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INFORMATION COMPETENCY:

CHALLENGES AND STRATEGIES FOR DEVELOPMENT

THE ACADEMIC SENATE FOR CALIFORNIA COMMUNITY COLLEGES

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ABSTRACT

In 1996, the California Community College Board of Governors (BOG) issued a policy statement identifying information competency as a priority. Recognizing information competency as an academic and professional matter, in May 1999 the Chancellor delegated the issue of information competency as a graduation requirement to the Academic Senate for its recommendations.

Meanwhile, in response to a Fall 1996 resolution, the Academic Senate for California Community Colleges issued a paper entitled Information Competency in the California Community Colleges, which defined information competency, identified its key components, and suggested a variety of methods for implementation.

What follows is not a “best practices” paper but rather a review of information competency in various stages of implementation within the curriculum of six colleges whose faculty were generous in sharing their preliminary work now in progress. Provided herein is a description of the processes that these colleges have taken to develop and implement information competency requirements, as well as an overview of the challenges that remain for future efforts—at these colleges and for others across the state. The document offers overarching concluding statements and makes recommendations for local senates

INTRODUCTION

NATIONAL CONTEXT

At no time in history has so much data from so many diverse sources been available at the click of a mouse or a turn of a page. Transfer institutions and employers all expect individuals to be comfortable with technology and to be able to use it to locate, evaluate, and process information in a wide variety of formats. Whether students complete a baccalaureate degree, secure an occupational certificate, or merely upgrade their skills or information base, ultimately their employers will require them to navigate and manage information successfully by manipulating databases, spreadsheets, manuals, or web pages that create the essential links to information. In a recent survey, University of Washington graduates after five and ten years revealed that information use was the second most important ability in their current primary activity.¹

The Commission on Higher Education of the Middle States Association of Schools & Colleges goes on to note that “Information literacy . . . transcends specific disciplines and professional careers” as a “subset of critical thinking skills” citizens must have to “know when they have an information need and to access, evaluate (determine usefulness of, summarize, synthesize, and draw conclusions from), and effectively use information for both content literacy in the curriculum and lifelong learning.”² Ernest Boyer identifies information as

our most precious resource. In such a world, education should empower everyone, not the few. But for information to become knowledge, and ultimately, one hopes, wisdom, it must be organized. And, in this new climate, the public interest challenge, beyond access and equity is, I believe the sorting and selection. The

challenge of educators is to help students make sense of a world described by some as ‘information overload.’”³

These abilities or competencies to access and evaluate information are generally referred to as “information competencies,” which may presuppose a level of computer literacy and comfort. Yet as seen in publications from the Academic Senates for California Community Colleges and of the California State Universities, as well as material issued by the American Association of Research Librarians, information competency is clearly more complex than mere use of machinery and should not be narrowly construed as computer literacy or familiarity with software applications, however integral those competencies may be to locating and retrieving information in many fields. As Jeremy Shapiro and Shelley K. Hughes note,

Information and computer literacy, in the conventional sense, are functionally valuable technical skills. But information literacy should in fact be conceived more broadly as a new liberal art that extends from knowing how to use computers and access information to critical reflection on the nature of information itself, its technical infrastructure, and its social, cultural and even philosophical context and impact.⁴

LOCAL IMPLEMENTATION

Today, as faculty are locally defining and implementing an information competency requirement, they are aided by the 1998 paper adopted by the Academic Senate for California Community Colleges, *Information Competency*

¹ <http://www.washington.edu/oea/9811.htm>

² Frameworks for Outcomes Assessment. Commission on Higher Education of the Middle States Association of Schools & Colleges, 1996. p. 18. Available at: <http://www.msache.org/msafram.pdf>

³ Ernest L. Boyer. Selected Speeches 1979-1995. Princeton, NJ: The Carnegie Foundation for the Advancement of Teaching, 1997, p. 140.

⁴ Shapiro, Jeremy J. and Shelley K. Hughes. “Information Literacy as a Liberal Art.” *Educom Review*. Vol. 31, No. 2 March/April 1996. Available at: <http://www.educause.edu/pub/er/review/reviewarticles/31231.html>

in the *California Community Colleges*. That document defines information competency as

the ability to find, evaluate, use, and communicate information in all its various formats. It combines aspects of library literacy, research methods and technological literacy. Information competency includes consideration of the ethical and legal implications of information and requires the application of both critical thinking and communication skills.

Similarly, the Academic Senate of the California State Universities notes

*that information competence is the ability to find, evaluate, use, and communicate information in all of its various formats, including the plethora of electronic communications. In other words, information competence is the fusion or integration of library literacy, ethics, critical thinking, and communication skills.*⁵

Thus it is obviously incumbent upon our colleges to prepare our students for the information realities of the workplace and the information challenges they will meet in upper division work when they transfer.

Recognizing the importance of these competencies, then, academic senates at some of the CSU campuses have already added information competency as a graduation requirement. Certainly on-going development of curriculum and graduation requirements are essential functions assigned to the academic senates under Title 5 §53200; we view the continual upgrading and updating of our curriculum and the periodic review of graduation requirements as an on-going expression of our commitment to our students' education. The Board of Governors of the California Community Colleges recently considered adopting an information requirement

for our community college students. While the Department of Finance has intervened thus forestalling the Board's intent, the Academic Senate for California Community Colleges is fully committed to information competency, as evidenced in adopted resolutions and the on-going efforts of colleges in addition to the six highlighted here. Irrespective of delays in Board of Governors' actions, local academic senates and local governing boards should continue to explore and to adopt local graduation requirements in information competency that reflect what our students should carry forth as they matriculate to four-year universities or to the workplace. (For a historical perspective on the development of this competency requirement, please see Appendix A.)

How to implement such an information requirement now becomes our challenge. The earliest discussions raised concerns among some faculty and administrations about simply adding yet another course—an onerous task for students enrolled in some high-unit majors such as nursing or engineering. As an alternative to simply adding a stand-alone course, or even another course within a major program, to meet the information competency requirement, faculty have also proposed infusing the components of an information competency requirement in many courses throughout the curriculum; to do so, they identify courses already engaged in the teaching of these intellectual skills and contextualize these elements throughout the curriculum, from basic skills courses to vocational and transfer courses. Thus, the requirement does not require a new course or the hiring of new faculty, though some campuses may elect to do so. It is also possible to combine approaches, giving students choices regarding how to meet this requirement. In all instances, however, local campuses determine how best this requirement can be matched to their particular needs and curriculum.

TAKING INVENTORY

In beginning to explore how to implement this new requirement, local senates will therefore want to

⁵ "Information Competence." Academic Senate CSU, May 1998 available online at <http://www.calstate.edu/acadsen>; see also "Baccalaureate Education in the CSU" (1998), emphasizing the significance of information competence each CSU graduate must master. An additional document, also published in 1998 and intended as a "framework systemwide planning," "The Cornerstones Report: Choosing Our Future" (January 1998), underscores the importance of this competency.

inventory three elements: (1) what is currently being done academically on their campuses and how the teaching of these competencies may already be embedded or implicit in existing courses; (2) what skills and competencies students currently possess; and (3) what correlative skills and interests faculty currently have.

Faculty will want to consider what instruction is already available on their campuses. Community college library faculty throughout the state have included library skills and research instruction in their programs for many years, and many composition faculty routinely teach and reinforce these competencies in their classes. Yet information competency is a matter to be explored across the curriculum, and curricular decisions and obligations as significant as these should be shared by all faculty in all disciplines. What such a graduation requirement does demand—and what this document emphasizes—is the **local** decision-making of faculty who seek **local** solutions responsive to **local** curricular needs. In all instances, this document also notes the link between technology's significant contribution to intellectual sharing and discussion and the essential critical reading, writing, and thinking competencies inherent in information competency.

Faculty will also want to determine the skills their particular students may already have. Because students enter the community college with such a diverse range of information competency and technology skill levels, it has been suggested that a formal assessment instrument be developed and then integrated into the matriculation process at the college. Certainly faculty will also need to consider how the digital divide might affect particular students or groups of students. As reported in the September 2002 online newsletter of California Academic and Research Libraries (CARL)⁶, a bay area group of community college and CSU librarians is currently investigating such a mechanism and has

completed its report, the Bay Area Regional Community College Information Competency Standards Performance Indicators and Outcomes.

It would then be important to communicate to students through the college catalogue the clear expectations of faculty teaching courses or groups of courses. Their particular classes would also be flagged or distinguished by some symbol as requiring prior expertise in one or more aspects of information competency—including aspects of computer literacy or technology use. Such designations would permit potential students to better select courses or class sections in which they are best prepared to be successful or in which they can expand their competencies and abilities.

Another issue must be considered as well: before information competency of students can be ensured, information competency of faculty must be ensured. With the rapid pace of technological changes, faculty's skills need continual updating and renewing. The need for faculty development is paramount and is a consideration for all information competency program designers. Only now has the discussion of a digital divide begun to incorporate the divide between some technologically reticent faculty and their often highly computer literate students (who nonetheless often lack the critical acumen essential for information competency). Faculty development and support—for training and for curricular revision—should be essential components of a college's plan.

SIX STRATEGIES

Even prior to the anticipated institution of a graduation requirement for information competency in the California community colleges, a number of colleges accepted this challenge to prepare students for the Information Age by developing a formal information competency requirement, and in some cases, particular courses to meet their new requirement. This paper features six pioneering colleges who have taken steps to ensure that students can access, evaluate, and

⁶ This newsletter can currently be found at <http://www.carl-acrl.org/Newsletter/CurrentIssue/carl-9-2002.pdf>

The regional report is currently posted on <http://www.topsy.org>

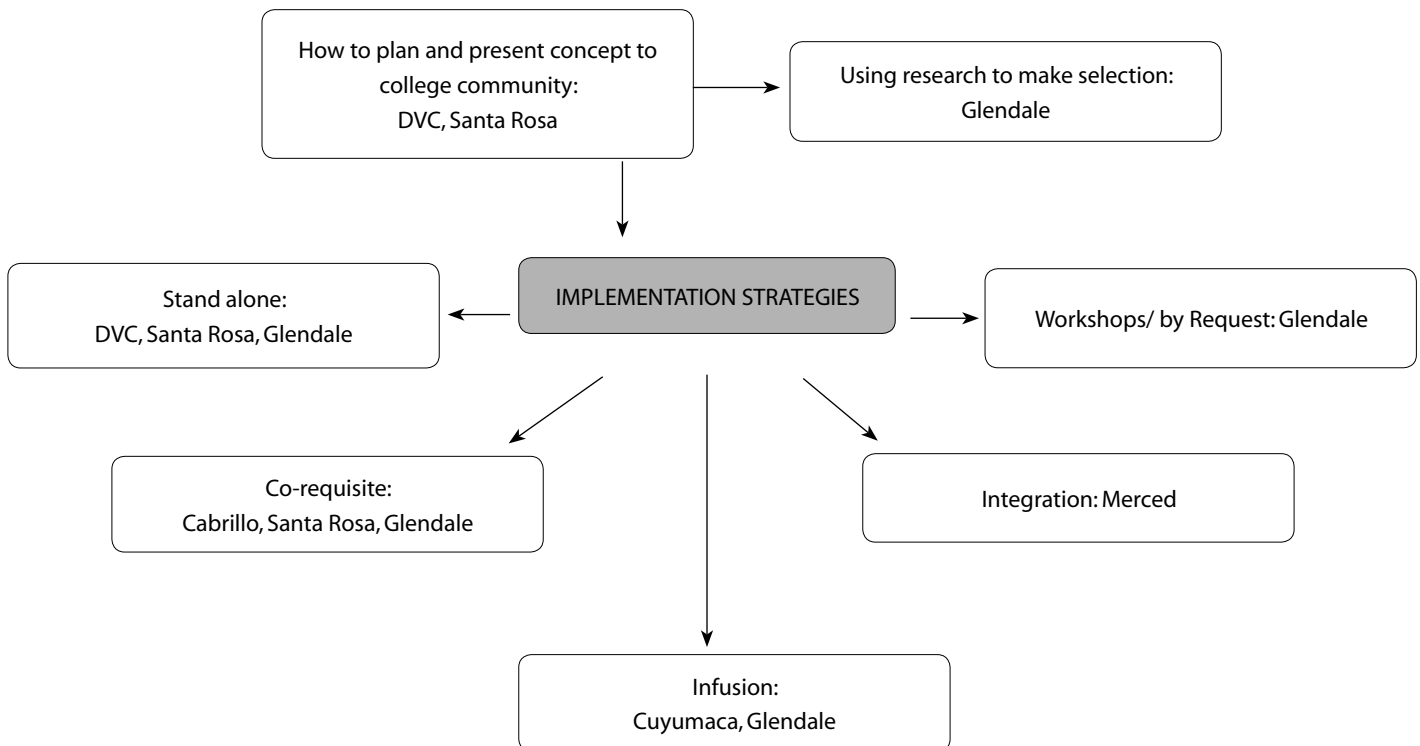
use information: Diablo Valley, Glendale, Cabrillo, Cuyumaca, Santa Rosa, and Merced.

There is no single “way” to institute information competency requirement, nor any single model of implementation (stand alone course, co-requisite, infusion, or integration), and the processes of decision making and the instructional strategies used by the six colleges in this paper are not exhaustive; rather they suggest a variety of possibilities for incorporating information competency. In all of the instances, however, collaborative effort has occurred. While library faculty have certainly played a key role, they have joined in collaboration with classroom faculty across their campuses: the teaching of information competency is everyone’s job.

The General Education pattern, the nature of a college’s students, the state of the college library’s instruction

program, and the college’s resources all play a role when faculty determine the best way to introduce and include information competency in the curriculum. At these six colleges, those faculty charged with developing their information competency element considered how best to reach all students: basic skills, transfer, vocational, recent high school graduates, and returning students, all of whom have varying levels of expertise and needs.

Each of the strategies presented here includes a description of the process employed for incorporating an information competency requirement in the curriculum, an overview of the present state of the design and implementation, and a summation of current and future challenges. Each college, as of this writing, finds itself at a slightly different stage of the process as well. The graphic below may help you navigate the colleges’ summaries to find the information of most use to your campus.



DEFINITION AND COMPONENTS

The 1998 Academic Senate paper identified key components, expressed as skills, which comprise information competency. Students with information competency must be able to

- ▶ state a research question, problem, or issue;
- ▶ determine information requirements in various disciplines for the research questions, problems, or issues;
- ▶ use information technology tools to locate and retrieve relevant information
- ▶ organize information;
- ▶ analyze and evaluate information;
- ▶ communicate using a variety of information technologies;
- ▶ understand the ethical and legal issues surrounding information and information technology; and
- ▶ apply the skills gained in information competency to enable lifelong learning.

Additionally, this document (and its appendices) presents definitions and competencies as they have been determined locally by Diablo Valley, Cabrillo, Cuyamaca, Santa Rosa and Merced Colleges. (See Appendix E for an expanded example of Santa Rosa's competencies.)

More broadly, a recent publication by the Intersegmental Committee of Academic Senates (ICAS) identified technological competencies expected of entering freshmen. In writing that report, *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities*,⁷ the authors surveyed UC, CSU, and community college faculty who taught lower division courses in all disciplines. These faculty reported that they expect entering students to be able to do the following:

- ▶ type;
- ▶ use word-processing software, to cut, paste, and format text, spell-check, and save and move files;
- ▶ navigate e-mail, compose, send, and receive e-mail, and post attachments;

- ▶ employ e-mail etiquette;
- ▶ navigate the Internet and the World Wide Web, recognizing the significance of domains (e.g., com, net, edu, org, gov);
- ▶ use search engines effectively;
- ▶ evaluate the authenticity of the Website, the credibility of the author, and the validity of material found on the Web;
- ▶ know how to cite Internet sources; and
- ▶ know what constitutes plagiarism and how to avoid it when using the Internet.

The ICAS authors also note that "other competencies, while not essential, will enable a student to perform well in college." They also report the following as desirable competencies:

- ▶ contribute to discussions online;
- ▶ use visual aids or applications-based visual programs (such as PowerPoint) to present original work or research or support the content of an oral report; and
- ▶ create and maintain a Website.

As suggested earlier, some of these key components of information competency may already be represented in curriculum and its pedagogy designed to meet other requirements or fulfill other needs, such as critical thinking, applications of technology, or public speaking. The 1998 Academic Senate paper advised "that faculty review their curriculum to assure that these components are covered," presumably in one or more courses identified through curricular review.

Expectations of entering students such as those noted above propose challenges for community college faculty who wish to ensure that their transferring students are uniformly trained and can enter as prepared as (if not more so) than their counterparts already enrolled in four-year institutions. Yet whether students choose to transfer or not, all must be equally able to meet the challenges of this Information Age.

⁷ This document is available online at <http://academicsenate.cc.ca.us/Publications/Papers/AcademicLiteracy/main.htm>

INFORMATION COMPETENCY STRATEGIES: UNDER CONSTRUCTION

Strategy/Process	Selected Model	College
I. Planning a Process Prior to Selection of a Delivery Model	Additional One-Unit College Class	Diablo Valley
II. Using Research to Determine Effective Models	Co-requisite, Infusion, Stand-alone, Workshop, and On-Request Models	Glendale Community College
III. Library/Discipline Faculty Collaboration	Co-Requisite Model	Cabrillo College
IV. Over-all Reform of General Education	Modified Infusion Model	Cuyamaca College
V. Partial Implementation	Multiple Options	Santa Rosa Junior College
VI. From Planning to Implementation	Infusion/ Integration Model	Merced College

DIABLO VALLEY COLLEGE

PLANNING A PROCESS PRIOR TO SELECTION OF A DELIVERY MODEL**START-UP PROCESS**

Diablo Valley faculty initiated a two-year, college-wide review of the college's General Education requirements in 1998. The process included a series of college open forums, examination of existing requirements by each academic division, and an opportunity for departments to propose new areas of study for possible addition to the general education curriculum.

The college's New Areas of Study Task Force received four proposals for creating new General Education graduation requirements. One of the four proposals was an information competency requirement proposed by the Library Department. The General Education Review Plenary Committee, comprised of faculty representatives from each academic division, considered all the proposals and voted to recommend only the one-unit information competency proposal. The Plenary Committee collected all the recommended changes to the General Education pattern, including the new General Education Area VII Information Competency catalogue statement (see below), and presented the package to the Faculty Senate.

GE Area VII. Information Competency – Catalogue Statement

Information Competency is the ability to both recognize when information is needed, and to locate, evaluate, synthesize, use and communicate information in various formats.

The faculty believes that DVC graduates should be able to:

1. recognize when information is necessary;
 2. develop effective research strategies;
 3. locate, retrieve, and use information in a variety of formats;
 4. critically evaluate and synthesize information;
 5. effectively create, present and communicate information;
 6. competently use computers and other information technology tools;
 7. understand the social, legal and ethical issues relating to information and its use.
-

The entire revised General Education pattern was distributed to faculty in Spring 2000 and adopted in May 2000. To date, all aspects of the general education revisions have been included in the current catalogue except for the new Information Competency — Area VII. Its inclusion awaits decisions about the implementation strategy and is tentatively slated for implementation Fall 2003.



APPLICATION

To coordinate and plan implementation for the Fall 2003 information competency requirement, the Faculty Senate established the Information Competency Implementation Task Force. Convened in Spring 2001, the Task Force currently meets on a regular basis. To ensure a broad-based collaborative effort, the Task Force's charge directed that membership include two library faculty, the assistant dean of instruction, the Instruction (Curriculum) Committee chair, a second member of the Instruction Committee, an English faculty member and four additional classroom faculty.

The first year goal of the Task Force was to develop and recommend a curriculum approval process on information competency for Faculty Senate approval and Instruction Committee implementation. Their work details the learning outcomes expected of the information competency requirement, provides criteria to guide curriculum development and assessment, and outlines a procedure for the Instruction Committee to follow when approving new or revised courses. The Task Force is not responsible for selecting a particular implementation model (stand-alone course, co-requisite, infusion, integration, etc.), but it will develop a procedural foundation and establish information competency learning outcomes and standards for what is anticipated to be a variety of instructional methods to meet this graduation requirement.

The Task Force began its work with general reading and discussion on information competency before drafting a statement of learning outcomes. To develop a statement of learning outcomes, the Task Force used the Association of College & Research Libraries, *Information Literacy Competency Standards for Higher Education*, and an abridged version of these learning outcomes drafted by a group of San Francisco Bay Area community college library faculty⁸.

The Task Force's resultant statement, "Area VII — Information Competency Learning Outcomes," amplifies the seven broad outcomes in the catalogue statement on information competency listed on the previous page. These criteria will guide curriculum development and approval for General Education Area VII. The Task Force recommended and the Faculty Senate approved these learning outcomes in May 2002.

⁸ An important update on this project appears in the September 2002 Newsletter of California Association of Research Librarians and can be found at <http://www.carl-acrl.org/Newsletter/CurrentIssue/carl-9-2002.pdf>

The Task Force also presented an outline of recommended guidelines and policies for the Instruction Committee to use in reviewing new or revised courses seeking approval to fulfill the Area VII requirement. A challenge mechanism for students who seek to get credit by examination for the Area VII requirement is currently under development.

At the conclusion of Spring 2002, the Faculty Senate had approved these guidelines and the Instruction Committee approved the first course to satisfy the requirement, a one-unit library course LS121, Information Competency and Research Skills. The Information Competency Task Force will continue meeting in Fall 2002 as additional curriculum models are proposed.



CHALLENGES

The primary challenge to implementing an information competency program is to initiate and maintain the collaborative effort needed to develop effective and workable models. It takes a college-wide commitment to offer students a multi-faceted program that is sustainable and achieves the desired student outcomes. Diablo Valley College has set forth the learning objectives of the new requirement but must still consider the various options to bring this curriculum to the large and diverse student body that attend the college.

GLENDALE COLLEGE

USING RESEARCH TO DETERMINE EFFECTIVE MODELS

Strategy 2



START-UP PROCESS

When a Fund for Student Success (FSS) grant was awarded to Glendale Community College in 1999/2000, the college's library was offering a two-unit "Introduction to Library Research" course and provided class orientations on demand. The library had also developed and taught an Internet search course which was eventually turned over to the CS/IS department.



APPLICATION

Using the new FSS funds, librarians developed a series of six workshops covering basic library skills and a set of additional self-paced research exercises for English 101. The library faculty began a research study on the impact of this information competency instruction on student success and developed a one-unit credit course, Introduction to Information Competency. These results, and the work done through Research Across the Curriculum are summarized below.

In addition, library faculty developed and taught faculty workshops in 2000/2001; generally, however, attendance was poor.

From Spring 2000 through Fall 2001, approximately 100 students took Library 101 or Library 191, the credit courses in information competency. During the same period approximately 10,000 students attended a library workshop, and 3,500 students received library instruction as part of a class orientation.

In 2001/2002, using Fund for Instructional Improvement (FII) grant funds, the research project was expanded to test additional models of teaching information competency such as course pairing and infusion.

Beginning in Winter 2002, a series of specialized information competency components were "infused" into the core Nursing series, and into a history course on the causes of war. In Spring 2002, one section of Library 191 was paired with English 101, College English. By the end of this grant project, the college will have evaluated how students who participate in each of the four models of information competency instruction perform on a proficiency test.

Currently, then, the modes of information competency instruction include these four options:

1. One-unit course – LIB191: Introduction to Information Competency
 - ▶ Students meet 2 hours per week in a 27-computer library instruction room.
 - ▶ Two sections of LIB 191 were offered (with 19 & 22 students each in Spring 2002), one of which was paired with an English 101 course (with instruction tailored to students' English 101 research paper assignments).
 - ▶ Course articulates with UC's and CSU's.
2. Infusion of information competency components into existing courses

Nursing/Allied Health

- ▶ Several 20-30 minute presentations are taught each semester or intersession in the discipline classroom.
- ▶ Sessions are both general (how to find a book) and specific (focused on an assignment or related to a nursing topic under discussion in the class).
- ▶ In the future, handouts will be incorporated into student handbooks and course packets (for nursing students) and made available online (for all students and their instructors).
- ▶ Nursing faculty will also be trained so they can provide basic information competency instruction themselves.

History 136

- ▶ During Spring 2002, the college offered 2 one-hour, specialized instruction sessions.
- ▶ Resources specific to History 136: War — History & Causes were covered.
- ▶ In future semesters, this infusion model will be tested with the general History 110 class and will be expanded to include online resources.

3. Six workshops (10 one-hour sessions offered each week for 14 weeks in a 16-week semester):
 - ▶ Workshops cover such topics as:
 - ▲ Searching the Online Catalogue
 - ▲ Locating Journal & Newspaper Articles
 - ▲ Internet I: The Basics
 - ▲ Internet II: Searching & Evaluating
 - ▲ Research Strategies
 - ▲ Government Resources.
 - ▶ All workshops are one hour each. Each is repeated at least once a week on a rotating schedule. There are also special workshops combined with self-paced research exercises as part of the PACE English 101 course.
 - ▶ Workshops are rotated through the schedule to ensure students can attend all.
 - ▶ During Fall Semester 2001 (16-week semester), 2077 students attended the 102 workshops.
 - ▶ In Spring 2002, the number of workshops were increased to 140 with an increased number of students completing the series.

4. On-request orientations

- ▶ Requests come from faculty teaching such courses as English 101 & 102, credit and non-credit ESL, sociology, and student development.
- ▶ Orientations address such topics as
 - ▲ using the library catalogue,
 - ▲ locating recommended reference sources,
 - ▲ using online databases to locate articles,
 - ▲ searching the World Wide Web,
 - ▲ evaluating websites.
- ▶ Orientations are offered in a 27-computer library instruction room.
- ▶ Orientations usually are 1 or 1-1/2 hour sessions.
- ▶ The objective is to focus orientations on discipline-related research and to complement rather than repeat the material of the workshops.
- ▶ During Fall Semester 2001, 35 orientations reached 714 students.

RESEARCH ACROSS THE CURRICULUM TASK FORCE

In Fall 2001, the Glendale Community College Academic Senate convened a Research Across the Curriculum (RAC) Task Force. This Task Force was charged with researching the need for an information competency graduation requirement at Glendale Community College and identifying possible methods of meeting such a requirement. The Task Force recently presented a final report to the Glendale Community College Academic Senate recommending

- ▶ that current information competency instruction models already in place at Glendale Community College continue to be funded, and
- ▶ that library faculty and classroom resources gradually be increased in preparation for a mandated statewide information competency graduation requirement.

The Task Force's recommendations were based on

- ▶ the already strong information competency program in place at Glendale College,
- ▶ the findings of the Research Project on Information Competency at Glendale College, and
- ▶ the Task Force's overall feeling that the best way to meet an information competency graduation requirement in the future would be through continuation of the one-unit Introduction to Information Competency course.



POSITIVE RESULTS

RESEARCH PROJECT RESULTS

In Spring 2000, Glendale College's Institutional Research Unit began a long-term study of the impact of the library's information competency classes and workshops. The study now includes data from Spring 2000, Fall 2000, Spring 2001, Fall 2001 and Spring 2002. What is significant is the on-going desire of Glendale to base their educational planning on comprehensible data and

analysis. Their results, as noted in Appendix C, suggest that there may be a positive correlation between information competency instruction and student outcomes in terms of course grade for the workshops and GPA for the credit courses. However, all research remains limited, and any interpretations of their results must be cautiously considered. Rather, their research suggests questions and topics for investigation as other colleges undertake their own studies.

Glendale College's Institutional Research, for example, conducted a variety of comparisons: among all students in ESL 151, English 120 and English 101 on their completion of the course and their course success, a comparison of students who took Library 191 and a randomly selected control group of non-Library 191 student, matched by theoretically relevant measures (enrollment status, prior GPA, primary language and units attempted). Additional information about the status of Glendale's information competency projects can be found at <http://www.glendale.edu/library/libins/icweb/icweb.html>.



CHALLENGES

Currently Glendale Community College has focused on equipping transferring students with the information competencies they will need in subsequent course work. In the future, however, the discipline and library faculty plan to

- ▶ focus on those models which are most effective in helping students succeed and in preparing students for an information competency proficiency test;
- ▶ expand to include information competency instruction within the vocational programs;
- ▶ expand instruction to include noncredit/community learners;
- ▶ prepare for an information competency graduation requirement;
- ▶ prepare infusion models for more departments on campus;
- ▶ build a stronger online instruction presence;
- ▶ resolve the disparity between class size (e.g., 40 students in a history class) and availability of simultaneous computer access (e.g., the 27-computer library instruction room); and
- ▶ compare the performance of students from all the different instructional options on an information competency proficiency test in 2003.

However, there are several factors that may jeopardize the Research Across the Curriculum Task Force's initial recommendations:

- ▶ the current State of the California budget seems to offer no money for additional resources;
- ▶ some instructional faculty and administrators do not understand or value information competency;
- ▶ if degree students were required to complete a one-unit information competency class rather than using other infusion models, students would be required to take more units to graduate. This option poses a particular hardship for some students in some majors (e.g., nursing); and
- ▶ current sentiment on campus does not support the hiring of more library faculty perhaps necessary to support some models, especially since these hires might mean fewer hires in other faculty groups on campus.

CABRILLO COLLEGE

CO-REQUISITE COURSE MODEL*Strategy 3***START-UP PROCESS**

At Cabrillo College, the three-unit transfer English course, English 1A (College Composition), has a one-unit co-requisite, Library 10 (Information Research). Library 10 was first introduced in 1988, and English 1A faculty participated on a voluntary basis. It was so successful that it soon went through the curriculum process to become a co-requisite for all English 1A sections. However, Library 10 is a self-paced class that may also be taken without English 1A. Students may take the class for credit/no credit and can receive credit through credit by exam, though fewer than 1% of the students elect the credit/no credit option available for this course. Library 10 is taught primarily by adjunct librarians, but full-time librarians also participate. Additional information can be found at the Library 10 Web page <http://libwww.cabrillo.cc.ca.us/html/about/library-10/index.html>.

**APPLICATION**

Library 10 is structured to support the objectives of English 1A. The objectives from Cabrillo's English 1A overlap with generally held objectives of any information competency course:

[English 1A] students will

1. use the library to find information in books, magazines, and specialized journals; use electronic databases and a variety of online sources to find information;
2. plan an efficient search to discover those sources that are most useful and reliable;
3. learn to incorporate sources in writing through paraphrase, summary, and direct quotation and to acknowledge the sources in formal documentation to avoid plagiarism; and
4. begin to question texts for logical consistency and adequacy of evidence.

Library 10's objectives include the students' ability to

1. understand the differences between types of information, e.g., popular, scholarly, current, retrospective, statistical, critical, primary and secondary;
2. develop appropriate search strategies, evaluating the information accessed in relation to its content, source, quality and relevance;

3. recognize the levels and appropriate uses of diverse types and formats of information;
4. synthesize information from a variety of sources to satisfy research and applied needs and be able to transfer research process to future information needs;
5. apply principles of scholarly and ethical research, such as proper citation formats and respect for intellectual property;
6. demonstrate effective use of the library in conjunction with academic assignments as well as applied learning needs.

COORDINATING ENGLISH 1 AND LIBRARY 10 ACTIVITIES

Early in the semester, the Library 10 and English 1A faculty meet their respective sections in the library and together explain the Library 10 course and the use of a workbook designed for the Library 10 course. Some librarians include a tour of the library as part of this first session.

The workbook explains various information resources with special emphasis on research strategies and evaluation of resources; the workbook also includes exercises, many of which require students to use online sources. Midway through the semester, library faculty require students to submit their Library 10 workbook for a midterm evaluation. Once the workbook is graded by their library instructor and returned, students continue to complete its exercises and submit the completed workbook by a due date near the final examination period. After submitting the workbook for a final evaluation, the workbook is returned to students who use it to prepare for the final exam that is both “performance based” and “written.” During the performance portion of their final exam, in addition to multiple choice and short answer questions, students are given the choice of three topics. They must then use the skills learned in Library 10 to identify the question, locate sources (e.g. one book, one magazine article, one journal article, one website) and then cite them appropriately in MLA format.

Selected sections of English 1A are offered online. The Library 10 component for these online sections is introduced during a mandatory three-hour orientation session, in which the Library 10 instructor describes the partnership and presents the Library 10 homepage that is linked to the English 1A online homepage. Students complete the same workbook, though their final exam consists of a final project, which is an annotated works-cited document that describes each item identified through their workbook exercises and the value of that source to their research.

In their end-of-term comments, students overwhelmingly recommended that fellow students take Library 10 and stated that the course should be required of all students.



POSITIVE RESULTS

Strong ties between English 1A and Library 10 faculty develop as the semester unfolds, and participants note the development of a “team spirit.” Faculty follow through with students having difficulty in both subjects and often arrange for coaching and review sessions.

All librarians, including those working at the Reference/Instruction Desk, take ownership of Library 10. Students know that any available librarian can assist them with the Library 10 workbook or can answer questions related to course content.



CHALLENGES

Discussions about an online Library 10 workbook have begun. Further development of the workbook to more closely meet specific needs of English 1A faculty is also taking place.

The course content for Library 10 will need to be modified and expanded to satisfy the newly adopted Title 5 requirements for informational competency, especially as it applies to the technology skills students must demonstrate.

Discussions as to how Library 10 should be linked to English courses below English 1A also need to occur, especially as all AA degrees but only 14 of the college's 39 AS degrees require English 1A.

CUYAMACA COLLEGE

MODIFIED INFUSION MODEL**START-UP PROCESS**

Cuyamaca College is using a modified version of the infusion model as a means of initiating this curricular change. Originally conceived as a part of a “general education reform” at the college, a number of vocational courses have incorporated information competency as well. As a result of the reform, six required components have been identified for inclusion in each course in the Cuyamaca College General Education package⁹. One of these components is information competency. Effective 1999, the Curriculum Committee must certify that each current (and any newly proposed) course in the General Education package provides for the six components, one of which is information competency. Thus, each course in the General Education package must contain some element of the information competency package.

The college’s curriculum guidelines defines the information competency component as follows:

Courses shall motivate students to develop information competency skills to improve the quality of education and everyday life through the selective use of information technology and information resources. Students will be able to identify information resources, apply appropriate tools to acquire information, formulate a search strategy, evaluate acquired information, and recognize alternative information sources (note: these could be considered as the primary elements of information competency). This can be achieved through various activities including but not limited to using computers, periodical/journal research, Internet research, Web home-page projects, and library research orientations.

**APPLICATION**

Integrating some element of the information competency into each course is accomplished by providing a library research assignment for the students—a joint effort between the discipline faculty member and the library faculty member. Examples include:

- ▶ Students in geography learn how to locate up-to-date cultural geography.
- ▶ Students majoring in business learn how to search for patents.
- ▶ Students in English explore literary criticism.

⁹ Cuyamaca’s six required components are: Information Competency, Writing Across the Curriculum, Linkages, GE Outcomes, Workplace Skills Outcomes, and Diversity Outcomes. Additional information can be found at <http://www.cuyamaca.net/jeri.resto/GE/GESurvivalKIT.htm>

- ▶ Students in the Environmental Hazardous Materials Technology (EHMT) program research San Diego Disposal waste methods.
- ▶ Students in child psychology learn the difference between secondary sources and primary sources.

ADVANTAGES OF AN INFUSION MODEL

1. The infusion model exposes students to elements of information competency in each General Education course taken.
2. The infusion model encourages discipline faculty and library faculty to collaborate and develop appropriate assignments to include in the course.
3. The infusion model can reach a greater number of students than traditional unit course of 30 students.
4. The infusion model is easily implemented into distance learning courses as the lessons in each unit appear on the web.
5. The infusion model can be designed and implemented more efficiently than the stand-alone or self-paced courses taught by library faculty.



CHALLENGES

This library-based model uses a dynamic website. Unlike some pages on the college site, the library information competency infusion model will always be undergoing structural change. An instructor's syllabus might change from one semester to the next, so the librarian-content designer has to update all information competency modules by continuing to add new points of access, reformatting web layout, and redesigning appropriate visuals. Though most students lack the critical evaluative skills developed by this class, many students are more computer savvy than many staff and faculty. These students are used to viewing professional web pages and the colleges must continue to maintain a strong, professional web presence. An expert web-designer is therefore critical to the success of an infusion model.

Since not every course must include all elements of information competency, there is a chance that some students may not be exposed to one or more of the elements during pursuit of their general education courses; however, given the broad range of courses in the General Education package, full coverage is likely.

Some college faculty are concerned that without subsequent institutional support following the receipt of initial seed money to develop an information competency component in its curriculum, the college will be unable to sustain its program. However a larger curricular matter is to ensure that the local requirements conform to any subsequent Title 5 language, particularly the need in all instances for students to “use and communicate information in all its various formats” and the related responsibilities to credit the sources of that information appropriately.

SANTA ROSA JUNIOR COLLEGE

MULTIPLE OPTIONS IN PARTIAL IMPLEMENTATION**START-UP PROCESS**

Santa Rosa Junior College (SRJC) began exploring information competency in 1997 as the Library Information and Resources (LIR) Department followed the discussions of information competency at the state and national levels. About that time, the college formed a special committee to review the General Education pattern and recommend changes. The LIR Department also reviewed the Association of College and Research Libraries (ACRL) and the American Library Association standards on Information Competency, raising concerns about the standards in a community college setting. As most community colleges do not have the resources of four-year institutions, the college decided to modify the standards to reflect community college levels. As part of the process regarding this academic and professional matter, the Santa Rosa Academic Senate approved these standards. (See Appendix D.)

**APPLICATION**

The LIR Department began discussion of how information competency could be implemented at the local level. Several models of implementation were discussed, each having merit. The LIR Department reached consensus that the information competency requirements would be best met with a new graduation requirement. The overriding concern was the importance of the students' needs in a changing environment that requires critical skills far beyond what was necessary in the past in the area of information literacy.

The Department then began discussions with the general education task force subcommittee of the Curriculum Committee. The full Curriculum Committee supported the concept of a requirement for information competency and recommended it to the local senate. Following discussions and presentations with various constituent groups and committees, the SRJC faculty reviewed the options and decided that the most effective method to ensure all components of the requirement were met and implemented was a one-unit graduation requirement. This strategy garnered college-wide support, and in Spring 2000, the local senate voted to support the requirement. The College

Council endorsed this proposal, and the Board of Trustees approved the requirement in Spring 2002 for implementation in Fall 2002 and required of students entering that semester. (See Appendix E.)

The Curriculum Committee established a course approval process and a subcommittee to oversee that process for new or existing courses submitted to meet this new requirement. The subcommittee evaluated proposals in accord with the Standards noted in Appendix D and approved the newly revised library courses, LIR 10, 50 and 110 as meeting these requirements. This approval process, approved by the academic senate in Spring 2002, will continue to be used for any additional courses submitted in semesters to come.

Students may challenge the requirement with an examination-for-credit process described in Appendix F.

LIBRARY INSTRUCTIONAL PROGRAM

For at least six years, the Library Information and Resources Department has been offering library courses varying from one-half to three units. The most recent offerings have been:

- ▶ LIR 57 Internet Searching (series of half unit courses)
- ▶ LIR 60A/B Library Resources: Where and How (2 half units)
- ▶ LIR 50 Research Skills for Papers, Reports and Essays (1 unit, CSU transferable)
- ▶ LIR 22 Locating Knowledge (3 units)

During the formative years of this requirement, the Department also created courses that specifically met the information competency requirement.

- ▶ LIR 110 Finding and Using Information (1 unit)
- ▶ LIR 10 Introduction to Information Competency (1 unit, UC/CSU transferable)

These new courses, as well as LIR 22 and LIR 50, were approved by the Curriculum Committee to meet the information competency standards, enabling the LIR Department to have several courses that meet the requirement. The courses have been offered in various formats including online, self-paced workbooks, and in traditional classroom settings. Courses have also been linked with other departments, enabling both instructors to reinforce concepts and make course work more relevant for students. Students enrolled in LIR-linked courses are concurrently enrolled in both courses. For example, even prior to the adoption of this requirement, the LIR Department and English Department had linked courses for three years. The assignment of instructors is an internal department procedure for both departments. The curricula of the two courses are mutually adapted to help students benefit from course work in both. The extent of this cooperation is left up to the individual instructors. The Library courses are set up to reinforce the assignments in the other courses especially in research process, assigned topics and bibliographic citations.



CHALLENGES

The Library and Information Resources Department sees a number of challenges as it works with faculty to implement this requirement:

- ▶ adding additional courses for developmental-level students;
- ▶ working with certificate course instructors to provide focused instruction for their students;
- ▶ identifying liaisons with other departments;
- ▶ ensuring course content is relevant to students' needs;
- ▶ creating additional modes of presentation;
- ▶ finding optimum scheduling to ensure student success and access;
- ▶ offering sufficient sections of the approved Library courses at appropriate times to afford students ample options;
- ▶ assuring sufficient and trained staff to teach and provide on-site assistance;
- ▶ providing library faculty with pedagogical training prior to their classroom experiences;
- ▶ working with discipline faculty to create focused, linked courses;
- ▶ finding other faculty to augment their own curriculum to meet this requirement; and
- ▶ providing sufficient training to those faculty.

Course outlines may be viewed at the college's homepage www.santarosa.edu.

MERCED COLLEGE

FROM PLANNING TO COMPLETED IMPLEMENTATION**START-UP PROCESS**

In 1998, Merced College adopted a combined computer competency and information literacy graduation requirement, effective for students entering in Fall 2000.

Originally the Curriculum Committee formed a subcommittee to investigate computer and information literacy competencies. The chair of the Curriculum Committee then appointed the committee members to serve on this “Comlit Committee,” representing the Allied Health, Industrial Technology, Business, Guidance, Science/Math and Learning Resources divisions. Other committee members included a dean from the Office of Instruction, the Learning Resources Director, and a student services staff person.

The Comlit Committee met for one year and was charged to determine these matters:

1. whether or not to implement this requirement;
2. what the competencies would be;
3. how to determine what courses would meet the competencies; and
4. what level of scrutiny would be in place for new courses wishing to meet the competencies.

The Comlit Committee presented its recommendations broadly across campus. Subsequently, the Faculty Senate requested each division to offer suggestions for the competencies. The Comlit Committee reviewed these proposals and formulated a final proposal for the competencies that it forwarded to the Curriculum Committee, which in turn established the competencies and recommended them to the Faculty Senate.

In the Spring of 1998, after review by the Instructional Council, the Faculty Senate determined the following A-G components would comprise and define the computer and information literacy requirements: Merced students, upon graduation, should be able to

- A. name and describe the typical digital computer components and their functions;
- B. describe common computer applications and related social and ethical problems/impact;
- C. learn fundamental operation and concepts of word processing, spreadsheet, and/or database software applications;

- D. understand the difference between information and knowledge;
- E. understand the links among information centers and the access points available through technology and reference sources;
- F. understand the basic structure of electronic databases and the strategies used to access them; and
- G. recognize the different levels, types, and formats of information including but not limited to primary vs. secondary, and popular vs. scholarly.

[Note: These requirements were adopted prior to the proposed new Title 5 language. In Fall 2002, the Merced faculty will consider changes to these requirements to align them with anticipated Title 5 language.]

Furthermore, in the Fall of 1998, the Faculty Senate agreed upon these guidelines and principles regarding the curriculum for these competencies:

1. Courses [submitted to meet the A-G requirements] may ... meet any or all competencies.
2. Courses that were approved in the initial process are now certified as meeting the competencies.
3. New courses [submitted to satisfy one or more of] the competencies must include them on the course content page and exit skills on the Course Proposal Forms.
4. Existing courses may [be certified] to meet the competencies [if] a Course Change Proposal [is submitted], which includes the course content page and exit skills.
5. The student services staff must certify the completion of the competencies at the time [a student submits an] ... application for graduation.
6. The chart of which courses meet the competencies is maintained in the Office of Instruction. Changes in courses become effective for the fall semester following the course change proposal or course approval process of the Curriculum Committee.

Upon adoption of these competencies and guidelines, the Instructional Council (Division Chairs) worked with the faculty of each division to suggest which existing courses should seek certification as courses meeting one or more of the competency requirements. These courses were then submitted to the Curriculum Committee for approval.



APPLICATION

The computer competency and information literacy requirement has now been embedded into the curriculum of various courses. The faculty certify through the Curriculum Committee which competencies they wish to teach and which competency or competencies that course will address—all, or several, or one. The counselors use a chart to determine if students have completed all the

competencies. Effective Fall 2000, students must receive a grade of “C” or better in courses which meet the computer and information literacy competency requirements A through G.

Presently, students may meet the competency by one of these following mechanisms:

- ▶ completion of the Registered Nursing, Licensed Vocational Nursing or Radiologic Technology program, or completion of CPSC 24 and completion of the graduation requirement in English (ENGL A or ENGL 1A),
or
- ▶ completion of CPSC-40A&B or ELCT 40A & B and
Learning Resources 30
or
- ▶ completion of CPSC 1 or CPSC 2 and
completion of CPSC 30, 31, 32, or 33 and
completion of the graduation requirement in English (ENGL A or 1A),
or
- ▶ completion of a number of other courses, each of which fulfills at least one of the seven areas of computer and information literacy as enumerated above.



POSITIVE RESULTS

Merced College librarians report their pleasure with the collaboration efforts of their discipline faculty colleagues. Active discussions about information literacy continue to take place as courses and assignments are developed. Use of the library and participation of librarians in class orientations and faculty training has increased to levels previously undreamed of.

Additionally, this approach has taken advantage of the natural affinity existing between many courses and the information competency and computer literacy essential to succeed in those courses. The requirements permit faculty to develop assignments that encourage a mastery of those skills most suited to a given course or area of study.



CHALLENGES

While this has been a successful collaborative effort across campus, there are still challenges. The faculty at Merced College continue to support the computer and information literacy competency requirements; however two notable challenges face faculty as they write curriculum.

First, as faculty develop new curriculum or revise and update older curriculum, they often fail to include in their course outlines and student exit skills those information literacy components

that they already teach and that are intrinsic to their classes: they do not recognize that aspects of information competency may already be present. Since the Learning Resource Center (LRC) is represented on the Curriculum Committee, and since the LRC director has a role in processing the curriculum forms that go to the Committee, librarians have the opportunity to encourage faculty to imbed information competency components in appropriate courses and explicitly note those that are already there. Even with encouragement, however, some faculty are not eager to include activities designed to meet the information competency requirement in their courses.

The second challenge is the reverse of the first: some faculty have made efforts to include *all* of the competencies, both information literacy and computer competencies, in their new or revised course outlines, regardless of their discipline. Their main objective is to develop a course that will serve as a one-stop class for all graduating students in their field. This effort is understandable, but a great deal of discussion about appropriate disciplines and pedagogy has occurred as the Curriculum Committee discusses these omnibus classes.

Another challenge is suggested by outside observers who contemplate the mechanics of tracking multiple competencies for large numbers of students. The guidance faculty have had concerns because of difficulties helping students meet the list of competencies.

A final problem is the lack of resources. There is no computerized classroom available for instruction. There are only two full-time librarians, both of whom are already fully engaged in other activities such as staffing the reference desk, cataloguing and providing library orientations. Also, staff development and training for the faculty who wish to incorporate information literacy into their curriculum must continue. Two faculty members have taken the LR 30 course in order to broaden their skills in this area.

The college must now begin a parallel examination of vocational and technical courses in anticipation of any proposed changes in Title 5 to require these competencies for certificates of 18 units or more and must review its list of competencies to ensure a match with any new Title 5 changes.

CONCLUSIONS

The descriptions of the processes and the models that arose from them at these six colleges provide opportunities for other local senates to debate, to ponder, perhaps even to emulate. Additionally, local senates must consider the potential implementation of information requirements for certificate programs of 18 units or more. The implementation of any such requirements is accompanied by a host of other correlative matters: assessment and placement, proficiency tests or performance-based demonstrations of competency, locally based or nationally devised instruments, policies for exemption and certification, and a host of other faculty-driven decisions associated with the delegation of authority, including our roles in establishing prerequisites and placing courses within disciplines, degree and certificate requirements, and standards or policies regarding student preparation and success as well as our own faculty development (Title 5, §53200 (d) (1, 2, 5, 8).

RECOMMENDATIONS TO LOCAL SENATES

The experiences of these six pioneering efforts, and the cumulative experiences of local senates, compels the Academic Senate for California Community Colleges to propose that local senates, in crafting a curricular response to Title 5, give full and rich consideration to the following factors:

1. Faculty should foster wide spread collaboration among faculty across the curriculum, including academic and vocational instructors, and their deans, librarians and counselors.
2. Local senates should encourage broad-based, on-going faculty development to support faculty's use of technologies and pedagogies as well as to revise courses and curriculum to include these new student competencies.

3. Local senates should ensure that adjunct faculty are aware of changes made in existing courses or requirements and are prepared to incorporate such changes into their teaching.
4. Faculty, through their local senates and curricular procedures, should initiate a process to determine how best to match the intent of the Title 5 requirement with local curricular needs. To do so, faculty will consider:

PLAN THE PROCESSES

- ▶ Identify key participants, including students, to engage in this college-wide discussion.
- ▶ Create a campus culture supportive of information competency as an educational goal and intellectual behavior.
- ▶ Familiarize themselves with any proposed requirements of Title 5 relating to information competency.
- ▶ Determine a local definition of "information competency" consistent with any new Title 5 Regulations and in response to the larger global contexts of work and academics into which our students will enter.
- ▶ Initiate discussions about inclusion of information competency within vocational programs and occupational certificates, in anticipation of additional related Title 5 changes currently in discussion.

IDENTIFY RESOURCES

- ▶ Determine availability of librarians within their geographical area, if additional librarians will be needed.
- ▶ Inventory available print, non-print, and technology resources to meet the demand raised by this new requirement.

- ▶ Enumerate the costs and resources associated with constant updating of online resources, assignments, handbooks, and other instructional modes.
- ▶ Ensure the quality of library hardback and software materials, databases, references, etc., particularly in times of economic hardship and dwindling resources.
- ▶ Determine whether staff and library faculty have sufficient and current training and the requisite pedagogical skills.
- ▶ Assess level of administrative support for staff development, staff resources, scheduling, and institutional research.

SUPPORT FACULTY AND STAFF

- ▶ Insist upon adequate, on-going faculty development opportunities.
- ▶ Consult with the faculty bargaining unit on issues of load, working conditions, job performance evaluations, and job responsibilities, especially when collaborative efforts are initiated.
- ▶ Ensure ongoing training for library faculty and staff.
- ▶ Provide on-going, inviting, faculty professional development and training in
 - ▲ use of evolving technology
 - ▲ use of online data bases
 - ▲ resources available to minimize plagiarism and offer citation instruction.
- ▶ Undertake training necessary for faculty who wish to revise or create curriculum in support of this new mandate.
- ▶ Provide orientations and training for new and adjunct faculty to acquaint them with the nature of information competency, its relationship to the curriculum they teach, and the mechanisms whereby they can measure their students' competencies.

FOCUS ON STUDENTS

- ▶ Consider strategies to avoid undue pressures on high unit programs (e.g., nursing, pre-engineering) and students enrolled in them.
- ▶ Determine a challenge process for students to demonstrate existing competencies.
- ▶ Ensure adequacy of computer facilities for students and accessibility to all groups of students throughout the day, evening, and weekends (if applicable).
- ▶ Consider whether students seeking multiple certificates must demonstrate competencies in each instance.
- ▶ Consider the nature of proficiency exams, "performance-based" demonstrations of competencies, or assessment instruments, collaborating intersegmentally where appropriate.
- ▶ Work with counseling faculty to provide accurate assessment and academic information about the information competency requirement.

CREATE ON-GOING IMPLEMENTATION AND DEVELOPMENT

- ▶ Engage local curricular processes to ensure that local requirements match the Title 5 Requirement in spirit and in implied rigor.
- ▶ Work with college staff, including web designers and accessibility specialists to ensure academically acceptable, useful, and universally accessible websites.

ENGAGE IN CONTINUOUS EVALUATION AND REVIEW

- ▶ Provide clear direction to the institution so that research supports teaching and learning rather than instruction being driven by others' research agendas.
- ▶ Assess the impact of implementation of this new requirement upon all constituents of the campus community.

APPENDIX A: A BRIEF HISTORY

In 1996, the California Community Colleges Board of Governors (BOG) issued a policy statement in *The New Basic Agenda: Policy Directions for Student Success* identifying information competency as a priority and requesting a study to investigate the feasibility of establishing information competency as a prerequisite to the certificate of completion and the associate degree.

In response, in Fall 1996, the ASCCC plenary body adopted the following resolution.

[R]esolved that the Academic Senate for California Community Colleges urge the Chancellor's Office and the Board of Governors to acknowledge that any development of information competency components and/or programs be the primary responsibility of the Academic Senate for California Community Colleges.

Following these two actions, a flurry of significant responses occurred:

- ▶ Gavilan College, under a BOG grant, conducted a feasibility study in 1997 and 1998 and submitted 43 recommendations to the BOG. (Salient excerpts appear in Appendix B.)
- ▶ In 1997 the Chancellor's Office awarded Funds for Student Success grants to seven colleges to undertake studies relating to information competency in the community colleges. Allan Hancock, Diablo Valley, Gavilan, Glendale, Cuyamaca, Santa Ana, Shasta, and College of the Sequoias were the recipients.
- ▶ In August 1998, the California Community Colleges Chancellor's Office (CCCCO) staff presented to the Consultation Council a proposed action item, based, in part, on the Gavilan recommendations. The following month, in September 1998, the item was presented to the BOG. After discussion, the Chancellor directed staff to review the Gavilan grant project and bring the item back to the Board at a later date.
- ▶ The 1998 Academic Senate Spring Plenary Session adopted a paper entitled *Information Competency in the California Community Colleges* prepared by the Counseling and Library Faculty Issues Committees of 1996-1997 and 1997-1998.

Noting that "information competency is essential to student success in the Information Age," the paper offered a definition of information competency, identified its key components, and suggested some ways that information competency might be implemented in the educational programs of community colleges. (This paper is available on the Academic Senate Website—www.academicssenate.cc.ca.us)

- ▶ Based on a detailed review by staff and discussion within the Chancellor's Cabinet, the proposed Gavilan plan was revised and once again presented to the Consultation Council in February, March, and April 1999.
- ▶ In May 1999, the BOG received seven recommendations based upon the Gavilan report: two policy and five operational. The first policy recommendation was that the implementation of the information competency as a graduation or certificate requirement is an academic and

professional matter. The BOG, therefore, delegated the issue of information competency to the Academic Senate for California Community Colleges for its recommendations. The second policy recommendation was for the Chancellor's Office to review the Title 5 Regulations and identify relevant areas where the inclusion of information competency would be appropriate. The BOG requested that when completed the outcomes of the two activities be combined and submitted as a comprehensive Title 5 revision for information competency.

- ▶ In Spring 2002, the Academic Senate, through its Counseling and Library Faculty Issues Committee, and working with representatives of the Council of Chief Librarians, Chief Instructional Officers, and the Student Senate, presented a paper on information competency at the Plenary Session. The paper proposed infusing information competencies into all degree applicable courses rather than creating a stand-alone information competency course. Because of the sweeping changes proposed, the plenary session directed the Academic Senate to gather more input from the field by holding hearings at the regional level and to return with revised recommendations.

As a result of that direction from its delegates, the Academic Senate held a workshop on the proposal at its Summer 2000 Curriculum Institute. During February 2001, the Academic Senate then held open hearings at six colleges across the state, so that interested persons including Curriculum Committee chairs, classroom and library faculty, and chief instructional officers could seek to reach a statewide position on the incorporation of information competency into community college curricula. While the hearings elicited consensus on the importance of an information competency requirement, the details of the best method of implementation were vigorously debated. It became clear that local situations would dictate different best practices of implementation and that a locally determined process at each college through the local academic senates and Curriculum Committees would be advantageous. Additionally, vocational faculty argued strenuously that this element should be a component of certificate programs of 18 units or more.

At the 2001 Academic Senate Spring Plenary Session, the delegates subsequently approved Resolution 9.01 S01. The resolution called for the Academic Senate to recommend to the BOG that "information competency be a locally designated graduation requirement for degree and Chancellor's Office-approved certificate programs," and to encourage the BOG "to provide resources for implementation and appropriate faculty development activities." In addition, the resolution outlined the need for methods of implementation to be decided locally and for a paper outlining various approaches.

Resolved, That the Academic Senate support the concept that each college be empowered to use its local curriculum processes to determine how to implement the information competency requirement, including the possibilities of developing stand-alone courses, co-requisites, infusion in selected courses with or without additional units, and/or infusion in all general education courses with or without additional units; and

Resolved, That the Academic Senate develop a best-practices paper to be presented at the Spring 2002 plenary session that includes suggested competencies, recommended models, and colleges that are implementing each of the models.

- ▶ At the 2001 Academic Senate Fall Plenary Session, a subsequent resolution (9.03 F 01) reaffirmed its Spring 2001 position to require information competency for graduation and for completion of Chancellor's Office approved certificates. A Consultation Council Task Force drafted language to encode the information competency graduation requirement in Title 5 for the associate degree.
- ▶ Consideration of proposed Title 5 language by the Consultation Council took place in April-May 2002 and the BOG considered the recommendation in a first reading, July 2002. The Board had agendaized the item on the consent calendar for September 2002 when it received word that the Department of Finance considered that a college's or district's reexamination of its graduation requirement was an "unfunded mandate" and that the Board could not move forward with their scheduled vote. While the larger political drama plays out, with most believing that the Board of Governors should be able to make modifications to its educational programs without interference in this manner, the Academic Senate urges local senates, as they determine essential to their students' education, to make recommendations to their local governing boards regarding local graduation requirements, irrespective of this recent Department of Finance ruling.

Consideration of the requirement for completers of certificates of 18 or more units is ongoing to permit occupational deans an opportunity to review and consider the larger conceptual issues of any competency to be introduced where none have existed heretofore.

APPENDIX B: GAVILAN REPORT EXCERPT

The following is a synopsis of the Gavilan Report Recommendations in five key areas.¹⁰

FACULTY DEVELOPMENT

1. Faculty development strategy:

A well designed, multi-dimensional faculty development strategy must be developed and made available to all faculty members in the California community colleges to enhance the understanding of information competency. It would be particularly effective if integrated into overall staff development training opportunities. [Suggested activities:

 - ▶ offer statewide conferences, using a team approach, to a) review proposals in the Information Competency Plan, b) enhance understanding of information competency and c) present model programs in use and in the development stage.
 - ▶ offer subsequent conferences to evaluate progress from the previous year's programs and feature national presenters.
 - ▶ website with "training materials and opportunities"
 - ▶ designate an information competency consultant/webmaster to provide support.
 - ▶ highlight collaboration strategies.
 - ▶ fund hardware and software for networking and library resources.]
2. Identify and systematize levels of funding and training support related to information competency, including a review of California legislation and regulations, a position paper on training strategies, augmented funding in FII, inclusion in professional conferences, and collaboration with California library schools.

PARTNERSHIPS

As stated by the Academic Senate's report, the system should encourage an environment that "respects the individuality of each community college and is built on a collegial partnership of library faculty, instructional faculty, and media and instructional technology professionals." This partnership is manifested in all areas of articulation (including CAN and now IMPAC), intersegmental discussion, and assessments of student proficiency, collaborative teaching, and evaluation of resources and acquisition needs. Finally, to offer students the full benefit of matriculation, the phrase "including information competency" should be appended to the California Education Code, Section 78212, following the words "study and learning skills"; it is further proposed that the terms "information competency and study skills" be integrated throughout the Education Code (especially Section 56234) and that funding be made available for EOP&S, as well as other students, student groups and special programs.

COLLECTION DEVELOPMENT

Develop a basic core collection supporting curriculum requirements, including print and electronic products and services, institutionalize an acquisition and replacement schedule of technology

¹⁰ For a full discussion, please consult <http://www.gavilan.cc.ca.us/library/infocomp/cover.html>

equipment and software, especially in the library, and prioritize the process of maintaining, replacing and upgrading outworn or obsolete instructional equipment and library materials. Finally, develop a plan for compliance with minimum standards (Title 5, §58724) for resources for community college students as well as allocations based on FTES, and streamline interlibrary borrowing of resources targeting a 24-hour turnaround, use regional consortia and funds from special needs groups to provide e-mail delivery of electronic resources,

Provide electronic classrooms as needed to allow teaching sites on information competency and related skills.

REVISIONS TO THE EDUCATION CODE

Revise the Education Code to include information competency “as a study skill, a learning skill, and a critical thinking skill.”

Consider such delivery modes as:

1. General orientations emphasizing the basic skills necessary to find information in today’s electronic environment.
2. A bibliographic/library instruction course.
3. Introduction to Libraries and Library Materials, a library technology course.
4. Internet Research Strategies, a library technology course.
5. ‘One-shot’ instructional sessions taught by librarians.
6. Formal instruction for faculty, administration and staff on new library resources.
7. Information competency in general education.
8. Information competency in major areas.
9. Information competency as an add-on to another course.
10. Information competency through competency-based mastery.
11. Standardized tests and other methods of assessing performance or demonstration of skills.

FUNDING OF PILOT PROJECTS

Fund pilot projects, including

- ▶ collaborative efforts among colleges and between CCCs and CSU, UC, K-12 and industry, to develop effective core general education models which integrate information competency into the curriculum;
- ▶ a review of effective models presently in place;
- ▶ use of flextime, release time, sabbaticals, stipends, and/or other means to support specific competence assignments to;
- ▶ development of courses with information competency components;
- ▶ evaluation of effectiveness and sharing of models developed in pilot programs or from other sources; and
- ▶ Identification of effective assessment of student mastery of information competency skills.

APPENDIX C: GLENDALE COLLEGE RESEARCH

LIBRARY WORKSHOPS AND STUDENT OUTCOMES IN ENGLISH & ESL

To evaluate the impact of the workshops, Institutional Research compared all students in ESL 151, English 120 and English 101 on their completion of the course and their course success. These comparisons, between those who did and those who did not take the workshop, are presented below. In this study, “retention” is measured in the percentage of those students enrolled at census who received a grade other than W. Students’ “success” is measured by those enrolled at census who received a grade of A, B, C, or Credit. Statistical significance for these comparisons is determined by chi-squared tests.

COMPARATIVE PASS RATES FOR STUDENTS TAKING LIBRARY WORKSHOP

Spring 2000	ESL 151	Eng 120	Eng 101
Did Take workshop	84.2%	70.3%	74.2%
Did NOT take workshop	48.7%	53.5%	55.1%
Fall 2000			
Did Take workshop	88%	66%	81%
Did NOT take workshop	68%	57%	65%
Spring 2001			
Did Take workshop	72%	73%	71%
Did NOT take workshop	64%	54%	59%
Fall 2001			
Did Take workshop	75%	67%	77%
Did NOT take workshop	56%	49%	59%

LIBRARY 191 AND LIBRARY 101: INFORMATION COMPETENCY CREDIT COURSES

Library 191 is a one-unit introductory course in information competency involving lecture and lab. Library 101 is a two-unit intermediate course in information competency that requires a term paper. Both courses are transferable to the UC and CSU systems.

To evaluate the impact of these courses, Institutional Research used a matched-samples design. Students who took Library 191 were matched with a randomly selected control group of students who were comparable on a series of theoretically relevant measures (enrollment status, prior GPA, primary language, and units attempted). These two groups of students were then compared on a series of outcome measures, including semester GPA, units completed, and persistence to the next semester.

While the sample was too small to provide statistically significant results, the initial findings, based on very limited data, invite additional research and inquiry.

GPA's for Students Enrolled	Spring 2000	Fall 2000	Spring 2001	Fall 2001
Library 101	2.42			
Sample Group	1.94			
Library 191		3.23	2.20	
Sample Group		3.29	1.81	
Library 191			3.03	2.68
Sample Group			2.60	2.17
Library 191				2.83
Sample Group				2.53

APPENDIX D: SRJC INFORMATION LITERACY COURSE REQUIREMENTS

The Course Outline, [for a course satisfying] the Information Literacy requirement, will [indicate how the course will] fulfill and meet the following five standards and include the performance indicators and outcomes listed for each standard. These standards have been modified from the American College and Research Libraries (ACRL) guidelines for Information Literacy.

I. STANDARD ONE: THE INFORMATION LITERATE STUDENT DETERMINES THE NATURE AND EXTENT OF INFORMATION NEEDED.

PERFORMANCE INDICATORS:

1. Defines and articulates a need for information.

Outcomes Include:

1. Locates general information sources.
2. Identifies key concepts and terms describing information need.
3. Modifies and forms appropriate questions based on information need – focus, etc.
2. Identifies a variety of types and formats (i.e. books, periodicals, websites) of potential sources of information.

Outcomes Include:

1. Knows how information is produced, organized and disseminated.
2. Recognizes the value and different formats of information – e.g. websites, free and subscription databases, books, periodicals, audiovisual materials.
3. Identifies audience for information – popular vs. scholarly.
4. Differentiates between primary versus secondary sources of information.
3. Determines cost and benefit of getting information.

Outcomes Include:

1. Determines availability and makes decisions whether to pursue resources (books, journal articles) at other locations – Inter Library Loan (ILL), or other local libraries.
2. Plans timeline for getting information.
4. Reevaluates nature and extent of the information need.

Outcomes Include:

1. Uses appropriate criteria to review initial information in order to clarify, revise or redefine question or relationship of ideas.
2. Develops preliminary thesis statement or relationship of ideas.

II. STANDARD TWO: THE INFORMATION LITERATE STUDENT ACCESSES INFORMATION EFFECTIVELY AND EFFICIENTLY.

PERFORMANCE INDICATORS:

1. Selects appropriate methods and retrieval systems for accessing information.

Outcomes Include:

1. Selects efficient and effective approaches for accessing information in print and non-print (electronic) indexes, including the library subscription databases.
2. Investigates the scope, content and organization of information retrieval systems – e.g. book catalogues, periodical indexes, databases, web search engines, etc.
3. Selects the appropriate tools, identifies search language for each source utilized and evaluates the types of source material found in each resource.

2. Designs and implements effective search strategies.

Outcomes Include:

1. Develops a search plan appropriate to question.
2. Identifies keywords, related terms.
3. Selects appropriate controlled vocabulary for the source used – Library of Congress Subject Headings, etc.
4. Constructs and implements search strategy appropriate to the source – uses commands, protocols and Boolean logic.
5. Implements search strategy in varied retrieval systems (book catalogues, databases, web search engines, periodical indexes, etc.) using different interfaces, command protocols and search parameters.

3. Retrieves information online – search mechanics.

Outcomes Include:

1. Uses available search systems – book catalogues, periodical indexes, web search engines, library subscription databases, etc.
2. Uses other available systems for finding information (classification systems – public library) or ILL.
3. Uses web search engines.

4. Refines search strategy.

Outcomes Include:

1. Assesses information retrieved for quantity, quality and relevance.
2. Identify gaps in information.
3. Repeats parts of search strategy for more information if necessary.

5. Records and manages the information and sources of information.

Outcomes Include:

1. Systematically organizes information – cards, file folders, etc.
2. Records all pertinent citation information for future reference.
3. Differentiates between types of sources cited and information needed to give correct syntax for source citation (books, journals, websites).

III. STANDARD THREE: THE INFORMATION LITERATE STUDENT EVALUATES INFORMATION AND ITS SOURCES CRITICALLY.

PERFORMANCE INDICATORS:

1. Demonstrates understanding of main ideas from information gathered.

Outcomes Include:

1. Reads texts and identifies main ideas.
 2. Restates concepts in own words (paraphrase).
 3. Identifies quotable information.
2. Evaluates information gathered.

Outcomes Include:

1. Examines and compares information for validity, accuracy, authority, bias, timeliness.
 2. Analyzes logic of arguments in the information gathered.
 3. Recognizes prejudice, deception or manipulation.
 4. Recognizes the cultural context of the information.
3. Compares new knowledge with prior knowledge and synthesizes main ideas to construct new concepts.

Outcomes Include:

1. Determines if information is satisfactory for original research question.
 2. Questions validity and appropriateness of the data.
 3. Evaluates if information sources are contradictory.
 4. Draws conclusions from information.
 5. Integrates new information.
 6. Selects retrieved information to support topic.
4. Discusses information gathered.

Outcomes Include:

1. Participates in classroom and other discussions.

2. Participates in class-sponsored electronic communication forms when appropriate.
5. Evaluates if initial information found is adequate for question or needs revision.

Outcomes Include:

1. Judges if amount of information is sufficient in quantity, quality and type.
2. Reviews search strategy – add concepts as necessary.
3. Reviews information retrieval sources/databases – expands sources if necessary.

IV. STANDARD FOUR: THE INFORMATION LITERATE STUDENT USES INFORMATION GATHERED TO ACCOMPLISH TASK.

PERFORMANCE INDICATORS:

1. Synthesizes information to complete project.

Outcomes Include:

1. Organizes information – outlines, drafts.
 2. Uses quotes and paraphrases to support argument.
 3. Summarizes main ideas and/or restates ideas in own words.
2. Communicates project effectively.

Outcome Includes:

1. Uses appropriate style and format for academic project.

V. STANDARD FIVE: THE INFORMATION LITERATE STUDENT UNDERSTANDS MANY OF THE ECONOMIC, LEGAL, AND SOCIAL ISSUES SURROUNDING THE USE OF INFORMATION AND ACCESSES AND USES INFORMATION ETHICALLY AND LEGALLY.

PERFORMANCE INDICATORS:

1. Understands the ethical, legal and sociopolitical issues concerning information and technology.

Outcomes Include:

1. Knows difference between free versus fee-based access to information.
 2. Comprehends intellectual property, copyright and fair use of information.
2. Recognizes the laws, regulations and institutional policies and etiquette related to access and use of information sources.

Outcomes Include:

1. Uses approved passwords or I.D.'s ethically.
 2. Demonstrates an understanding of what constitutes plagiarism and does not represent work attributable to others as his/her own.
 3. Complies with institutional policies on access to information resources.
3. Acknowledges use of information sources.

Outcomes Include:

1. Recognizes that all resources require documentation.
2. Uses appropriate documentation style/format for citing sources – MLA, APA, etc.

VI. ASSESSMENT: PROJECT AND EXAMINATION ARE REQUIRED

Assessment should indicate whether students have mastered the skills outlined in the Information Literacy Standards. To accomplish this task, both a **project** and **examination** are required.

A. PROJECT

The project should demonstrate the student's ability to find, evaluate, assess and cite appropriate information sources as outlined in the Information Literacy Standards.

1. The course project should allow the student to demonstrate the ability to:
 - a. articulate research need
 - b. create workable thesis statement
 - c. develop main ideas within the project
 - d. locate appropriate information sources
 - e. evaluate quality of these sources
 - f. access applicability of research results and modify search strategy if necessary
2. The project should require the student to create a List of Works Cited (Bibliography) in an approved citation format. An appropriate number of resources (minimum eight) from at least two of the following categories should be included.
 - a. reference sources
 - b. books
 - c. periodicals
 - d. websites

B. EXAMINATION

Questions should test the student's knowledge of the performance indicators outlined in the Information Literacy Standards. Questions could include topics such as research strategies and search mechanics, classification systems, differentiating between types of online resources, criteria for website evaluation, etc. All the standards should be addressed in the examination.

APPENDIX E: SRJC PROCEDURES FOR APPROVING GENERAL EDUCATION COURSES

3.1P

Procedures for Approving General Education Courses
At Santa Rosa Junior College
Title 5: 55805

AREA I: INFORMATION LITERACY

Courses that satisfy the general education requirement in Information Literacy must meet the standards, performance indicators and outcomes approved by the Academic Senate for this requirement and reported below. Courses proposed for this requirement shall be reviewed and approved by the Information Literacy Advisory Group that works in association with the Curriculum Review Committee. Appropriate prerequisites or advisories should be stated in course outlines.

When a department elects to add an Area I course to the list of approved “Credit by Examination” classes (See Policy and Procedures 3.16), students may fulfill this requirement by passing a challenge examination. The examination will be administered by the department teaching the course. The examination shall be based on the Information Literacy standards, performance indicators and outcomes presented in the course outline.

Courses which fulfill the Information Literacy requirement shall give students the ability to:

1. Recognize the need for information
2. Form appropriate questions based on information needs
3. Identify potential sources of information
4. Use available information tools to locate and retrieve relevant information
5. Evaluate found information on the basis of reliability, accuracy, authority, appropriateness, timeliness and point of view or bias
6. Synthesize and integrate new and existing information
7. Recognize the ethical and legal issues concerning the use of information and information technology

The requirement must be satisfied at the English 100A skill level or higher.

RATIONALE

Over the past 6 years, a General Education Task Force studied and evaluated the General Education offerings at SRJC. Members attended conferences, held open meetings and discussions, and compared other two and four year colleges’ offerings throughout the United States with those at SRJC. In Spring 2001, at the recommendation of this Task Force, the Academic Senate approved a new 1 unit Information Literacy requirement (Area I) as part of the General Education pattern for the SRJC AA degree. The Senate and its Executive Committee recommend that the requirement be implemented in Fall 2002. College Council has presented this material to all constituent groups and requests approval of the new requirement and implementation date for the SRJC Policy Manual.

APPENDIX F: SRJC COURSE SUBMISSION PROCEDURE FOR GENERAL EDUCATION AREA I INFORMATION LITERACY REQUIREMENT

PROCESS

Starting in Fall 2002, the Information Literacy general education requirement goes into effect. This requirement is aimed at teaching students to clarify their information needs, create effective search strategies, use a variety of print and electronic information sources, evaluate search results for relevance and reliability, use information effectively and become aware of the issues involved in using information ethically and legally.

When it approved this requirement the Academic Senate adopted the **SRJC Information Literacy Course Requirements**, a set of standards based on the American College and Research Libraries Standards for Information Literacy. Courses submitted for fulfillment of the SRJC Information Literacy requirements should incorporate the performance indicators and outcomes as outlined in these standards. A copy of these requirements is accessible at the Curriculum Committee Website under General Education Requirement at <http://online.santarosa.edu/presentation/?877>

The Senate also stipulated that students must have the right to **challenge by exam** any course that meets the Information Literacy requirement. The exam must be administered at least once each semester by a department, if so requested. Students who pass the exam fulfill the graduation requirement and receive credit for having taken the course so the exam should cover all the outcomes stated in the requirements and be at least as rigorous as a final exam.

CHECKLIST FOR COURSE SUBMISSION PACKET

1. Obtain a copy of the **SRJC Information Literacy Course Requirements** from the Curriculum Committee website.
2. Submit the following items to the SRJC Curriculum Committee, which will forward them to the Information Literacy Advisory Group:
 - a. Title 5 outline that reflects all the **performance indicators and student outcomes** as outlined in the **SRJC Information Literacy Course Requirements**.
 - b. Detailed course syllabus
 - c. A lesson plan that covers Standard Two of the Requirements indicating the information sources that will be taught. Also to be submitted, an assignment that requires students to demonstrate mastery of effective search strategies in a particular database. (See Standard Two, Section 2.)
 - d. A copy of the challenge exam that should test student mastery of the Standards outcomes and be at least as rigorous as a final examination. Those who pass the exam fulfill the graduation requirement and receive credit for having taken the course.

SUBMISSION PROCEDURE

The Curriculum Committee will log in all documents and send them to the Information Literacy Advisory Group. If the Group recommends approval of the course it will send the materials back to the Curriculum Committee, which will then do its normal technical review. Once the course passes technical review it will be approved as a course that satisfies the Area I requirement.

If the Advisory Group does not recommend approval, it will notify the submitter along with suggestions for changes to help the course meet the requirements. The more thoughtful and complete the materials are, the faster the course can receive approval.

There will be a PDA presentation on the Information Literacy requirement in Fall 2002.

