

3<sup>rd</sup> Draft

Pierce College

Architecture Technology Program Review 2006

### **Purpose of this Program**

People need places in which to live, work, play, learn, worship, meet, govern, shop, and eat. These places may be private or public; indoors or outdoors; or rooms, buildings, or complexes, and together, they make up neighborhoods, towns, suburbs, and cities. *Architects*—licensed professionals trained in the art and science of building design—transform these needs into concepts and then develop the concepts into images and plans of buildings that can be constructed by others.

Architects design the overall aesthetic and look of buildings and other structures, but the design of a building involves far more than its appearance. Buildings also must be functional, safe, and economical and must suit the needs of the people who use them. Architects consider all these factors when they design buildings and other structures.

Architects provide professional services to individuals and organizations planning a construction project. They may be involved in all phases of development, from the initial discussion with the client through the entire construction process. Their duties require specific skills—designing, engineering, managing, supervising, and communicating with clients and builders. Architects spend a great deal of time explaining their ideas to clients, construction contractors, and others. Successful architects must be able to communicate their unique vision persuasively.

The architect and client discuss the objectives, requirements, and budget of a project. In some cases, architects provide various predesign services—conducting feasibility and environmental impact studies, selecting a site, or specifying the requirements the design must meet. For example, they may determine space requirements by researching the numbers and types of potential users of a building. The architect then prepares drawings and a report presenting ideas for the client to review.

After discussing and agreeing on the initial proposal, architects develop final construction plans that show the building's appearance and details for its construction. Accompanying these plans are drawings of the structural system; air-conditioning, heating, and ventilating systems; electrical systems; communications systems; plumbing; and, possibly, site and landscape plans. The plans also specify the building materials and, in some cases, the interior furnishings. In developing designs, architects follow building codes, zoning laws, fire regulations, and other ordinances, such as those requiring easy access by disabled persons. Throughout the planning stage, they make necessary changes. Computer-aided design and drafting (CADD) technology has replaced traditional paper and pencil as the most common method for creating design and construction drawings. Continual revision of plans on the basis of client needs and budget constraints is often necessary.

Architects may also assist clients in obtaining construction bids, selecting contractors, and negotiating construction contracts. As construction proceeds, they may visit building sites to make sure that contractors follow the design, adhere to the schedule, use the specified materials, and meet work quality standards. The job is not complete until all construction is

finished, required tests are conducted, and construction costs are paid. Sometimes, architects also provide postconstruction services, such as facilities management. They advise on energy efficiency measures, evaluate how well the building design adapts to the needs of occupants, and make necessary improvements.

Architects design a wide variety of buildings, such as office and apartment buildings, schools, churches, factories, hospitals, houses, and airport terminals. They also design complexes such as urban centers, college campuses, industrial parks, and entire communities. In addition, they may advise on the selection of building sites, prepare cost analysis and land-use studies, and do long-range planning for land development.

Architects sometimes specialize in one phase of work. Some specialize in the design of one type of building—for example, hospitals, schools, or housing. Others focus on planning and predesign services or construction management and do minimal design work. They often work with engineers, urban planners, interior designers, landscape architects, and other professionals. In fact, architects spend a great deal of their time coordinating information from, and the work of, others engaged in the same project. Many architects—particularly at larger firms—use the Internet and e-mail to update designs and communicate changes efficiently. Architects also use the Internet to research product specifications and government regulations.

The Architecture Program at Pierce College has two options: a two year Associate in Art Degree and a 37 unit Certificate Program. The role of the Pierce College Architecture Technology Program has the goal to train students for a career in Architecture. This is accomplished through two career paths: one to train students for transfer to university as architectural designers; two to prepare students for employment as drafters, CAD computer operators, detailers, delineators, specification writing, material salespeople, lighting and acoustic treatments, technical sales representatives for residential and commercial, space planning, and clerks in such fields as architecture, urban planning, and construction technology.

The target population is to cast a wide net; day and evening students, students seeking to become architectural designers, students seeking to train in careers in the architect- related industries.

***The Pierce College Architecture Technology Program Mission:***

- Provide courses that encourage students to think critically and increase awareness and sensitivity of the dynamic relationship between the environment and themselves;
- Maintain and provide effective instruction through current and relevant courses;
- Provide courses that keep us on the leading edge of architectural, technological and digital innovation;
- Provide courses that enable students to communicate effectively, visually, verbally and graphically including drawing skills with critical thinking and design explorations. Drawing is a thinking tool and a core component for all programs;
- Provide Occupational Programs to enable students to develop skills which can lead to employment, job advancement, certification, or the associate degree;
- Provide Transfer Programs to enable students to continue upper division work at accredited four year universities and institutions;

- To respond to the significant environmental, political and economic challenges facing society;
- To renew focus on the public benefits and understanding of architecture – creation and preservation of livable communities, sustainable cities, clean environments and cohesive communities;
- To develop community awareness of how architecture has a profound impact on their personal health, productivity and happiness. Space affects the way you think and create; and;
- To incorporate architecture in a community life participation for social and cultural mainstream.

## ***Student Learning Outcomes***

### **Architectural Technology Program Level Anticipated Student Learning Outcomes –**

- Recognize the elements and principles of architectural design.
- Produce projects by utilizing research, planning, analyzing, and creating architectural design
- Critically develop awareness of what good architectural design practice is.
- Execute computer graphic design skills using CAD software.
- Exhibit a working knowledge and ability to utilize formal and relational design elements
- Recognize and execute cognitive, cultural, physical, and social factors in planning and executing designs

#### ***The Architectural Technology Program***

##### ***Methods to evaluate the quality of student learning:***

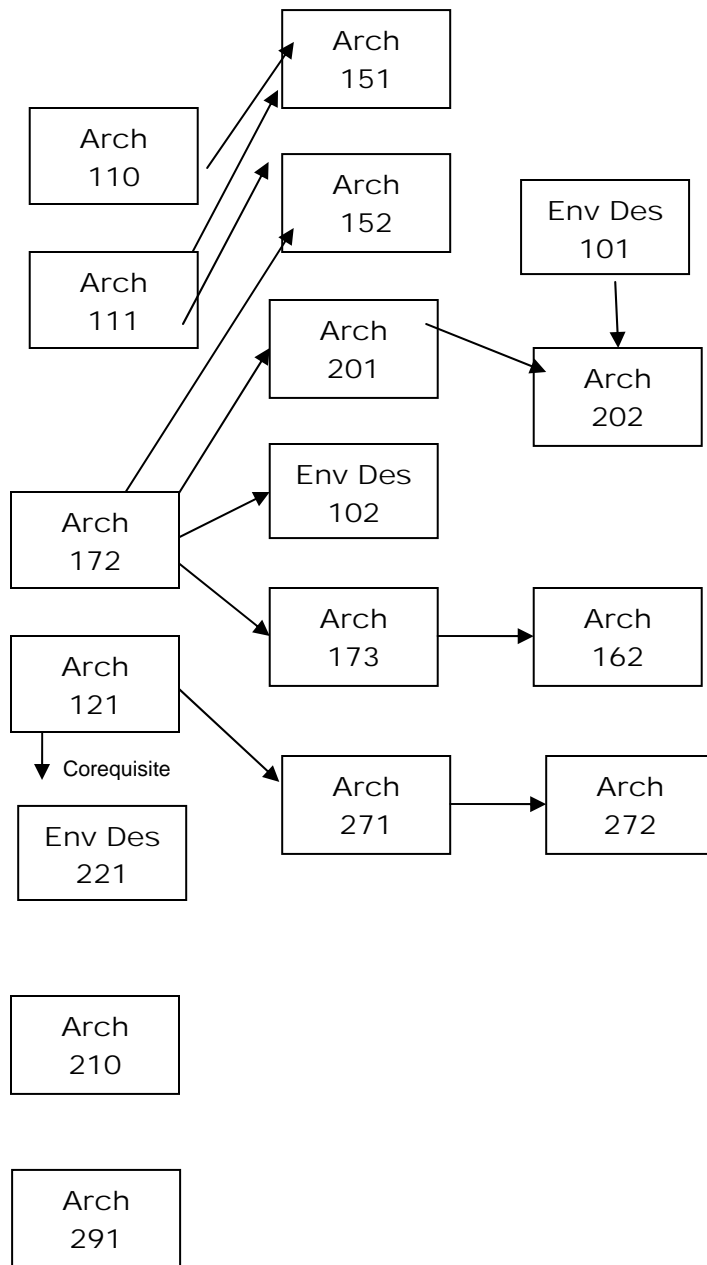
The usual method utilized within the department to evaluate learning outcomes is evaluation of **students' portfolio of projects** from the various courses within the program. Each course is project based with a **series of projects** designed to show mastery of skills defined as course learning outcome goals. The department is in the process of developing an **on-line gallery of student's work** from the various classes in the discipline to **demonstrate the level of skill** achieved in the coursework to the greater community and college. The assessment methods utilized in various classes to determine how students are performing will be a defined rubric of benchmark goals that students are to achieve within each project. The information about the quality of learning that is shared and used by department decision making is mostly within dialog between department and instructors and used to refine the design for projects and how they demonstrate learning. **The Student Learning Outcomes have been incorporated into some of the course outlines of record and syllabi and will be hopefully completed within the next year.**

The department has primarily used the evaluation process to change pedagogy. Instructors have used this evaluation to **refine the design for projects** to further demonstrate the quality of student learning outcome goals.

Student Learning Outcomes have been included within many of the syllabi and some **grading rubric have been adopted**. Through the examination of student learning processes, the art department is **planning to institute** (in 2007) Art 501, 2-D Design as a recommended prerequisite/corequisite for many studio courses.

The department / discipline plans for improving student learning within the program as a whole. The hope is to have a greater number and varied courses so the students can gain a greater breath of experience in this diverse and challenging field. **Another way** the department hopes to improve student learning is by creating opportunities to **foster a community** among the students within the program. This will be created by initiating an on-line student gallery of work and **bulletin boards for peer evaluation and discussion**.

# Architecture Technology Program Review Curriculum Grid



The department participates with the Los Angeles Community College District Architectural Discipline Committee to develop revised course outlines of record including Student Learning Outcomes. The majority of all courses have all been revised by this district committee.

The department plans to increase the range of courses by adding new courses such as: leed certification and building code courses to the curriculum. Class syllabi reflect changes in the course outlines of record.

In the department the students are regularly surveyed to gain information on their preferences for: best day and time, how many days per week, day vs. evening, Saturday classes, types of classes, was the class you tried to get into full?, what other types of classes would you like to introduce such as: Architectural Detailing, Strength of Architectural Materials I, Strength of Architectural Materials II, Architectural Practice, Construction Estimating, and Building Codes. The decision to add these course was due to data received from the student surveys.

The department does utilize classic design studio means to present coursework. This usually involves first lecture and demonstrations. Then there will be an assignment of a project which will demonstrate the student's skill and understanding of the concepts for the Student Learning Outcomes. The class will then discuss their performances of their projects in relation how they meet the defined goals for the assignment. This is a newly developed method for the instructor to grade projects with a defined rubric or structure for these projects so the students understand their performance on the projects. Through this structure the instructors of the use and impact of collaborative learning, project-based learning, and instructional technologies both in and out of the classroom, holistic approaches to instructional and grading. Recently the department has been attempting to include more writing tasks for students. In these classes the students are writing their responses to the projects trying to define their goals in a written form.

## *Action Plans*

### **Future Directions**

#### ***Long Term Goals (5 to 10 years)***

- *Due to the loss of the Technology Building additional computer labs for Architecture, Multimedia, and Graphic Design to offer more and varied coursework (This goal references to Pierce College goals #1, 5)*
- *To secure a fully functional program, the department seeks a full-time hire in Architecture (This goal references to Pierce College goals #1)*

#### ***Short Term Goals (2 to 4 years)***

- *Apply for a full time tenure track instructor position*

*(This goal references to Pierce College goals #1)*

- *Have more allocation for courses so students can have a greater breath of classes  
(This goal references to Pierce College goals #1)*
- *Rotate certain classes so students can have a greater breath of classes  
(This goal references to Pierce College goals #1)*
- *Have yearly advisory committee meetings  
(This goal references to Pierce College goals #1)*
- *Apply for 3D Prototyping equipment grant  
(This goal references to Pierce College goals #1, 5)*
- *Have a student gallery with examples of architectural student projects from the various classes  
(This goal references to Pierce College goals #1, 4, 5)*
- *Establish message board to communicate Pierce College Architecture Program issues*
- *Apply for a full time tenure track instructor position  
(This goal references to Pierce College goals #1)*
- *Apply for 3D Prototyping equipment grant  
(This goal references to Pierce College goals #1, 5)*
- *Through email have faculty advisors from the adjunct instructors*
- *Establish message board to communicate Pierce College Architectural Program issues*
- *Pursue the purchase of plotter to print large scale prints  
(This goal references to Pierce College goals #1 & 5)*
- *Better develop Art room 3310 so it can function as a architecture drawing/design classroom  
(This goal references to Pierce College goals #2)*

### **Annual Goals**

Plan for assessment of specific course-level Student Learning Outcomes in the Department's goal set for the next year.

*After the department further defines the departmental Student Learning Outcomes are as a whole we will then incorporate those into the individual courses.*