

APPENDIX – BLANKET APPROVAL

The Chancellor's Office hereby waives individual approval of new stand-alone courses in the following categories only, and authorizes all colleges in the system to add such courses without individual course approval:

1. Courses which are accepted for major requirements or general education requirements at any California State University or University of California campus. Courses that are only transferable for elective credit are not included in this blanket approval. When a new community college course has been identified as similar to a specific course offered for general education or major purposes at a CSU or UC campus, and the community college curriculum committee has applied for the course to be accepted for general education or major purposes at CSU or UC, or for the Intersegmental General Education Transfer Curriculum (IGETC), the community college shall automatically be entitled to offer the course for a period of no more than fifteen months from the date of approval by the curriculum committee, without separate course approval from the Chancellor's Office, while the course is evaluated by CSU or UC for articulation. After that period, if the course is accepted by CSU or UC, or for IGETC, it is authorized under the permanent blanket approval for such courses. If it is not accepted by CSU or UC, the course may not continue to be offered except with individual stand-alone approval from the Chancellor's Office. This automatic limited-duration approval applies only to courses that have been identified as similar to courses offered for general education or major purposes at CSU or UC. Other stand-alone courses, even if intended for general education or major purposes, must either actually be accepted by CSU or UC, or be individually approved by the Chancellor's Office, before they are offered (unless one of the other blanket approval categories applies).

2. Courses in vocational T.O.P. codes, when the college has fewer than 12 semester units or 18 quarter units of stand-alone coursework in the same T.O.P. code. When the number of units of stand-alone coursework offered in a single vocational T.O.P. code reaches or exceeds 12 semester units or 18 quarter units, all stand-alone courses in that T.O.P. code must be submitted for approval to the Chancellor's Office. (If the college has courses in the same T.O.P. code that are part of an approved program, those courses are not counted for this rule.)

3. Cooperative work experience courses (both occupational work experience and general work experience), provided that the district operates its work experience program in accordance with its cooperative work experience plan, as approved by the Chancellor's Office. (See "Cooperative Work Experience Education," p. 51.)

4. Experimental courses, special topics courses, and special study courses. These courses may be offered without individual Chancellor's Office approval, provided that a course outline of record for the category is on file locally, all regular local curriculum approval processes are followed, and the categories are used for the purposes intended. In general, an experimental course is one for which full information on some approval criterion, such as feasibility or need, cannot be determined until the course is actually offered on a trial basis. An experimental course should generally be submitted for approval as a regular course, or discontinued, within one year. A special topics course is one which employs a consistent disciplinary framework, but for which the specific focus may change from term to term. An example is a special topics literature course in which the focus is on a different author each term. If a particular topic is offered regularly, it should be approved as a separate course. A special study course is one that involves an individual student or small group of students in study, research, or activities beyond the scope of regularly offered courses, pursuant to an agreement among the college, faculty member, and student(s).

5. Mandated public safety training courses, offered specifically to satisfy certification requirements of the California Commission on Peace Officers Standards and Training, or the California Fire Service Training and Education System, provided such courses are conducted according to the curricula and standards approved and disseminated by those agencies. While this blanket approval shall apply to stand-alone courses of this type, the establishment of a public safety training academy requiring a sequence of coursework totaling 18 semester or 27 quarter units or more shall continue to be considered establishment of an occupational program, subject to Chancellor's Office program approval.

Courses that are part of a program that has been disapproved by the Chancellor's Office are not included in the blanket approval, even if they otherwise fit one of the above criteria. Such courses may be submitted for consideration of individual stand-alone approval.

The curriculum committee should review each new course to see that it meets the standards of Title 5 regulations, and should also determine whether the course falls into one of the blanket approval categories. If it does not, or if it is part of a program that has been disapproved by the Chancellor's Office, it must be submitted individually to the Chancellor's Office for approval before being offered.

The Chancellor's Office may from time to time review a sample of stand-alone courses added to the curriculum under the conditions of this blanket approval. If unusual problems are found, the Chancellor's Office may cancel this authorization with respect to an individual college.

11/2/09

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #:   Soc 28   **Division:**   **Business and Social Sciences**

Course Title: **Sociology of Gender**

Catalog Description:

> This course applies sociological theories, concepts and perspectives to an understanding of gender. It focuses on how individuals think and act as gendered beings and how gender becomes an organizing principle in social life. Topics include the social construction of gender, theories of gender socialization, femininities and masculinities, gendered interactions and "doing gender," how race, class, nation and sexuality shapes gender, and gender inequality within social institutions, including politics, the economy, family, religion, education and health care.

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission
1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

> Offers lower-division instruction in Sociology for the purposes of transfer to a four-year university.

2. *"A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members."*
Adopted June 24, 2009
This course is congruent with the Foothill College mission statement in that it:

> Offers and educational opportunity for the purposes of transfer.

Criteria B. -- Need (Explain)

> This course is a part of the curriculum for the pending Associate in Arts in Sociology for Transfer.

Criteria C. -- Curriculum Standards (please initial as appropriate)
   JF   The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.
   _____   This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)
   JF   This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)

<u>JF</u>   The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: _____   **Date:** _____

Division Curriculum Representative: _____   **Date:** _____

College Curriculum Co-Chairman: _____   **Date:** _____

Foothill College Mission Statement:

Our Vision
Foothill College envisions itself as a community of scholars where a diverse population of students, faculty and staff intersect and are engaged in the search for truth and meaning. We recognize that by necessity this search must be informed by a multiplicity of disciplinary modes of inquiry. In order to ensure that every student has the opportunity to share in this vision, Foothill College commits itself to providing students with the necessary student support services, outstanding instruction, and opportunities for leadership both within and outside the classroom. By enacting this vision, the college ensures that it remains the distinctive and innovative institution it has been since its inception.

Our Values
HONESTY • INTEGRITY • TRUST • OPENNESS • TRANSPARENCY • FORGIVENESS • SUSTAINABILITY

Our Purpose
To provide access to educational opportunity for all with innovation and distinction.

Our Mission
A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members.

CCC System Office: Program and Course Approval Handbook—March 2003

Stand-alone Courses That Require Chancellor's Office Approval

New courses not part of an approved program must be submitted to the Chancellor's Office for approval before being offered. This includes all non-degree-applicable courses. By definition, these courses are not part of any approved program.

Stand-alone courses will be reviewed using the same five broad criteria that are used for program approval:

- Mission
- Need
- Quality
- Feasibility
- Compliance

Approval Criteria

This section discusses the five criteria used by the Chancellor's Office to approve programs. A college must document that a proposed program meets all of these criteria before it will be approved. These criteria also broadly apply to the review of new courses.

These five criteria have been derived from statute, regulation, intersegmental agreements, guidelines provided by transfer institutions and industry, and the experience of those involved in the intersegmental and occupational review of courses, as well as the standards of good practice established in the field of curriculum design.

Appropriateness to Mission

The stated goals and objectives of the proposed program, or the objectives defined in the course Outline of Record, are consistent with the mission of the community colleges as established by the Legislature in the Education Code:

> **66010.4. Missions and function of public and independent institutions of higher education**
> The missions and functions of California's public and independent segments, and their respective institutions of higher education shall be differentiated as follows:
>
> (a) (1) The California Community Colleges shall, as a primary mission, offer academic and vocational instruction at the lower division level for both younger and older students, including those persons returning to school. Public community colleges shall offer instruction through but not beyond the second year of college. These institutions may grant the associate in arts and the associate in science degree.
>
> (2) In addition to the primary mission of academic and vocational instruction, the community colleges shall offer instruction and courses to achieve all of the following:
>
> (A) The provision of remedial instruction for those in need of it and, in conjunction with the school districts, instruction in English as a second language, adult noncredit instruction, and support services which help students succeed at the postsecondary level are reaffirmed and supported as essential and important functions of the community colleges.
>
> (B) The provision of adult noncredit education curricula in areas defined as being in the state's interest is an essential and important function of the community colleges.
>
> (C) The provision of community services courses and programs is an authorized function of the community colleges so long as their provision is compatible with an institution's ability to meet its obligations in its primary missions.
>
> (3) A primary mission of the California Community Colleges is to advance California's economic growth and global competitiveness through education, training, and services that contribute to continuous work force improvement.
>
> (4) The community colleges may conduct to the extent that state funding is provided, institutional research concerning student learning and retention as is needed to facilitate their educational missions

Curriculum falls within the mission when designed for lower division credit towards the degree, for purposes of transfer, occupational preparation, economic development, or career supplementation or upgrade. Non degree-applicable courses that develop the ability of enrolled students to succeed in college level courses, and adult noncredit instruction also fall within the mission. Community service and contract classes do not qualify for state funding, but are authorized if they are self-supporting.

For courses to be mission appropriate, they must provide systematic instruction in a body of content or skills whose mastery forms the basis of the student grade.
Following are some of the points the Chancellor's Office evaluates in judging whether a course or program fits within the system's mission:

• A program or course must be directed at the appropriate level for community colleges; that is, it must not be directed either at at a level beyond the associate degree or the first two years of college, or at the primary or secondary school level.

• A program or course must address a valid transfer, occupational, or basic skills purpose. It must not be primarily a vocational or recreational.

• A course must provide distinct instructional content and specific instructional objectives. It must not provide only an activity or service, without instructional content (e.g., assistive or therapeutic activity, use of college facilities or resources without specific instructional objectives, or assessment testing).

Programs and courses should also be congruent with the mission statement and comprehensive or master plan of the college and district.

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. The proposed new program would not cause harmful competition with any existing program at another college.

For transfer curriculum, need is presumed to exist if there is student demand for a program or course and its transfer applicability for a university major has been demonstrated; i.e., if it has been shown that the coursework required for the community college program substantially satisfies the lower-division coursework requirements for the corresponding university major.

For programs that are primarily occupational, or that respond to economic development interests, need must be demonstrated by supplying labor market information, an employer survey, and a job market analysis, or other comparable information that shows that jobs are available for program completers, and/or that job enhancement or upgrade are needed. In addition, a recommendation for approval must be obtained from the Regional Occupational Consortium.

The ordinary expectation is that labor market need must be shown within the service area of the individual college. However, if cooperative planning with neighboring colleges has occurred, labor market evidence for the region as a whole may be sufficient. (The composition of the 10 regions for vocational education, economic development, and workforce preparation purposes may be viewed on the World Wide Web at **http://www.cccco.edu/divisions/esed/voced/advisors/consortia.htm** .) Statewide or national labor market evidence may be included as supplementary support, but is not ordinarily acceptable in itself without specific service area or regional evidence of need. If the college believes the program has statewide or national importance and wishes to substitute statewide or national labor market evidence for local evidence, an explicit justification of why this is appropriate must be included.

Here are examples of the types of evidence of occupational need that may be submitted:

- Statistical projections of growth in specific jobs by county (or labor market area) from the Employment Development Department's Labor Market Information system. • Employer surveys.
- Industry studies.
- Regional economic studies.
- Letters from employers.
- Minutes of industry advisory committee meetings.
- Job advertisements, from newspapers or the World Wide Web.
- Newspaper or magazine articles on industry or employment trends.
- Studies or data from licensing agencies or professional associations.

Further specifics on occupational need are found in the Instructions for completing the application form for approval of a new occupational program.

Quality

Outlines of Record for each course meet all the requirements of Title 5, especially Sections 55002 and 55805.5. (See "Standards for All Courses, " p. 29.)
The program is designed so that successfully completing the program requirements will enable students to fulfill the program goals and objectives.
Courses and programs are integrated, with courses designed to effectively meet their objectives and the goals and objectives of the programs for which they are required.

Feasibility

The college has the resources realistically to maintain the program at the level of quality described in the new program application. This includes funding, faculty, and facilities and equipment.
The college commits to offering all the required courses for the program at least once every two years, unless the goals and rationale for the particular program justify a longer time frame as being in the best interests of students.
In the case of courses, the college has the resources needed to offer the course at the level of quality described in the Outline of Record.

Compliance

The design of the program or the course is not in conflict with any law. This includes both state and federal laws, and both statutes and regulations. It includes laws particularly affecting community colleges, as well as any other law that may affect the program or course (for example, licensing laws in a particular occupation).

Some of the areas of law in which compliance conflicts have arisen include:
• Open course regulations
• Course repeatability regulations
• Regulations requiring immediate supervision by a qualified instructor.
• Statutes and regulations on student fees.
• Prerequisite and enrollment limitation regulations.

• Particular provisions of the practice act for a health occupation.
• Constitutional prohibitions against political and religious activities in public instruction.

Because a number of compliance problems have arisen in the areas of fees and program admissions procedures, the Chancellor's Office has added a section to the program approval application asking colleges to discuss the fees charged and the program admission policies in programs for which approval is requested.

11/2/09

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #:   Soc 14   **Division:**   **Business and Social Sciences**

Course Title: Sociology of Crime

Catalog Description:

> Examines the social context of crime and deviance. Topics may include theories of crime and deviance; the criminal justice system; white collar, organized, and street crime; social class, race, ethnicity, sex, gender, and crime; and legal implications of crime and deviance. Socioeconomic and multicultural issues emphasized throughout the course. Sociological concepts of deviance and social control. Theories of structural conditions contributing to conformity and non-conformity will be explored.

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission
1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

> Offers lower-division instruction in Sociology for the purposes of transfer to a four-year university.

2. *"A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members."*
    Adopted June 24, 2009
    This course is congruent with the Foothill College mission statement in that it:

> Offers an educational opportunity for the purposes of transfer.

Criteria B. -- Need (Explain)

> This course is a part of the curriculum for the pending Associate in Arts in Sociology for Transfer.

Criteria C. -- Curriculum Standards (please initial as appropriate)
JF   The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.

_____   This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)
JF____This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)
JF____The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: _____ John Fox _____ Date: 7/14/11

Division Curriculum Representative: _____ Date: 7/14/11

College Curriculum Co-Chairman: _____ Date: _____

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #: THTR 27   **Division:** FINE ARTS

Course Title: LIGHTING DESIGN AND TECHNOLOGY

Catalog Description:

A survey of lighting design for the theatre, film and television. An introduction to the basic elements of electrical wiring, lighting instruments, lighting control devices, and lighting special effects. Use of computer to design stage lighting.

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission

1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

PROVIDES STUDENTS WITH SKILLS APPLICABLE TO EMPLOYMENT OPPORTUNITIES IN THE THEATRE,FILM AND TELEVISION INDUSTRIES

2. *"A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members."* *Adopted June 24, 2009*

This course is congruent with the Foothill College mission statement in that it:

PREPARES STUDENTS FOR ENTRY LEVEL POSITIONS IN THE THEATRE, FILM AND TELEVISION INDUSTRIES

Criteria B. -- Need (Explain)

THIS COURSE IS AN INTEGRAL COMPONENT FOR CAREER TRAINING IN THE TECHNICAL THEATRE, TELEVISION AND FILM INDUSTRIES AND SUPPORTS THE PERFORMANCE PROGRAMS OF THE THEATRE ARTS DEPARTMENT.
THE COURSE WILL BE INCORPORATED INTO THE AA DEGREE IN THEATRE TECHNOLOGY BEGINNING IN SUMMER 2012

Criteria C. -- Curriculum Standards (please initial as appropriate)

_____   The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.

_____   This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)

_____   This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)

_____   The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: BRUCE MCLEOD   **Date:** 28 JULY, 2011

Division Curriculum Representative: Robert Hartwell_____   **Date: 7/30/11___**

College Curriculum Co-Chairman: _____   **Date:** _____

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #:   THTR 32   **Division:**   FINE ARTS

Course Title: CAD DRAFTING FOR THEATRE, FILM AND TELEVISION

Catalog Description:

Survey of computer drafting techniques for the theatre, film and television. Introduction to the basic elements of graphic expression and techniques used in presenting stage designs for designers and technicians working in the performing arts. Use of computer technology to present ground plans, elevations and working drawings for theatre designs.

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission

1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

PROVIDES STUDENTS WITH SKILLS APPLICABLE TO EMPLOYMENT OPPORTUNITIES IN THE THEATRE,FILM AND TELEVISION INDUSTRIES

2. *"A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members."* *Adopted June 24, 2009*

This course is congruent with the Foothill College mission statement in that it:

PREPARES STUDENTS FOR ENTRY LEVEL POSITIONS IN THE THEATRE, FILM AND TELEVISION INDUSTRIES

Criteria B. -- Need (Explain)

THIS COURSE IS AN INTEGRAL COMPONENT FOR CAREER TRAINING IN THE TECHNICAL THEATRE, TELEVISION AND FILM INDUSTRIES AND SUPPORTS THE PERFORMANCE PROGRAMS OF THE THEATRE ARTS DEPARTMENT.
THE COURSE WILL BE INCORPORATED INTO THE AA DEGREE IN THEATRE TECHNOLOGY BEGINNING IN SUMMER 2012

Criteria C. -- Curriculum Standards (please initial as appropriate)

_____   The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.

_____   This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)

_____   This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)

_____   The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: BRUCE MCLEOD   **Date:** 28 JULY, 2011

Division Curriculum Representative: Robert Hartwell_____   **Date: 7/30/11**____

College Curriculum Co-Chairman: _____   **Date:** _____

IMPLEMENTING CONTENT REVIEW FOR COMMUNICATION AND COMPUTATION PREREQUISITES

ADOPTED SPRING 2011

Contents

Abstract

This paper is one of a collection of papers written by the Academic Senate for California Community Colleges (ASCCC) to support the use of content review as the basis for establishing communication and computation prerequisites. *Student Success: The Case for Establishing Prerequisites Through Content Review* was adopted at the Fall 2010 Academic Senate Plenary Session and provides the rationale for recommending a Title 5 change that would permit the use of content review as the primary means of validating communication and computation prerequisites. This paper serves as a follow-up to the earlier one, providing guidance for local colleges that wish to move from statistical validation of prerequisites to reliance on content review. While content review has always been a required component of the process of assessing the skills needed for student success in a given course, the use of content review absent statistical validation will require a review and possible modification of existing content review processes to ensure the necessary rigor. A third paper on the use of multiple measures, a component of the assessment for placement process is also planned. Any change in local prerequisite practices that increases the use of communication and computation prerequisites will require planning to ensure that resources are allocated to meet any increased demand for assessment and counseling services and basic skills course offerings. This paper provides not only an overview of effective practices relating to content review, but also suggestions regarding more global considerations. Because the use of prerequisites will likely increase in the future as reliance on content review as the means of validating prerequisites becomes more common, planning to minimize negative unintended consequences is critical. Assuring students on-going access to courses for which they are prepared must be a primary consideration as changes are made to further student success through the appropriate use of prerequisites.

Background

Declines in student success as measured by course, program, and degree completion rates led faculty to conclude that more must be done to communicate the level of student preparation necessary for success in a limited but crucial range of courses in community colleges. For that reason, the Academic Senate adopted resolutions urging expanded use of content review for establishing prerequisites and advocated for a Title 5 change that makes optional the requirement of statistical validation for the establishment of communication and computation prerequisites. *Student Success: The Case for Establishing Prerequisites Through Content Review* (ASCCC, 2010) provides a detailed overview of the history of prerequisites and the rationale for reliance on content review for all prerequisites.

Since the early 1990's, communication (English and reading) and computation (mathematics) prerequisites for courses in other disciplines (e.g., a reading prerequisite for a history course or a math prerequisite for an economics course) have been established only on the basis of statistical validation unless receiving universities require the prerequisite. As a consequence, prerequisites often were not placed on courses due to the perceived complexity of conducting the required research or an inability to validate the prerequisite by statistical means. Effective use of statistical validation requires a demonstrated lack of student success that may not be evident

across all course sections due to small sample size, variation in faculty expectations, availability and student use of support services, average level of student preparation, and a wide array of external factors that are not readily quantifiable. This approach to the validation of prerequisites is unique to the California community colleges; no other higher education faculty is required to use statistical validation to establish the legitimacy of prerequisites. As a consequence, California community college students were often able to enroll in courses in which they were not prepared to succeed. The Academic Senate has passed numerous resolutions regarding prerequisites over the past decade, and a variety of external scholars and policymakers have questioned the wisdom of mandatory statistical validation for establishing prerequisites. The purpose of this paper is to guide the implementation of a modified approach to prerequisites. In March 2011, the Board of Governors adopted Title 5 language (Appendix A) that will permit colleges to establish communication and computation prerequisites based on content review alone. Colleges, of course, may continue to use content review and statistical validation together; the adopted language is permissive and would enable colleges to determine whether or not, when, and how statistical validation is required locally. Regardless of the role of quantitative data in the validation process, data collection will be necessary to determine the impact of any new prerequisites. Since statistical validation is not new to the regulations, this paper will focus on assisting faculty with expanding the content review process so that communication and computation prerequisites can be identified and implemented when necessary and appropriate.

Introduction

Transitioning from the use of statistical validation to the use of content review for the establishment of communication and computation prerequisites will require a local examination of policies and procedures directly related to the processes for determining the recommended preparation for courses and planning for a potential shift in course enrollments. Any implementation of new prerequisites should be conducted with a consideration of both student access and student success. Leaving students who lack basic skills with no course options is no more appropriate than permitting students to enroll in classes in which they have little chance of success. Local conversations about prerequisites need to focus on not only the content review process, but also on planning for a likely increase in demand for assessment for placement, counseling services, courses that do not have prerequisites, and basic skills courses. Planning is critical and should involve the implementation process, as well as a long-term plan for assessing the impact of new prerequisites. Prerequisites have always been subject to periodic review; this requirement is unchanged. The revised Title 5 regulations, however, expand the district's obligation to anticipate the impact of and plan for new prerequisites, including taking measures to ensure the availability of course options for all students. Even if statistical validation is no longer required for the establishment of prerequisites, research on the impact of prerequisites must be both on-going and well-planned.

Some colleges have content review committees, some use forms, and others rely on the curriculum committee to provide a thorough review of the proposed prerequisite with input from the discipline faculty. In all cases, content review must be a documented process that is understood by all faculty interested in establishing a prerequisite for a course, and the curriculum committee must vote separately to establish the prerequisite based on evidence provided by the discipline faculty that demonstrates that the prerequisite is both necessary and

appropriate. Arriving at that point means that faculty will have engaged in a thoughtful, complete review of the course, how it is taught, all elements of the course outline of record (COR), and then a matching of the prerequisite skills to computation and communication courses.

In order to implement a prerequisite for any course, the COR must delineate the skills and knowledge that are necessary to succeed in the course and the assignments or assessments that make this preparation necessary. Discipline faculty must agree as to the rigor and types of assignments that are necessary and be committed to teaching to the COR as adopted. A well-written course outline will provide the details necessary to ensure consistency across sections while permitting individual faculty freedom to make appropriate instructional decisions based on their own pedagogy and style. The COR thus helps to maintain the integrity of the course from one section to another and creates consensus on the expectations and demands for preparation prior to enrollment. Without establishing this common ground, instructors lose credibility in their request for prerequisites.

The local academic senate, curriculum committee, and discipline faculty all have roles to play to make the process work. Faculty will work together within and across disciplines to ensure that students understand the skills and knowledge necessary for success in the course. Academic senates and curriculum committees must work together to develop processes, plans, and board policies to allow for options in establishing prerequisites.

Regulatory Changes

THE RULES GOVERNING PREREQUISITES ARE FOUND in Title 5 §55003, and the amendments to this regulation provide curriculum committees more flexibility in determining what prerequisites are necessary to ensure the potential for student success. Colleges wishing to implement new prerequisites through content review will need to know what has and has not changed in regulation. Much more is unchanged regarding prerequisites than is new. The following aspects of prerequisites remain unchanged:

- prerequisites continue to be mandatory when a student is "highly unlikely to succeed" with-out the prerequisite;
- prerequisites must still be validated on a course-by-course and/or program-by-program basis;
- prerequisites must be revalidated every six years or two years for career technical education (CTE, i.e., vocational) courses;
- prerequisites or corequisites may still be required without validation when they are (1) re-quired by statute or regulation, (2) part of a lecture-lab pairing, and (3) required by a four-year college;
- colleges must still be attentive to and seek to alleviate any disproportionate impact; and
- students may challenge prerequisites.

The primary change in the revised version of §55003 is that colleges may choose between "traditional" content review in combination with statistical validation or content review as accompanied by additional requirements. Content review as described in this paper could be used to establish prerequisites, but only when colleges meet additional criteria, as described in a plan developed by the college, which addresses the following:

- ‣ the method used to determine which courses might be the most compelling candidates for new prerequisites;
- ‣ the provision of appropriate numbers of prerequisites course sections;
- ‣ the assurance that other degree applicable courses are available such that student progress toward their educational goals is not unnecessarily impeded;
- ‣ training for the curriculum committee; and
- ‣ the use of research to evaluate the effect of new prerequisites on student success, with particular attention to disproportionate impact.

The requirement that colleges develop an implementation plan should have the effect of bringing together discipline faculty, curriculum committee members, senate leaders, and key administrators to identify parts of the curriculum in which the introduction of a prerequisite might significantly improve student success. The new regulatory elements require that the college have developed an intentional strategy of identifying such courses and that the curriculum committee be trained before new prerequisites may be applied. Additionally, those responsible for enrollment management must assure that students have opportunities to reach their educational goals by making adequate provision for both prerequisite courses and degree applicable courses that do not require prerequisites or require lower-level prerequisites.

The evaluation of the effect of new prerequisites should be especially manageable because the Chancellor's Office will use data from the curriculum inventory to track newly developed prerequisites. These data will allow evaluation of the effect of new prerequisites not only at the campus level but at the regional and state level as well.

Using Data to Prioritize Courses for Prerequisite Implementation

Data and other forms of evidence will be a critical element in a college's development of its prerequisite plan and useful to discipline faculty as they prioritize which courses should be considered for the establishment of new prerequisites. Quantitative and qualitative data may help to establish trends or patterns of success that may be affected by student preparation for a course. Examining success rates for all students in all courses in a discipline can help faculty identify the course with the lowest student success as measured by withdrawal and pass rates. This course may be the best and first to consider for a prerequisite in the discipline. Alternatively, courses where students are generally more prepared may also be viable candidates; if a course has a high pass rate due to students generally being more prepared, proper signaling of a required level of preparation may protect students from enrolling in a course in which they have little chance of success. In some courses, the need for a prerequisite might be readily established by statistical means, but the need may not have been documented and the prerequisite not implemented as the majority of the students have the necessary level of preparation. In other words, students who do not have the necessary communication or computation skills rarely enroll in the course and therefore there is less evidence of a lack of student success; adding a prerequisite would merely enforce the status quo. The establishment of prerequisites in such instances would likely have a minimal overall impact.

Both regulatory language and common sense require that the addition of new prerequisites be phased in at an appropriate pace that does not unreasonably impede student progress or unduly disrupt college-scheduling decisions. One approach to expanding the use of prerequisites may be to determine which disciplines feel that prerequisites are needed for their courses and then to identify one course in each of those disciplines that most warrants a prerequisite. After each discipline that perceives a need for prerequisites identifies one course with the lowest rates of student success, then curriculum committees could prepare to assist faculty with the next steps to confirm that a prerequisite is warranted as well as the correct level or course for the prerequisite. This approach to prioritization will assist in planning and enrollment management for the college and workload management for the curriculum committee.

Further disaggregation and examination of student success data will show whether any specific cohorts of students are struggling with success. Faculty will want to address disproportionate impact immediately, whether with a prerequisite on a course or other intervention strategy to improve success. Local implementation plans will need to include an approach to the establishment of new prerequisites that is thoughtful, cautious, and mindful of the impact on students and college resources.

Other forms of evidence that faculty may want to consider in determining the need for a prerequisite include the use of existing support provided to students in particular courses such as tutoring services on campus. Tutoring centers and labs may have data on student use of services, the type of tutoring received, and other information that may inform the discussions about a need for a communication or computation prerequisite. While such services and interventions complement strategies to improve student success, they also may mask the greater need that students have for a stronger foundation in basic skills. Continued use of certain tutoring services or assistance in a writing center in a given term may not bring a student to the needed skill, and expecting a student to meet the requirements of the course while filling gaps in prior knowledge from tutors may not best serve students. Evidence from the tutoring and writing centers can provide various types of useful data that can help faculty determine which courses might need prerequisites.

The assessment for placement process is another source of data which may contribute to an understanding of the preparation of students and the need for establishing prerequisites. Assessment office staff can provide information on the number of students placing into basic skills courses below transfer which can give a sense of the number of basic skills sections required to meet student need. In addition, success rates of students placed into basic skills courses can be tracked to the types of degree applicable or transfer level courses in which they register and their success in those courses. Courses where students have low success rates may be courses where student placement scores are also low. Researchers may also be able to assist with analyzing assessment for placement scores. Success rates and placement into basic skills sequences are related measures that can inform the prioritization of courses for prerequisites.

If faculty use the many tools available to them, determining a need for a communication or computation prerequisite will be a thoughtful and deliberative process. Colleges choosing to use content review to establish prerequisites without statistical validation should nevertheless collect and use data and evidence of various types in considering which courses need prerequisites and what specific prerequisites are appropriate. By considering factors determined through data analysis and strategies in place at the college, faculty can move thoughtfully to the next step in the process, which involves participating in the content review of courses and using faculty's professional expertise to determine the best preparation for students.

Once the prerequisite is established, data on student success must be tracked. The initial collection and review of data prior to establishing the prerequisite will form the baseline for future comparisons. Prerequisites must be reviewed every six years (or two years for career technical education courses and programs), but student performance should be monitored much more frequently in order to ensure that the identified prerequisite is having the anticipated impact on student success and not creating an unwarranted barrier to access. Curriculum committees, as well as discipline faculty, will want assistance from researchers to find the best means to track student performance in courses with newly established prerequisites.

Content Review Revisited

The content review process begins with a review of the COR. The COR delineates not only the content of the course, but also the competencies a student is expected to achieve (objectives and/or student learning outcomes), the assignments to be completed (e.g., reading assignments, projects, and reports), and the assessments that will be used to measure student performance. During the initial approval of a course and subsequent revisions, a content review is conducted. The COR is examined and the skills and knowledge a student needs for success are identified. When faculty determine that content knowledge within the discipline is necessary for success, content review has always sufficed for the establishment of a prerequisite. For example, if a biological psychology course presumes student understanding of basic psychology concepts, the faculty have always been able to establish a psychology course as a prerequisite. Similarly, math and English coursework typically consists of intradisciplinary sequenced courses that build upon one another. However, a more complex, interdisciplinary content review process is needed to determine that an English or reading prerequisite is appropriate for a psychology, history, or political science course or that a math prerequisite is appropriate for an economics or automotive course.

In some instances, these issues have been resolved by the expectations of the California State University and University of California systems. In those cases where interdisciplinary communication and computation prerequisites exist at the university for courses that are taught at the community college, the community colleges are able to implement those prerequisites without statistical validation – and even without justification by content review. For example, the University of California requires that community college courses that are intended to serve as lower division preparation for the Biological Sciences major at the University of California must have a prerequisite of Intermediate Algebra (*http://info.assist.org/pdf/assist/2009_uc_tca_letter.pdf*). But beyond those specific instances, California community colleges currently offer courses which are deemed comparable to university courses by virtue of existing articulation agreements but which may not expect or require students to have the skills that they would necessarily have upon acceptance to the university. This discrepancy, and the resulting impact on student success, is one issue that using content review for communication and computation prerequisites seeks to address.

The term "content review" is a misnomer. The content review process is far more than a mere examination of the content of a proposed or existing course. Rather, content review is a process that determines what skills or knowledge are required for success in a given course and how that preparation can be obtained in order to

advise or require students to acquire the necessary preparation prior to enrolling in (prerequisite) or while taking (corequisite) a given course. It is more than reviewing the traditional "exit and entrance skills" and involves examining how the course is taught and all components of the COR.

As a starting point for ensuring that local content review processes are sufficiently rigorous for use in establishing prerequisites, one may consider the description of content review provided in *The Model District Policy on Prerequisites, Corequisites, and Advisories on Recommended Preparation* (*Model District Policy*, Board of Governors, 1993). While much of this document may be dated, its treatment of content review remains relevant and serves as a useful reference for colleges as they prepare for a transition to a greater reliance on content review. The following excerpt is particularly noteworthy and clearly delineates the necessary steps and participants in the content review process.

It is crucial that there be a careful content review process and that the specific steps of that process are clearly specified in the policy. It is also crucial that the approval of the prerequisite or corequisite (or advisory) be done explicitly and not be inferred from the approval of the course. Lastly, it is also crucial that provision be made for providing those with expertise in the discipline in question an adequate voice in the content review process.

(1) Approve the course; and,

(2) As a separate action, approve any prerequisite or corequisite, only if:

(a) 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 including, at a minimum, all of the following:

i. involvement of faculty with appropriate expertise;

ii. consideration of course objectives set by relevant department(s) (the curriculum review process should be done in a manner that is in accordance with accreditation standards);

iii. be based on a detailed course syllabus and outline of record, tests, related instructional materials, course format, type and number of examinations, and grading criteria;

iv. specification of the body of knowledge and/or skills which are deemed necessary at entry and/or concurrent with enrollment;

v. identification and review of the prerequisite or corequisite which develops the body of knowledge and/or measures skills identified under iv.

vi. matching of the knowledge and skills in the targeted course (identified under iv.) and those developed or measured by the prerequisite or corequisite (i.e., the course or assessment identified under v.); and

vii. maintain documentation that the above steps were taken.

One consequence of a greater reliance on a robust content review process should be a greater consistency not only in the skills of students, but in the manner in which courses are taught. Content review, as described in *Model*

District Policy, moves beyond a review of the COR and includes references to documents that would necessarily involve a consideration of *how* the course is taught, not merely how it is described in the COR. The section from *Model District Policy* that lists the items to be considered in a rigorous content review (iii above) includes not only the COR, but also syllabi, number of examinations, and grading criteria. Such requirements move the dialogue away from the COR and to a consideration of how individual faculty are teaching the course. A robust content review process needs to involve a discussion of not just what the COR describes, but how that COR is implemented at the section level. Faculty should share not only how they are teaching their courses as described in the syllabus, but sample assignments and examinations. Review of the assessments used may even involve faculty who teach the proposed prerequisites to ensure that the assessments are consistent with the identified skills and courses. Grading rubrics, for example, could be used to show the skills and tasks that students must complete in order to earn a passing grade on an assignment. Every aspect of a course should be discussed and reviewed by those teaching the course to prepare the most complete view of the course content and the preparation needed by students. Syllabus sharing among faculty teaching the course will confirm expectations for students across the course, and the number of major assignments as well as the weight of each assignment can be discussed. Such a discussion among discipline faculty will ensure the integrity and rigor of a course across all class sections without impinging on the pedagogy and creativity of individual faculty members as they work within agreed-upon standards to design their instruction according to their own styles and preferences.

The chart that follows might serve as a conversation starter for faculty who are conducting a content review for the purpose of establishing a communication or computation prerequisite. Curriculum committees may adopt or modify this model based on input from discipline faculty as a component of their content review process. As a sample, the methods of evaluations and assignments sections of the grid are provided here from the full chart which is included in Appendix B.

Content Review Conversation Starter

Element of the COR	English Composition	Mathematics	Reading
Methods of Evaluation	Students must express their understanding of the course content though college-level, academic writing assignments. Students must express their understanding through in-class writing such as essay exams. Students must know how to locate outside resources relevant to the course content, document their research properly, and incorporate that research into their writing clearly and effectively.	Students must know how to complete certain calculations using a calculator on exams. Students need to interpret graphs, make graphs on tests or in reports, organize data, report data. Students have equations to solve on tests, quizzes, or other assignments: linear equations? Nonlinear equations?	Students must express their understanding of the course content as it is presented in written materials (textbooks, primary sources, secondary sources, etc.) Students must know how to locate outside resources relevant to the course content (determining a source's relevance is linked to a sophisticated reading level.) Bibliographies
Assignments	Outlines, essays, research papers, essay exams, bibliographies or other research assignments.	Conducting elementary research. Reporting results of surveys, lab tests, etc. Producing quantitative information in graph, numerical or paragraph form. Homework exercises include quantitative problem solving, applications or word problems.	Expected types and levels of reading materials outside of class.

As faculty begin to identify and list the skills and knowledge that students will need or are expected to have in order to succeed in a given course, the mathematics, English, and reading faculty will be able to assist with determining the appropriate course where the skills are learned and tested. The faculty who teach potential prerequisite courses might develop guides similar to the example presented in Appendix B or in other forms that may be used by faculty in other disciplines to use in deciding which course would be the best prerequisite.

Determining the Correct Prerequisite

Determining the need for a prerequisite through content review is one step in the process of establishing cross-disciplinary prerequisites. Next, faculty must identify the appropriate prerequisite course or courses. Locally developed guides, a review of the CORs of potential prerequisite courses, and course basic (CB) 21 code rubrics may all inform the process of determining the correct prerequisite.

Matching the necessary entrance skills with existing courses may take some time and effort. In many cases, no one course may offer a perfect one-to-one match, and faculty therefore will have to make decisions based on the minimum skills that are absolutely essential for students to have prior to enrolling in the course. For example, some courses demand that students have a broad experience with mathematical content so that they have a strong quantitative sense and maturity while other courses demand that students have specific skills, such as mastery of percents or fractions. The content review process should reveal which circumstance exists for the course: general background and maturity or very specific skills. Then a prerequisite course or courses may be recommended. In other instances, a given level of English proficiency may be preferred and more desirable, but the student's chances of success are greatly enhanced by a course one level lower. Every effort should be made to be less restrictive in the establishment of prerequisites; students should not be barred from enrolling in a course in which they have a reasonable chance of success.

The CB21 rubrics, created by discipline faculty in English, reading, English as a Second Language (ESL), and mathematics, list the content and exit skills for courses below transfer for the purpose of ensuring consistency in coding across colleges and districts. These Academic Senate endorsed rubrics provide a consistent map of the content of courses, the relationship to transfer level, and easily understood terminology for discipline faculty and curriculum committee members to grasp. At colleges where some or all courses are aligned with these rubrics, they can inform the prerequisite discussion. The English composition rubric for the course one level below transfer English is provided here as an example, and the other rubrics may be accessed from the Chancellor's Office website at *http://www.cccco.edu/ChancellorsOffice/Divisions/TechResearchInfo/MIS/tabid/1275/Default.aspx* (click on "Memos" and scroll down to "MIS Data Submission Updates"). The complete English rubric may be found in Appendix C, and all the others electronically.

Locally developed guides may also be useful. Below is a sample that one college uses to guide faculty in making determinations regarding recommended communication preparation. A sample for mathematics can be found in Appendix D. This guide is intended to aid faculty in the selection of a course based on what they expect students to be able to do. For example, if short essays will be required, ENGL 30 or the equivalent is appropriate, and if students are expected to read a college-level text, READ 23 is the course that will teach students these skills. This model includes not merely a list of the outcomes of the preparatory courses, but a guide intended to assist faculty in other areas in selecting the appropriate preparation.

ENGL 30 OR ESL 197 OR APPROPRIATE ASSESSMENT:

- ‣ Write basic paragraphs and short essays with limited introductory and concluding remarks
- ‣ Write with some patterns of grammatical and mechanical errors and simple sentence structures, but demonstrate adequate fluency in grammar and mechanics to qualify for intermediate-level composition

> ‣ Write with occasionally limited detail and weak analysis, but demonstrate adequate detail and analysis to qualify for intermediate-level composition

> ‣ Write with at times weak paragraph organization, but demonstrate adequate organization to qualify for intermediate-level composition

ENGL 35 OR ESL 198 OR APPROPRIATE ASSESSMENT:

> ‣ Write a multi-paragraph essay with a thesis statement and general introductory and concluding remarks

> ‣ Write with some grammatical errors, but demonstrate adequate fluency in grammar and mechanics to qualify for freshman composition

> ‣ Write with some specific details and some analysis and reflection, demonstrating adequate detail and analysis to qualify for freshman composition

> ‣ Write with occasional errors in paragraph organization, but demonstrate mostly good paragraph organization and transitions

ENGL 101:

> ‣ Write a multi-paragraph essay with a thesis statement and the use of outside research sources to support the thesis

> ‣ Analyze research material adequately but with occasional errors in analysis

> ‣ Incorporate research material into student writing with some errors but with enough fluency and accuracy to demonstrate college-level proficiency

> ‣ Document outside research material using MLA format with some errors but with enough fluency and accuracy to demonstrate college-level proficiency

> ‣ Write with some grammatical and organizational errors, but demonstrate college-level proficiency in organization, grammar, and mechanics

READ 022 OR APPROPRIATE ASSESSMENT – READ INSTRUCTOR-GENERATED HANDOUTS

READ 023 OR APPROPRIATE ASSESSMENT – READ A COLLEGE-LEVEL TEXTBOOK

Another example is included in Appendix D and demonstrates the conversation between geology and mathematics faculty in possibly determining a prerequisite for a geology lab. The conversation is documented to show the types of questions and considerations for cross-disciplinary discussions of determining the correct prerequisite. The example is included to assist faculty and curriculum committees with the outcomes that may result from content review.

Role of the Local Academic Senate

The work of the local academic senate in the implementation of prerequisites spotlights the senate's role in participating in governance, delegating or assuming responsibility for the implementation plan, and monitoring student success. Because of its authority for curriculum, including prerequisites, as stated in Title 5 § 53200, the senate should be actively involved in determining the direction of prerequisite implementation for the college. The senate should recommend board policy and procedures and enrollment management options, as well as endorse a re-invigorated content review process. A successful implementation process and plan will have the senate at the helm, guiding all aspects of this effort to increase student success.

Before any changes can occur to a college's current practice of establishing cross-disciplinary communication and computation prerequisites, the local senate must review its options. Title 5 regulations now give faculty the choice of establishing cross-disciplinary prerequisites through content review alone or continuing to rely on content review plus statistical validation. Faculty will need information about the pros and cons of both options before making a decision. Information in this paper can help, and the researcher for the college or district may also be available to assist with understanding the statistical process. Although content review is not new to the curriculum process, the content review process employed for the establishment of cross-disciplinary prerequisites is necessarily a more involved process than what many colleges are currently doing. Senates will have several factors to review before making a decision about the best process to recommend for students and the college culture. Faculty should revisit and make any necessary changes in content review practices prior to the implementation of any policy changes. Local boards and concerned community members may need assurances that the processes to be employed are well-developed and effective.

Once a senate determines that it will rely primarily on rigorous content review for the establishment of communication and computation prerequisites, the next step toward implementation will be to review and update as necessary local board policy with regard to prerequisites. Administrative procedures often accompany board policy, and the senate will be instrumental in creating policy and procedures that recognize faculty responsibility for determining that a prerequisite is necessary for student success and the means by which the prerequisite will be validated. In addition, because board policies and administrative procedures facilitate actions within a district, any autonomy allowed to individual colleges in a multi-college district should be included within the board policy.

Following the establishment of policies and procedures that permit the use of content review as the means of validating all prerequisites, new prerequisites can be implemented. The next step is creating an implementation plan for the establishment of new prerequisites based on content review. This multi-faceted plan will include many elements that are clearly faculty responsibility, including curriculum-related elements such as a rigorous content review process that examines how courses are being taught. The plan should also include a means to monitor student performance in courses with newly established prerequisites, enrollment management and course offerings tracking, and other aspects of implementation that impact students and faculty. The senate must be actively involved in the development of the plan and, through the senate, all faculty should participate in its development and implementation. In addition, the senate should discuss timelines, participants, research capabilities, and other considerations during the development of the plan.

Although many senates delegate most or all curriculum work to the curriculum committee, communication between the senate and curriculum committee is critical as changes in the way prerequisites are established have implications that extend beyond curriculum. In addition, the senate is well-positioned to ensure that all faculty are aware of any changes made. The curriculum committee should review all internal processes for establishing prerequisites to ascertain that content review will be a flexible process from sequences of courses within a discipline to cross-disciplinary courses. Training for curriculum committee members on putting into practice cross-disciplinary content review will be available from the Academic Senate for California Community Colleges at the annual Curriculum Institute (see *http://www.ccccurriculum.info*).

As the implementation of prerequisites expands, local senates should work with administrators to track the impact of the new prerequisites. This type of monitoring should be integrated into the prerequisite plan, but senates will be instrumental in watching for any anomalies in the curriculum, enrollment patterns, or student success outcomes. Even as new prerequisites are implemented, senates will want to collaborate with administrators to hold departments establishing prerequisites harmless from shifts in weekly student contact hours (WSCH), full-time equivalent faculty (FTEF), facilities usage, and other measures that are used in program review or college planning processes for distributing resources. Efforts to improve student success should not be used against faculty or departments where funding, new faculty, or other benefits accrue due to high enrollments. However, basic skills faculty will no doubt require additional facilities and faculty to accommodate their increased responsibility for preparing students to meet newly established prerequisites. Senates will be essential in providing context to quantitative and qualitative measures of faculty and student success during the phasing in of new prerequisites.

The senate must begin the conversation on prerequisites as well as monitor the effects of any implemented changes. It has the authority and responsibility to recommend the direction for student success through senate actions, recommendations of policy, procedures, and plans to the board of trustees and delegating work to the curriculum committee. Because student success for all students and prerequisites are both part of senate purview as delineated in Title 5 §53200 senates will be required to make many decisions with regard to the implementation of prerequisites.

Role of the Curriculum Committee

As the faculty body charged with ensuring the quality of the curriculum for the college, the curriculum committee features prominently in the establishment of prerequisites. The committee has certain roles outlined in Title 5 and local board policy, or through delegation of authority by the local senate, which give it responsibility to implement, and in some cases set and implement, prerequisite processes. Committee members must be well-versed in the locally documented processes used to establish prerequisites, which may be established via content review or a combination of content review and statistical validation methodologies. In either case, the committee must be prepared to implement the adopted options for the college regarding prerequisite implementation and make decisions in the best interest of students.

When the curriculum committee has a rigorous content review process in place, then the following elements are easy to recognize:

- ▸ Who: discipline faculty, members of the curriculum committee, technical support from curriculum specialists, etc.

- ▸ How: Documented process with appropriate forms, conversation starters for cross-disciplinary faculty dialog, checklists of entrance and exit skills, review of outcomes at the course, program, and institutional levels, outcomes, etc.

- ▸ When: Timelines are established for proposals, faculty conversations, deadlines to meet with researchers, intervals at which student success data need to be reviewed.

- ▸ What: Definitions of need and level of need are included in curriculum committee documentation, final recommendation to the curriculum committee, expected depth of review using elements from the course outline of record and other relevant materials.

- ▸ Why: Data to demonstrate that a prerequisite is needed. The data can be qualitative, quantitative, or both.

As proposals for prerequisites come forward to the curriculum committee for consideration, the committee will deliberate on the rationale for the prerequisite and the proposed prerequisite course or courses. Some sort of tracking mechanism will be useful for the committee in order to prepare a report for the senate, administration, and board which lists all the courses approved for prerequisites, the approved prerequisite courses, and the probable need for additional sections of mathematics, English, and reading courses. Reporting to the Chancellor's Office will also be re-quired through the Curriculum Inventory (*http://curriculum.cccco.edu/*). The committee may want to track all courses with a specific prerequisite, e.g., the English course one-level below transfer, to monitor the effectiveness of the prerequisite, as well as keep a list of courses avail-able to students with varied preparation and skills. Additionally, the committee can track the need for modules or shorter courses to meet the needs of students and make recommendations to reading, English, and mathematics faculty to consider development of these other courses. The establishment of a new prerequisite is the beginning of a process that must include assessing the effect of that prerequisite and, if necessary, revisiting the prerequisite in the future.

The curriculum committee may have to play referee at times, which is not uncommon for this committee and its role in protecting the quality of college courses. Faculty may bring conflicting information to the committee about the level of prerequisite needed or the requirement for more than one prerequisite for a given course. Such conflicts may be minimized if the college has in place a documented process that the committee and discipline faculty can obtain and understand. The committee's role is to facilitate conversations between discipline faculty, when needed, and to make the final recommendation regarding any prerequisites to a course. Conflicts can also be minimized by keeping a record of all transfer courses with comparable prerequisites for comparison and consistency.

The curriculum committee is where the major work of prerequisite implementation takes place. It is responsible for developing and implementing a process that works for discipline faculty and the committee. All the elements of a rigorous process can be found in good curriculum committee work, and documented processes must be readily available to all faculty on campus. More tracking will be required with the implementation of more prerequisites, and the curriculum committee must take the lead to provide this data to the senate, administration, and board of trustees.

Role of Discipline and Counseling Faculty

Faculty have important roles to play in implementing prerequisites. Various faculty groups contribute to the successful process: the faculty from a discipline who believe that a prerequisite might be needed; the mathematics, English, and reading faculty who can help determine the best prerequisite course; and counseling faculty who guide student educational plans and provide advice on course sequencing. These faculty first must communicate with each other to establish prerequisites and then must communicate with students to help them plan each term.

Faculty who teach courses that are likely to be prerequisites should be involved in conversations with other discipline faculty about the skills and knowledge taught in various courses. They might use the exit skills already developed for content review within a sequence, or they might want to use the conversation-starter questions included in this paper. Faculty from math, English, and reading will need to help their colleagues determine the types of skills and preparation students need for success in a given course and whether the students must know the information ahead of time or whether the discipline faculty can teach the concepts within the course. In some instances, the skills needed may be so specific that workshops, one-unit modules, or computer aided-instruction might be available to students instead of a full semester length course. Math, English, and reading faculty must advise the enrollment management committee or group on campus of the need for additional sections of basic skills courses and advise the curriculum committee if new curriculum might be beneficial to meet the needs of students.

The counselor's role will be critical in helping to inform students in orientations, workshops, and individual appointments when courses have newly added reading, writing, or mathematics prerequisites. Developing an education plan with a counselor becomes even more important because of course sequencing, and counselors will need to stress even more that completing basic skills coursework early is vital to success. Counselors should also emphasize the importance of taking the assessment process seriously, since course placement could affect not only a student's eligibility for basic skills courses but eligibility for transfer-level courses as well.

Counselors can also help provide crucial qualitative information to discipline faculty concerned about establishing a prerequisite. This information may help substantiate the first course to be targeted for a prerequisite. Enrollment plans and course scheduling should also include counselor feedback and input. Very few people on campus see the interaction of prerequisites with long-range planning the way that counselors view it, and that perspective will be instrumental in making certain that students have access to the courses they need and can design a schedule that helps them move forward toward meeting their goals.

Recommendations

- ‣ Local senates should review the current status of district policy and procedure regarding the establishment of prerequisites.

- ‣ Local senates should consider making a presentation to the local board of trustees to explain the opportunity to improve student success implicit in the revised Title 5 regulations relating to the establishment of prerequisites.

- ‣ Local senates should determine the role to be played by the senate and the curriculum committee in establishing a college plan for modifying local practices with respect to prerequisites, especially if clear delegation of duties to the curriculum committee is not already in place.

- ‣ The discipline faculty should work with the college research office to explore and evaluate areas of the curriculum with anomalous rates of student retention and success.

- ‣ The academic senate should begin conversations with the individuals or committees charged with overseeing enrollment management and play an active role in ensuring that adjustments in course offerings are made such that student access is preserved; the implementation of new prerequisites will likely require a compensatory increase in basic skills sections.

References

Academic Senate for California Community Colleges [ASCCC] (2010). Student success: The case for establishing prerequisites through content review. Sacramento, CA: Author. Retrieved August 8, 2011, from *http://www.asccc.org/papers/student-success-case-establishing-prerequisites-through-content-review.*

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APPENDICES

Appendix A: Revised Title 5 Regulations

Board of Governors of the California Community Colleges

Revisions to the Title 5 Regulations:

Policies for Prerequisites, Corequisites and Advisories

1.   Section 55003 of article 1 of subchapter 1 of chapter 6 of division 6 of title 5 is amended to read:

§ 55003. Policies for Prerequisites, Corequisites and Advisories on Recommended Preparation.

(a) The governing board of a community college district may establish prerequisites, corequisites, and advisories on recommended preparation, but must do so in accordance with the provisions of this article. Nothing in this subchapter shall be construed to require a district to establish prerequisites, corequisites, or advisories on recommended preparation; provided however, that a prerequisite or corequisite shall be required if the course is to be offered for associate degree credit and the curriculum committee finds that the prerequisite or corequisite is necessary pursuant to sections 55002(a)(2)(D) or 55002(a)(2)(E). Unless otherwise specified in this section, the level of scrutiny required to establish prerequisites, corequisites, and advisories on recommended preparation shall be based on content review as defined in subdivision (c) of section 55000 or content review with statistical validation as defined in subdivision (f) of this section. Determinations about prerequisites and corequisites shall be made on a course-by-course or program-by-program basis.

(b) A district governing board choosing to establish prerequisites, corequisites, or advisories on recommended preparation shall, in accordance with the provisions of sections 53200-53204, adopt policies for the following:

(1) The process for establishing prerequisites, corequisites, and advisories on recommended preparation. Such policies shall provide that in order to establish a prerequisite or corequisite, the prerequisite or corequisite must be determined to be necessary and appropriate for achieving the purpose for which it is being established. District policies shall also specify the level of scrutiny that shall be required in order to establish different types of prerequisites, corequisites, and advisories on recommended preparation. At a minimum, prerequisites, corequisites, and advisories on recommended preparation shall be based on content review, with additional methods of scrutiny being applied depending on the type of prerequisite or corequisite being established. The policy shall provide that the types of prerequisites described in subdivision (e) may be established only on the basis of data collected using sound research practices. Determinations about prerequisites and corequisites shall be made on a course-by-course or program-by-program basis.

(2) Pprocedures to assure that courses for which prerequisites or corequisites are established will be taught in accordance with the course outline of record, particularly those aspects of the course outline that are the basis for justifying the establishment of the prerequisite or corequisite.

(3) the process to ensure that each section of the prerequisite or corequsite is to be taught by a quali-fied instructor in accordance with a set of objectives and with other specifications defined in the course outline of record, as required in section 55002 for all courses.

(3) (4) Tthe process, including levels of scrutiny, for reviewing prerequisites and corequisites to as-sure that they remain necessary and appropriate. These processes shall provide that at least once each six years all prerequisites and corequisites established by the district shall be reviewed, except that pre-requisites and corequisites for vocational courses or programs shall be reviewed every two years. These processes shall also provide for the periodic review of advisories on recommended preparation.

(4) (5) Tthe bases and process for an individual student to challenge the application of a prerequisite or corequisite.

(c) A district governing board choosing to use content review as defined in subdivision (c) of sec-tion 55000 to establish prerequisites or corequisites in reading, written expression or mathematics for degree-applicable courses not in a sequence shall first adopt a plan specifying:

(1) the method to be used to identify courses to which prerequisites might be applied;

(2) assurance that courses are reasonably available to students when prerequisites or corequisites have been established using content review as defined in subdivision (c) of section 55000. Such assur-ance shall include sufficient availability of the following:

(A) appropriate courses that do not require prerequisites or corequisites, whether basic skills or degree-applicable courses; and

(B) prerequisites or corequisite courses;

(3) provisions for training for the curriculum committee; and

(4) the research to be used to determine the impact of new prerequisites based on content review.

(c) (d) Prerequisites or corequisites may be established only for any of the following purposes:

(1) the prerequisite or corequisite is expressly required or expressly authorized by statute or regula-tion; or

(2) the prerequisite will assure, consistent with section 55002, that a student has the skills, con-cepts, 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 satisfac-tory grade in the course (or at least one course within the program) for which the prerequisite is being established; or

(3) the corequisite course will assure, consistent with section 55002, 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; or

(4) the prerequisite or corequisite is necessary to protect the health or safety of a student or the health or safety of others.

(d) (e) Except as provided in this subdivision, no prerequisite or corequisite may be established or renewed ~~pursuant to subdivision (b)(3)~~ unless it is determined to be necessary and appropriate to achieve the purpose for which it has been established. A prerequisite or corequisite need not be ~~so~~ scrutinized using content review as defined by subdivision (c) of section 55000 or content review with statistical validation as defined by subdivision (f) of this section, ~~until it is reviewed pursuant to subdivision (b)(3)~~ if:

(1) it is required by statute or regulation; or

(2) it is part of a closely-related lecture-laboratory course pairing within a discipline; or

(3) it is required by four-year institutions~~.~~; or

(4) baccalaureate institutions will not grant credit for a course unless it has the particular communication or computation skill prerequisite.

(e) (f) Content review with statistical validation is defined as ~~A course in communication or computation skills may be established as a prerequisite or corequisite for any course other than another course in communication or computation skills only if, in addition to~~ conducting a content review (as defined in subdivision (c) of section 55000) and the compilation of ~~, the district gathers~~ data according to sound research practices ~~and~~ which shows that a student is highly unlikely to succeed in the course unless the student has met the proposed prerequisite or corequisite.

(g) If the curriculum committee, using content review with statistical validation, initially determines, pursuant to section 55002(a)(2)(E), that a new course needs to have a communication or computation skill prerequisite or corequisite, then, despite subdivision (~~d~~e) of this section, the prerequisite or corequisite may be established for a single period of not more than two years while the research is being conducted and the final determination is being made, provided that all other requirements for establishing the prerequisite or corequisite have been met. The requirements of this subdivision related to collection of data shall not apply when~~:~~

~~(1) baccalaureate institutions will not grant credit for a course unless it has the particular communication or computation skill prerequisite; or~~

(2) the prerequisite or corequisite is required for enrollment in a program, that program is subject to approval by a state agency other than the Chancellor's Office and both of the following conditions are satisfied:

(A) (1) colleges in at least six different districts have previously satisfied the data collection requirements of this subdivision with respect to the same prerequisite or corequisite for the same program; and

(B) (2) the district establishing the prerequisite or corequisite conducts an evaluation to determine whether the prerequisite or corequisite has a disproportionate impact on particular groups of students described in terms of race, ethnicity, gender, age or disability, as defined by the Chancellor. When there is a disproportionate impact on any such group of students, the district shall, in consultation with the Chancellor, develop and implement a plan setting forth the steps the district will take to correct the disproportionate impact.

(f) (h) Prerequisites, corequisites, and advisories on recommended preparation must be identified in college publications available to students as well as the course outline of any course for which they are established.

(i) By August 1 of each year districts establishing prerequisites, corequisites or advisories shall submit to the Chancellor's Office in the manner specified by the Chancellor the prerequisites and corequisites that were established during the prior academic year. Districts shall also specify the level of scrutiny, i.e., content review as defined in subdivision (c) of section 55000 or content review with statistical validation as defined in subdivision (e) of this section, used to determine whether the prerequisite or corequisite was necessary and appropriate for achieving the purpose for which it was established.

(g) (j) Prerequisites establishing communication or computational skill requirements may not be established across the entire curriculum unless established on a course-by-course basis.

(h) (k) The determination of whether a student meets a prerequisite shall be based on successful completion of an appropriate course or on an assessment using multiple measures, as required by section 55521(a)(3). Any assessment instrument shall be selected and used in accordance with the provisions of subchapter 6 (commencing with Ssection 55500) of this chapter.

(i) (l) If a prerequisite requires precollegiate skills in reading, written expression, or mathematics, the governing board of a district shall:

(1) ensure that nondegree-applicable basic skills courses designed to teach the required skills are offered with reasonable frequency and that the number of sections available is reasonable given the number of students who are required to meet the associated skills prerequisites and who diligently seek enrollment in the prerequisite course.

(2) monitor progress on student equity in accordance with section 54220. Monitoring shall include:

(A) conducting an evaluation to determine the impact on student success including whether the prerequisite or corequisite has a disproportionate impact on particular groups of students described in terms of race, ethnicity, gender, age or disability, as defined by the Chancellor.

(B) where there is a disproportionate impact on any such group of students, the district shall, in consultation with the Chancellor, develop and implement a plan setting forth the steps the district will take to correct the disproportionate impact.

(j) (m) Whenever a corequisite course is established, sufficient sections shall be offered to reasonably accommodate all students who are required to take the corequisite. A corequisite shall be waived as to any student for whom space in the corequisite course is not available.

(k) (n) No exit test may be required to satisfy a prerequisite or corequisite unless it is incorporated into the grading for the prerequisite or corequisite course.

(l) (o) 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 student is dropped, if the applicable enrollment fees are shall be promptly refunded.

Otherwise a student may only be involuntarily removed from a course due to excessive absences or as a result of disciplinary action taken pursuant to law or to the student code of conduct.

(m) (p) Any prerequisite or corequisite may be challenged by a student on one or more of the grounds listed below. The student shall bear the initial burden of showing that grounds exist for the challenge. Challenges shall be resolved in a timely manner and, if the challenge is upheld, the student shall be permitted to enroll in the course or program in question. Grounds for challenge are:

(1) The prerequisite or corequisite has not been established in accordance with the district's process for establishing prerequisites and corequisites;

(2) The prerequisite or corequisite is in violation of this section;

(3) The prerequisite or corequisite is either unlawfully discriminatory or is being applied in an unlawfully discriminatory manner;

(4) The student has the knowledge or ability to succeed in the course or program despite not meeting the prerequisite or corequisite;

(5) The student will be subject to undue delay in attaining the goal of his or her educational plan because the prerequisite or corequisite course has not been made reasonably available; or

(6) Such other grounds for challenge as may be established by the district governing board.

(n) (q) In the case of a challenge under subdivision (m)(p)(3) of this section, the district shall promptly advise the student that he or she may file a formal complaint of unlawful discrimination pursuant to subchapter 5 (commencing with section 59300) of chapter 10 of this division. If the student elects to proceed with the challenge, completion of the challenge procedure shall be deemed to constitute an informal complaint pursuant to section 59327.

(o) (r) District policies adopted pursuant to this section shall be submitted to the Chancellor's Office as part of the district's matriculation plan pursuant to section 55510.

Note: Authority cited: Sections 66700 and 70901, Education Code. Reference: Sections 70901 and 70902, Education Code.

Appendix B: Content Review Conversation Starter

Based on the Course Outline of Record (COR), content review requires that faculty examine aspects of the course to learn where students need to come prepared with certain skills and knowledge sets rather than learn the skills while taking the course. Conversation-starter questions have been prepared to assist with the process of content review when faculty are reviewing a course and believe that certain basic skills are necessary for student success.

Element of the COR	English Composition	Mathematics	Reading
Course Objectives	Does the objective require the students to write clear, thesis driven writing assignments organized in academic form?	Does the objective require students to be proficient with a calculator?	Does the objective require the students to complete college-level writing assignments based on written materials (textbooks, primary sources, secondary sources, etc.)?
	Does the objective require students to incorporate or synthesize other texts in order to support the points made in their writing?	Does the objective seem quantitatively based – will the student need to be competent in a range of mathematical skills in order to be successful?	Does the objective require analysis of the credibility of the author(s) as expert in the topic under consideration?
	Does the objective require the students to conduct research and include researched material in assignments?	Do students need to be able to understand two or more variables ?	Does the student need the ability to analyze the audience, purpose, and tone of the text?
	Does the objective require students to analyze quoted material and determine its relationship to the assertions in the essay?	Are systems of equations (linear or nonlinear) essential to meeting the objectives of the course?	Does the student need the ability to objectively summarize the text?
	Does the objective require students to demonstrate competence in standard written English in terms of grammar, punctuation, and other conventions?	Are making and analyzing graphs integrated into the objectives? Linear graphs? Nonlinear graphs?	Does the student need the ability to identify the thesis in the article and the main ideas in the sections of the text?
	Does the objective require correct documentation of sources in the citation form of the discipline?		Does the student need the ability to identify supporting evidence used to validate the assertion?
			Does the student need the ability to draw reasonable inferences from the text, inferences based on evidence offered?
			Does the student need the ability to determine bias and world view in the text based on the evidence provided?
			Does the objective require students to conduct research and include researched material in assignments based on written materials (textbooks, primary sources, secondary sources, etc.)?

Element of the COR	English Composition	Mathematics	Reading
Course Content	Do elements of the content link easily to general essay writing skills (i.e. grammatical competence, organized and clear written communication, use of evidence.)? Do elements of the content implicitly require higher level writing and thinking skills such as synthesis of ideas and researching? Does the course require specific writing skills or a specific type of writing, or is an overall background required?	Are elements of the content easy to link to math skills (i.e. finding percentages, graphing, calculating certain quantities.)? Are elements of the content implicit about math skills that students need (have the discipline faculty explain what is going on)? Are specific skills necessary or an overall background? Can the skills be isolated? Can the discipline faculty teach the concept? Can a math faculty visit the course for one hour or day to teach it?	Do elements of the content link easily and explicitly to reading skills (i.e. understand and paraphrase main ideas; identify and learn supporting details; summarize college-level written texts)? Do elements of the content implicitly require college level reading skills (research of written texts, essays based on reading assignments; broad detailed mastery of textbook information; analysis, integration, and synthesis of multiple written materials, even if texts are below college-level; understand and apply theories, concepts and critical analyses of college-level reading? Does the course require: specific reading skills determined by test or assignment purpose? A specific type of text? Or an overall experience in reading college-level texts?
Methods of Evaluation	Students must express their understanding of the course content through college-level, academic writing assignments. Students must express their understanding through in-class writing such as essay exams. Students must know how to locate outside resources relevant to the course content, document their research properly, and incorporate that research into their writing clearly and effectively.	Students must know how to complete certain calculations using a calculator on exams. Students need to interpret graphs, make graphs on tests or in reports, organize data, report data. Students have equations to solve on tests, quizzes, or other assignments: linear equations? Nonlinear equations?	Students must express their understanding of the course content through college-level, academic writing assignments based on written materials (textbooks, primary sources, secondary sources, etc.) Students must know how to locate outside resources relevant to the course content (determining a source's relevance is linked to a sophisticated reading level.) Research papers, essays Bibliographies

Element of the COR	English Composition	Mathematics	Reading
Assignments	Essays Research papers Essay exams Bibliographies or other research assignments	Conducting elementary research. Reporting results of surveys, lab tests, etc. Producing quantitative information in graph, numerical or paragraph form. Homework exercises include quantitative problem solving, applications or word problems.	Expected types and levels of reading materials outside of class.
Required Texts and Other Instructional Materials			College-level textbook College-level primary print sources (journal articles, etc.) Primary and secondary print sources not at the college-level, but critical analysis is required.
Other	What level of critical thinking is expected? Grading criteria Syllabi	What level of critical thinking is expected? Grading criteria Syllabi	What level of critical thinking is expected? Grading criteria Syllabi

APPENDIX C: CB 21 TRANSFER LEVEL FRESHMAN COMPOSITION RUBRIC

Final English Writing Rubric							
English	Writing Assignments	Reading	Voice Audience	Organization Development, and Thesis/ Central idea	Sentences and Vocabulary	Mechanics and Grammar	Resources
CB21 – B 2 levels prior to transfer	Write coherent essays and paragraphs, about course readings and/or other subjects. Demonstrate the ability to summarize, analyze and make a simple synthesis between two readings or ideas. Complete in-class writings that demonstrate some organizing, composing, revising, editing & time management skills.	Read, identify, and summarize short expository texts for the purposes of writing and discussion. Distinguish between fact and opinion, identify author's purpose and recognize author's tone.	Direct writings to a specific audience using a fairly consistent voice.	Construct writings with a central idea and paragraphs that support it. Write paragraphs with supporting sentences that relate to the topic sentence.	Recognize and begin to apply sentence variety and appropriate word choice. Demonstrate an awareness of and emerging competence with vocabulary strategies.	Proofread and edit their essays for public presentation. Identify some errors in English grammar, usage, or punctuation.	Use some outside sources and begin to use quotes to attribute those sources. Differentiate between one's own ideas and those of others.
CB21 – C 3 levels prior to transfer	Write short, topic-based papers with a main idea. Write guided in-class assignments based on a variety of prompts that attempt to organize, compose, revise and edit.	Read relevant texts and learn to respond in writing with clarity and commitment. Identify the author's purpose and conclusions. Express personal opinions about texts.	Direct writings to an audience considering voice.	State a topic and use details to support a central idea.	Apply basic sentence variety. Recognize the importance of accurate word choice. Distinguish between standard American English and vernacular.	Identify basic errors in English grammar, usage, or punctuation. Construct writings w/ mostly effective sentence structure.	Use a variety of outside sources.
CB21 – Y 4 levels prior to transfer	Write short, topic-based assignments with a main idea. Write guided in-class assignments.	Read, identify, summarize & restate the main idea of the text in writing. Identify the author's write for different purposes with guided assistance from the instructor. Express personal opinions about reading.	Demonstrate the use of a writing voice.	Use details to support a central idea.	Recognize and imitate basic sentence models. Use familiar vocabulary correctly. Identify slang.	Write grammatically correct simple sentences.	Identify a variety of outside sources.

Appendix D: Content Review for Computational Prerequisite for Geology Lab

Example of How to Begin Content Review for Computational Prerequisite

Faculty teaching a transfer lab course in geology believe that students need mathematics skills and knowledge in order to be successful in the course.

Catalog Description:

Provides hands-on experience to accompany and augment Geology XXX. This course will include laboratory and field investigations of the Earth, emphasizing experience with minerals, rocks, and fossils, as well as topographic and geologic maps. Field trips will acquaint students with local rock units, and past and present geologic processes.

Course Objectives:

The student will:

a.   Compare and contrast common minerals, and rock types, in hand specimen.

b.   Analyze basic geographic parameters of topographic maps: projections, location grids, and elevation indicators.

c.   Construct and interpret topographic maps.

d.   Assess the forces which produce the various types of folds, faults, and unconformities as they appear on maps, photos, and in the field.

e.   Construct 3-D interpretive diagrams of geologic structure from primary information.

f.   Construct the geologic history of an area when provided with a geologic map/cross-section/stratigraphic column.

g.   Appraise the general geology of a specific area or region through analysis of appropriate photos, maps, and/or field observations.

Course Content:

a.   Earth Materials: Minerals and rocks. Class time will be spent learning to sight identify approximately 40 minerals and 40 rocks by learning the combination of important characteristics of each specimen.

b.   Topographic Maps: Students will learn to correctly read symbolic devices for depicting elevations, locations, scale factor, cultural features, and other aspects of United States Geological Survey topographic maps. Students will also draw simple topo maps using raw data.

c.   Fossils: Students may have one opportunity to identify common representatives from each major fossil phylum and class and relate them to the geologic time scale.

d.   Structure and Geologic Maps: Students will learn the common deformation patterns in crustal rocks by drawing examples of each. They will then learn to write a chronological list of geological events for a specific area, given appropriate supporting cross-sections, maps and/or field observations.

e. Landscape Interpretation: With skills as developed above, students will go on to analyze the geology of specific earthly regions, both above and below sea level, as shown on appropriate maps.

f. Field trips to local areas of geologic interest.

Methods of Evaluation:

a. Grading of laboratory exercises

b. Quizzes over each unit

c. Final exam: May include objective and essay questions, and/or construction and interpretation of a geologic diagram

The faculty in the department determine the following mathematical skills and knowledge which students must have before enrolling in the course:

1. Unit conversions

2. Percent

3. Fractions, ratios, and operations on fractions

4. Grid systems (essentially graphing skills)

5. Slope calculation

6. Protractor and compass skills, degrees, angle measurement

7. 3-dimensional geometry, intersection of 3-D shapes, construction of 3-D models and 2-D diagrams from the models

8. Calculator may be used (even a cell phone calculator) but is not required

The required math skills as identified by the department are listed from simplest to more advanced, and not all the skills are found in a single math course. What is represented is a collection of knowledge that a student would obtain by taking a complete high school sequence of courses (Beginning Algebra, Geometry, Intermediate Algebra) plus some advanced knowledge of three dimensions.

In trying to determine if a prerequisite is required or which course might best fit the needs of the department, there are many issues to consider.

Linking the entrance skills to the course outline – There is little in the course description, objectives, content, or other features of the course outline to indicate these are the necessary skills. Does that mean that the skills are unnecessary? No, not necessarily. The expertise of the faculty and concurrence of the department indicate that these skills are necessary for success. Should the entrance skills be included in the course outline? Yes. By

including the entrance skills on the course outline of record, faculty expertise is validated when the curriculum process approves the course outline and the college owns the expectations for student success.

Prioritizing the entrance skills – Since not all the entrance skills fall neatly into a single course but instead represent a collection of knowledge and critical thinking abilities, the department may want to prioritize which of the skills are necessary to be learned in a prerequisite course. The advanced skills (3-D and 2-D modeling and diagrams) may need to be taught by the geology instructors, and the use of protractors and compasses may also need to be taught by the geology faculty. However, the math faculty may find a way to offer a workshop for science students on how to use these tools successfully.

How to determine if a prerequisite is necessary – Now that the department has prioritized the entrance skills, matching them to the exit skills of a math course comes next. Matching should be accomplished through a discussion between the geology and math faculty. The skills listed by the geology department are typically found in the exit skills or course objectives from a Prealgebra course (aside from the protractor and compass skills and the 2-D and 3-D modeling). If the geology faculty want to list Prealgebra as the prerequisite course, math faculty might disagree and suggest that the Beginning Algebra, the course after Prealgebra, is the better choice. Why? Because a student only needs to know 70% of the exit skills in Prealgebra to pass the course, so completion of the next course would give the student a greater chance to master these entrance skills. It is rare that a student just passing a course has mastered the content sufficiently to apply it outside the discipline in another course. However, in an effort to keep courses open to as many students as might succeed, perhaps the two sets of faculty need to have a longer conversation about alternative ways to help students be prepared.

Finding prerequisites for transfer level courses – All students taking courses at the universities have demonstrated certain skills and knowledge by completing "a-g" requirements in high school. They bring to the universities a collection of critical thinking skills that they can apply to any course taken freshman year at the university. If community college transfer courses are equivalent to the university level courses, then it could be argued that students need to have this same combination of skills and knowledge from English and mathematics courses in order to be successful. A further consideration is regarding articulation. Say the geology faculty and the curriculum committee determine that Prealgebra is the prerequisite for the transfer geology lab course. Is the articulation of the course in jeopardy because of the low level of expected skills and knowledge needed to be successful? Does such a low prerequisite challenge the level of rigor at which the course is taught?

Recency of acquiring prerequisite skills – Many students studied the skills that the geology faculty have listed, but they learned the skills several years ago. The students may not have done any unit conversions in recent years making it difficult for them to adequately recall how to do this specific task. What kind of recency requirements will the geology faculty want to include as part of the prerequisite? New Title 5 regulations (§55040.b.3 and §55043.a.1), allow for repetition of courses because of significant lapse of time which might include a prerequisite course called a "recency prerequisite." Curriculum committees must determine how to assign recency prerequisites by listing criteria such as courses to which recency applies, number of years lapse, and any alternate ways in which students can be refreshed in the skills and knowledge necessary.

Appendix E: Resources

Prerequisite Training to be provided by the Chancellor's Office and the Academic Senate

The resources that follow were provided to the Board of Governors in support of the recent changes in the Title 5 section pertaining to prerequisites. As they are likely to be useful to local colleges as they review their prerequisite polices, they are included here.

There has been longstanding agreement within the Academic Senate Executive Committee and the Prerequisite Task Force (which includes representatives from the statewide bodies represent-ing the chief executive officers, , chief instructional officers, , chief student services officers, Re-search and Planning Group, and the Student Senate) that training on the use of content review should be provided before local curriculum committees establish cross-disciplinary prerequisites. This training would take place in two stages:

Training to be provided by the Chancellor's Office and the Academic Senate: The Chancellor's Office and **the Academic Senate** should provide annual training on the use of content review.

There is already a working model for this in the training currently provided by the Chancellor's Office for compliance with Education Code §70901, §70902 and Title 5 §55000, 55002, 55006, 55070, 55100, and 55130 for Stand Alone Training. This training is provided annually as part of the Academic Senate's annual Curriculum Institute and it is supplemented by webinar trainings for those colleges unable to send representatives to the Curriculum Institute. The training includes the text of relevant statute and regulatory language and a PowerPoint presentation elaborating on several of the more important details in law and regulation.

Following a "train-the-trainer" model and using materials made available at the Curriculum Institute, local curriculum committee chairs (and other administrators and faculty who receive training at the Curriculum Institute) return to their campuses in the fall and provide training locally.

Additional Training Provided by the Academic Senate

In addition to organizing the annual Curriculum Institute, the Academic Senate organizes two plenary sessions and other conferences during the academic year. The Academic Senate commits to including sessions on content review, addressing implementation and enrollment management questions, and developing the tools necessary to evaluate the effect of prerequisites, with special attention to disproportionate impact. The Academic Senate will develop additional resources, including examples of effective practices, to guide the work of colleges.

FAQs: Enrollment Management & Student Options

It has been clear from the earliest conversations that the most challenging part of establishing prerequisites will be the way in which they are phased in. Too gradual or narrow a phase-in is likely to result is students enrolling in other classes. A too aggressive implementation will shift an unmanageable level of student demand to basic skills and unrestricted course sections. Here are some questions colleges should ask as part of the development of their local plan for applying prerequisites based on content review.

Q: What level of commitment to basic skills course offerings exists in the system at present?

A: The variation is enormous. According to data reviewed by the System Advisory Committee on Curriculum (SACC), students enrolled in a basic skills class ranges from 4.8% to 57.4%. Because of this vast range in existing commitment to basic skills, it is impossible to mandate that colleges commit a *predetermined* percentage or number of sections to new basic skills course sections. Nevertheless, it is evident that in the short run, many colleges will need to add basic skills course sections.

Q: What information should be gathered before colleges establish new prerequisites?

A: Colleges should collect data on student success and retention in high demand transferable courses, disaggregated by ethnicity. Colleges should focus on those courses in which the success rates are low. Some of this information is available via Datamart (*http://www.cccco.edu/SystemOffice/Divisions/ TechResearchInfo/MIS/DataMartandReports/tabid/282/Default.aspx*), though it is aggregate by discipline and not available on a course-by-course basis.

Q: What questions should colleges ask about those courses?

A: Once colleges have identified courses with low success rates, research should conduct two kinds of research.

(1) Colleges should conduct a *qualitative* review of the existing course outlines and see if they require skills for which a basic skills prerequisite might be warranted.

(2) Colleges should conduct *quantitative* research to determine the numbers of students taking these classes who would already meet prerequisites. Colleges with little flexibility to add or shift course sections could establish prerequisites in courses which enroll a smaller number of students who would need to be accommodated in other classes. Colleges with greater flexibility to add or shift sections might look at classes with lower rates of student preparation, knowing that they will need to provide increased access to basic skills course sections.

Q: Won't new prerequisites trap underrepresented students out of classes altogether?

A: No. Virtually all colleges in the state use a computer-based priority enrollment method for enrolling students in classes. While the criteria for determining a student's enrollment priority varies, a student who seeks to enroll in a class for which there is a prerequisite should still have access to both basic skills sections and to other non-restricted transferable courses. It is the students with the latest enrollment time slot who are at risk, but that is the result of reductions in funding and other factors, not prerequisites.