ARCHITECTURE DEPARTMENT PROGRAM REVIEW

Division of Industry & Technology

El Camino College

SPRING 2007

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I. Overview

A. Description of Program

The Architecture program at El Camino College, located in the Division of Industry and Technology, is considered primarily a vocational program. Several dozen students also transfer each year to various university architecture programs all over the United States. Most of the students in the program take courses to learn the skills necessary to obtain a job working in a architectural firms, or firms related to the construction industry. The curricula enables students to earn both an Associate in Science Degree and a Certificate of Competence in the field of Architecture. There sixteen courses in the department dealing with the various subject areas of architecture, from hands-on to theoretical.

Architectural Drafting was one of the original courses offered when El Camino opened its doors in 1946. At that time and until the late 1960's, architecture was part of the Drafting Department. The Architecture Department, originated in the early 1970's when the Drafting Department split into three separate programs, (Mechanical Drafting, Technical Illustration and Architecture.) Numerous design oriented courses were added in the 1980's to add substantial critical thinking projects to the curriculum and to evolve it into a more functional transfer program. In the 1990's the computer changed the way architects communicate, so numerous computer-aided-design classes were added to stay current with the graphic trends in the field. Also, because of the number of students returning to college to get re-trained in another vocation, the program updated and changed all the course outlines to reflect an "Open Lab" environment. This enabled students to enroll in numerous classes and put in the required lab time for each class around their work and school schedule. The lab is open from 7:30am to 10:00pm, Monday through Thursday and until 5:00pm on Friday. A department faculty member supervises the lab and is always available to answer any questions the student may have.

The 21st Century brought some new innovations to the Architecture Program. First, an inter-disciplinary class was introduced, the Design-Build Studio. This class is taught by Construction and Architecture faculty with students from the two departments teaming up to learn more about how the disciplines are integrated in practice. The class starts out in the architecture lab where a small temporary housing unit is assigned to the class for a design competition. The best designs are selected by a jury and the class is divided up into teams of six to build the housing units at the construction lab. At various times throughout the construction process the students come back to the architecture lab to graphically solve problems with the details of the buildings. In 2002, a Study Abroad program was introduced, where architecture students travel to Italy to study historically significant buildings and learn how they were built. The Study Abroad program occurs every two years to enable each graduating class the opportunity to study architecture in another country. The program also has an active club that travels to numerous architectural landmarks around Southern California as well as university architecture programs. A "Lecture Series" was initiated in 2005 to bring various architects to El Camino to inform students and the community about how architecture impacts our environment.

The faculty of the architecture program and the many representatives serving on their advisory committee at El Camino, believe program reflects what the level of architectural education should be for the community college student.

C. Status of Previous Recommendations

No program review has ever been done so there are no previous recommendations.

II. Program Statistics

A. Demand: FTES by Course/Program

Instructions: Analyze the **FTES by Course/Program** using 1st census data and answer the following questions. At a minimum, your analysis must include a 3-year cycle comparing like semesters.

Course	Year 1 (Fall 2002)	Year 2 (Fall 2003)	Year 3 (Fall 2004)
Architecture 100	1.10	1.30	1.22
Architecture 104	6.20	7.65	6.69
Architecture 120	7.20	11.68	9.35
Architecture 121	3.80	4.25	3.19
Architecture 125	5.20	4.25	3.61
Architecture 150A	20.20	25.28	22.30
Architecture 150B	4.00	6.37	6.58
Architecture 158	1.70	2.12	2.44
Architecture 170	6.00	6.80	6.37
Architecture 171	3.40	7.01	6.58

1. Given the data, can you recognize any trends in course demand in any of the Program's courses?
   Enrollment has been stable in all courses with a general growth trend. Fall 2003 was the highest enrollment in the program (and the campus). The ARCH 150A and ARCH 120 (Beginning Drafting Classes) are the highest percentage FTES courses in the program.

2. What are you doing to respond to trends?
   Consider adding entry-level sections (ARCH 150A), especially in fall semesters.

3. Should a recommendation be written addressing the data? __X___ Yes ____ No
   (If yes, list.)
   The Architecture Program could grow and generate more FTES for the college if we were allowed to offer one more section of Arch 150a and Arch 120.

B. Offerings: Fill Rate*

Instructions: Review and analyze the **fill rate data** (including the fill rate per course for both day and evening), provided by Institutional Research for this program for a three year cycle and answer the following questions:

Average fill rate of courses in program: How does this program compare to:

	Year 1 (Fall 2002)	Year 2 (Fall 2003)	Year 3 (Fall 2004)
Day classes	80.3	98.5	91.5
Evening classes	66.2	76.7	70.2

1. Given the data, is the program in a growth mode? __X__ Yes _____ No
   Comment.
   Growth is moderate but steady. The greatest demand is for day classes, as shown by the number of sections and fill rate. Week-end classes generally fill well.

2. What adjustments are indicated? **No**
   Explain.
   The evening program does not fill as well, but there are not multiple sections of courses offered. The drafting classes are combined to maximize enrollment.

3. Should a recommendation be written that addresses the data? ____ Yes __X_ No
   (If yes, list.)

* Percent of fill of each classes at census.

C. Scheduling: Student Satisfaction with Scheduling

Instructions: Complete the chart below. Indicate the time when sections of courses in the program are currently scheduled to start. Analyze the data provided by Institutional Research on student satisfaction with scheduling in the program and answer the questions.

Course	During the early morning before 10 am	During the late am/early pm 10am –1:55 pm	During the late afternoon 2 pm -4:25 pm	During the evening 4:30 & later	During the weekend	During the summer	Via Telecourse	Via Online
Arch 100				4:30pm				
Arch 104			2:00pm	7:00pm				
Arch 120		1:00pm		6:30pm				
Arch 121				6:30pm				
Arch 125					Sat 9-3			
Arc150A	2@ 8:00am			6:00pm				
Arc150B		11:00am						
Arch 158				7:00pm				
Arch 170		12:00pm						
Arch 171			2:00pm					
Arch 199				6:00pm				

1. What (if anything) is indicated by the student satisfaction with scheduling?
   The students indicated that they would like more classes scheduled on Friday and Saturday. The design studio class is only taught at night.

2. Are there time periods of high student demand which are not being addressed? __X__ Yes No
   How could such demand be addressed?
   We need more lab space. Because of the nature of an open lab, some times of the day the lab may be fuller than others. We have problems especially on Tuesday and Thursday all day because of the number of lecture/lab classes taught those days. There is Arch 150a at 8:00am, then Arch 150B at 11:00am, then Arch 171 at 2:00pm and Arch 150B at 6:00 pm. All of these classes have 35 or more students enrolled. Over 150 students to work in one lab with only 32 drawing stations in. Sometimes students come to do their required time before their scheduled lecture time. Needless to say, we need more lab space for not only manual drafting stations but computer stations as well.

3. Should a recommendation be written addressing this area? ___X__ Yes ___ No
   (If yes, list.)
   The Architecture Program needs another lab room to facilitate the potential crowded atmosphere of an open lab in a program that has such large class sizes.

D. Retention and Success

1. Retention

Instructions: Review and analyze the data on **retention (course completion with a grade other than W)** over a three-year cycle comparing day to evening classes, term to term (e.g. fall to spring, spring to summer, etc.), and course levels.

1. Given the data, what trends are observed?
   Comment.
   The first noted trend over the three-year period was that retention for the program was excellent compared to the college. The program exceeded the college rate by over 8% in each program year, with an average of 88.8%. The retention for each course was generally comparable from year to year, and from fall to spring. The retention for evening courses conducted on campus was within 2% of day courses conducted on campus. A relatively small number of students withdraw from our classes due to family, work and other obligations. Numerous students get jobs in the architecture workforce and leave for that reason. No current data collection program is in place, so there is no way we can track the student when they stop showing up to class.

2. Should a recommendation be written addressing the data? ___X__ Yes _____ No
   (If yes, list.)
   There should be a mechanism by which students are given a questionnaire when dropping a class to ascertain the reason of the drop. That would give us more data about the subject of Retention.

2. Success Rate

Instructions: Review and analyze the data on **success rate (students who earned a grade of A,B,C, or Credit)** over a three-year cycle comparing day to evening classes, term to term (e.g. fall to spring, spring to summer, etc.), and course levels and answer the following questions:

Given the data, what trends are observed?

Comment.

Success rates for the program was also excellent compared to the college. The program exceeded the college rate by 7-9% in each program year. The lowest success rates over the three-year period was for the Orientation course, ARCH 100. This is an exploratory course and often the first course a student takes. The highest success rate average was for the advanced level architectural CADD courses, ARCH 121 and ARCH 125. Many of the students enrolled in these courses are working professionals taking the course to upgrade their skills.

2. Should a recommendation be written addressing the data? _____ Yes __X__ No

(If yes, list.)

III. Curriculum
A. Course and Content

1. Courses Not Offered

Instructions: Indicate the total number of courses in the program and list all courses in the program which are in the catalog but have not been offered in the last three years. Refer to this list to answer the following questions:

There are sixteen courses in our program, all of which have been offered, at least once during each academic year.

1. Given the data, are there courses that should be inactivated? _____ Yes __X__ No

Comment.

2. If there are courses not offered in the last three years that you do not wish to inactivate, what reasons are there to keep them active? N/A

3. Should a recommendation be written addressing the data? _____ Yes ___X_ No

(If yes, list.)

2. Course Revisions and Additions

Instructions: Utilize the Course Review Chart from the Curriculum Office to answer the following:

1. Are there course outlines that should be revised? ___X__ Yes _____No
   (If yes, list.)
   Revise prerequisite for ARCH 199ab

2. Are there courses inconsistent with current practice in the field? ___ Yes _X_ No
   Explain. We still teach drafting on the board for beginning students, because we feel it is important for a student to initially learn how to draft with a pencil. This is an architect's main way of communication so it is important to have a formal class in it, even though the computer is primarily used to do the drawings an architect provides now.

3. Should new courses to be added to the program? _X_ Yes _____ No
   Explain.
   1.) **The program needs to have a course in Portfolio Presentation so students can spend time at the end of their stay here at El Camino putting together a digital and hardcopy portfolio of work they have done in the program. This could be then used to gain admission into an undergraduate architecture program or to obtain a job in the field.**
   2.) **The program needs to have a course in Model Making. Numerous classes we teach incorporate making a model as a requirement for a grade.**
   3.) **The program would benefit by adding a course in computer software for designers, to benefit transfer students by exposing them to the numerous design oriented software packages employed in industry.**

4. Are adjustments necessary to the conditions of enrollment (Prerequisite, Corequisite, Recommended Preparation, and Enrollment Limitations) for a specific course to increase student success?
   __X__ Yes ___ No ____ Uncertain **Comment.**
   The prerequisite of ARCH 150B should be removed for the ARCH 199ab course. Students do not need to be totally proficient in advanced drafting to be successful in the design studio. The course uses computers in the lab portion, so the class enrollment should be limited to 26. (Number of computers in the lab.) This class needs to have a *required* block of lab time where all of the students are there at the same time.

5. If the program offers a degree and/or certificate, list them and indicate when the requirements were last reviewed? **(If not applicable, skip to Question 7.)**
   Associate in Science Degree and a Certificate of Competance were last reviewed in Fall 2003.

6. Are these degree and/or certificate requirements inconsistent with current practice? ___ Yes _X_ No
   Explain.

7. Is there a need to create or delete a degree and/or certificate? __X__ Yes __ _ No
Explain.

A certificate for Architectural Computer Aided Drafting & Design would benefit many students. Most of our students get jobs in architect's offices doing CAD work for them. They only want to achieve knowledge in that area of architecture. Therefore we should have a Certificate created for those students.

8. Should any recommendations be written that address the above responses? _____ Yes __X_ No
(If yes, list.)

B. Articulation

Instructions: Articulation is the process by which courses taken at ECC can be used to satisfy subject matter requirements at another college or university. This is important in the transfer process for students. To help you in this area, you can review articulation agreements at www.assist.org, the California Articulation Number Guide or meet with the Articulation Officer, Lori Suekawa (ext. 3517).

1. Are there any courses in your curriculum which are part of a lower division preparation for the major that are not articulated with our major transfer institutions?
No

2. What problems, if any, are there in articulating courses?
None.

3. Should a recommendation be written addressing above responses? _____ Yes __X__ No
(If yes, list.)

C. Instruction and Assessment

1. Learning Methods

1. What learning methods are incorporated inside and outside the classroom in the program to promote student success? **Explain.**

We teach architecture by showing numerous visual aids of the work we expect the students to be able to do. We show actual student drawings, as well as professional drawings in the lecture portion of the class to reinforce what the students' goals are. We also take numerous field trips to construction sites and architectural landmarks to give the student a first hand exposure to all the areas they need to know about.

2. Should a recommendation be written addressing above response? _____ Yes __X_ No
(If yes, list.)

2. Assessment

1. How do you evaluate the extent to which the learning objectives, skills, and competencies are being met?

   A) Courses: **Through feedback from architects who employ our students.**
   B) Program: **Through university programs that transfer our students. We also get feedback from our Advisory Committee, mainly composed of architects in the area who employ our students.**

2. How do you use the results of the above evaluation to improve student learning and the quality of the program? **To incorporate suggestions or recommendations Universities and architects make to improve our course content.**

3. Should a recommendation be written addressing this area? _____ Yes __X__ No
   (If yes, list.)

IV. Program Requirements
A. Instructional Support

1. Identify key instructional support areas used by the program.

Libraries & Programs:

X	Library		Special Resource Center		Basic Skills Study Center		Library Orientation
	Music Library		Puente Program		Honors Transfer Program		Other (Please list.)
	Learning Resource Center Media Materials Collection		Assessment/Testing Office		Counseling		
	EOP&S/CalWORKS		Transfer Center		First Year Experience		
	Learning Communities		Project Success		Honors Transfer Program		

Computer Labs & Tutoring:

	LMTC Computer Commons		SRC High Technology Center		Other Computer Lab: Please list.		Writing Center
	CAI MAC Lab		Writing Lab				LRC Tutorial Program
	CAI Windows Lab		Math & Science Lab				Math Tutoring
X	TOP Lab		Keyboarding Center				SRC Tutorial Program
	Hawthorne BTC						EOP&S Tutoring
	Inglewood Center						

Faculty Support Services:

	Graphic Arts	X	Copy Center		Distance Education		Other (Please list.)
X	Media Services AV Production	X	Tech Services Help Desk		Teleconferences		
	Media Services AV Equipment Distribution		Support Staff		Webconferences		
X	ECC Vehicles		ECC hosted Websites		Staff Development		
X	ECC E-mail						

2. Do you have some instructional support needs that are not being met? ____ Yes ___X_ No
   Comment.
3. Should a recommendation be written to address your needs? ____ Yes ___X_ No
   (If yes, list.)

B. Facilities and Equipment

1. Does the program make effective use of its facilities and equipment?
   Explain.
   Yes, we have two labs and one lecture room. Both labs have drafting tables and computer stations. We also have various reproduction machines

2. Are adequate facilities, equipment and supplies available for the program? ____ Yes __X__ No
   Explain.
   We have several needs due to the expansion of our program:
   1. **Our laboratory room is not big enough for our open lab program. Currently we have 32 seats for over 200 people enrolled in various architecture lecture/lab classes. Any or ALL of these students could come in at any one time.**
   2. **Currently we have no CAD software loaded on our computers in our lab. Most of the classes we offer need this software to do their homework. The reason why we have no software is because most of the computers are so old they will not run the new version of software.**
   3. **We need lockers for our students to store their drafting equipment in. The amount of equipment, as well as models and drawings are too much for a student to carry around all day before they come to class.**
   4. **Our supply budget needs to be increased due to more material consumption by full classes. We also need more storage area for these materials and more area for reproduction machines the student uses to create drawings for their projects.**

3. Are the facilities and equipment adequately maintained? ____ Yes __X__ No
Explain.

The custodial staff used to clean the tables, floors and sink area. They used to check the paper towels, clean our white boards. Now they just empty the trash, and it seems like they miss that some of the time. It would be nice if we had custodians who cared about their job.

We used to have a technician that would fix our drafting machines and parallel bars, when he retired, the administration never replaced him. Now the teachers have to fix anything that breaks in lab. We need a lab tech to do these things as well as helping with the reproduction of the student projects. We need an IT specialist to help us with network problems in our computer lab.

4. Should a recommendation be written addressing the data? ___X__ Yes _____ No
(If yes, list.)

The recommendation of our department, based on the data given on the previous page, is that we need more money allotted to our program. We have the third largest program (approximately 380 students) in the Industry and Technology Division. When compared to the 20 departments in the division, the Architecture program receives the smallest supply budget. We have to charge a $20.00 material fee to each student. There are also departments in our division that are smaller than ours that have full time Lab Assistants/ Tool Room Attendant to help the teachers. That requires money.

C. Staffing

Instructions: Analyze the data on **FTEF, adjunct FTEF, and the FT/PT ratio** for the most recent fall semester and answer the following questions:

FTEF (full-time equivalent faculty): # ___4.76_____

Number of full-time FTEF: # __2__ **Number of adjunct FTEF**: # ____5_____

FT/PT load ratio: ___42/58_____

1. How do the program numbers compare to a like semester (Fall to Fall) three years ago or the previous program review?
The ratio of full-time to part-time faculty has remained relatively stable.

2. What do the program data indicate? Comment on any trends or unusual data.
Success and retention has been comparable for F/T and P/T faculty. More P/T faculty work in the evening and the fill-rate is lower in the evening, but the reason does not appear to be related to quality. The fill-rates have been lower for F/T faculty teaching in the evening as well.

3. How does the FT/PT ratio benefit or harm the program?
   The program is well below the 75:25 ratio goal for community colleges. The benefit of having two full-time faculty is consistency and the access to campus resources and processes. The part-time faculty are all professionals in the field of architecture which adds currency and relevance. The ratio justifies adding a full-time faculty member, which would increase consistency and solve many scheduling problems.

4. Do you have a faculty mentoring program? _____ Yes ___X___ No
   Describe.
   The current mentoring program is informal, in that faculty observe one another's classes to learn approaches and teaching methodologies.

5. How do faculty maintain currency in their field?

   Almost all are professionals with offices currently designing buildings. The full-time faculty assist in local firms in the summer to remain current. Both full-time faculty also maintain private practices on a part-time basis.

6. Fill in the faculty status data below and answer the questions that follow.

Name	Reassigned time (how much in %) 2005/2006	Currently on leave (check)	Retired in last 2 years (check)	FT hired last 3 years (check)	Anticipated to retire in next 3 years (check)
Michael Stallings F/T	0				
Dan Richardson F/T	0				
John Carr F/T (33%)	0				X
James Lemmon P/T	0				
Greg Guerrero P/T	0				
June Johnson P/T	0				
Eduardo Perez P/T	0				

6a. How does this data impact the program?
No impact. No full-time faculty are anticipated to retire and no new positions are anticipated.

6b. Will this data affect the program in the future?

7. From this information, can you identify present and future staffing needs? ____ Yes _X_ No
   Explain. N/A

8. What is the department doing to address any future staffing needs?
   One additional full-time positions would be beneficial. A formal request will be submitted in fall 2007. P/T faculty positions are advertised and filled as needed.

9. Should a recommendation be written addressing the data? __X__ Yes ____ No
   (If yes, list.)
   Request additional full-time position in fall 2007.

D. Planning

1. Do the program faculty and other personnel have a clear idea of what is happening in the program, where it is headed, what external changes are affecting it, and what changes need to be made in order to enable the program to adapt and continue to be successful? **Explain.**

We the faculty, believe we have a clear idea about where we are going with our program. We have a mission statement that tells what we are all about. (See addendum 1) We have several programs within our department for a student to choose from. Half of our program deals with computers which we teach on the most current software used in our field. We still teach board drafting, (most community college architecture programs don't anymore,) and explain through our students that on the recommendation of the architecture advisory committee, drawing with a pencil is still an important part of the design process. We pride ourselves in teaching the Uniform Building Code (UBC) in all our drafting and design classes. University architecture programs have told us that we produce students who know how a building is put together and can draw it many ways. We have an active student club that takes field trips to architectural landmarks and university architecture programs. They also do community service projects like Habitat for Humanity, so they can learn and help others change the environment we live in. We provide a Study Abroad program to Italy every other year, so the student has a chance to see architecture from another perspective. Approximately 25 students are employed per year in local architectural and engineering offices. We also transfer around 25 students per year to various university programs around the country. We feel, that alone, shows we are successful with the way we structure our program. Our program has gotten bigger over the last five years and we have more students this semester than we ever have had. We have plans to add two new classes and revise others.

The external changes that affect our program basically deal with the computer. Architects are using the computer to do more things in their offices today. To provide students who can be productive in that environment we have to educate them how to use the various software correctly. Animated sequences showing the outside and inside spaces are where we are at presently.

The changes needed to make our architecture program adapt to the current industry trends and be successful in the future are few. We feel that we are successful with the way we have structured the program currently. But if we are to grow as a department, or as we refer to it as our "School of Architecture," we need more building area for lecture and lab rooms. Presently we don't have enough area to house the students we teach, we are acquiring more reproductive machinery that requires area. We don't have enough area for students to make models. We need computers that will run our software. We need a full time Lab Assistant/ Tool Room Attendant to do the things the teachers can't do. If these changes are made we see the department getting even larger. It now costs over $200,000 to obtain a five year Bachelors of Architecture Degree from most universities. We, the faculty of the El Camino College School of Architecture believe, with the proper marketing techniques, that we will grow because we are the economical alternative to getting an education in architecture.

2. What data, not currently provided, would be needed in order to improve planning for the development of the program? **Explain.**

A follow-up questionnaire to be filled out when a student either drops a class or graduatesis needed. Information about why the student dropped and where the student is going after graduation would be helpful. Also, a database of alumni from our department, to use for data for future review information.

3. What major external changes or trends do you expect to be of particular relevance to your discipline in the next five years?

We expect the computer to encompass more of the discipline, a student will need to know art related software as well as architectural software. We will incorporate new industry trends in our lectures and make an effort to incorporate, whenever possible, "Sustainable and Green" architectural concepts in our projects. We would like to expand our Design Build class to do more of the sub-crafts. (Concrete, Electrical, Plumbing, Carpentry, etc.)

4. What will the implications of these changes or trends be for the program and how will the program need to respond?

The implications are that we will need more computers to serve the students in the lab. The program will need more area to survive. More reproductive machinery is needed to do the job and more area will be needed to store more material supplies.

5. Based upon the information above, how would you like the program to evolve within the next five years?

We would like to see numerous large lab spaces connected together to resemble an architect's office and university design studio. A separate room, that a full-time Tool Room Assistant works at, to take care of working all reproducing machines and computers.

6. Should a recommendation be written addressing the data? __X__ Yes _____ No

(If yes, list.)

A Department/Program usage room analysis needs to be made to justify a program or department governing a room that could be used to ease the lab needs of growing departments.

V. Conclusion

1. Prioritized Recommendations

1.**We recommend that a study be done to justify building area required for each program in our area.**

2. We recommend that a study be done to justify budget amounts for each department, based on FTES and student population.

3. We recommend that the college allow more beginning sections to be added to keep up with current student needs.

2. Major Needs

1. We need more area to make our program work efficiently the way the open lab is currently set up. Students come to work and there are no drafting stations for them to work at.

2. We need computers that will run the software in the one lab the school has given the department to teach in.

3. We need help, in the form of a Lab Assistant/ Tool Room Attendant to assist the teachers in reproduction and maintaining computers and drafting equipment.

4. We need more money designated to our supply budget, our increase in student population justifies it.

5. We need another full time teacher to help run the lab and teach more classes. Our full time to part time ratio is well below the 75:25 ratio.

3. Strategies

The strategies the faculty choose are based on our industry trends. We are currently designing our own website to compete with architecture schools at other colleges. We feel that because of the size of our college and the academic and vocational course offerings, we will attract more prospective students to our program. Incorporating events like "The Architect Lecture Series" and the Study Abroad Program makes our department competitive with others. The Architecture Club has grown and will also gain public attention as they do community service projects which are covered by the media. Architecture is all about changing the environment in which we live; we the faculty, believe we teach that concept in all of our classes, and stress the commitment necessary to achieve success in this field. We assume, as we grow, that we will have more graduates transferring to university programs and going out to work in offices in the Southern California area.