ENGINEERING
Program Review
2007-2008

Spring 2008

Prepared By:
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Bruce Stoner, Faculty
Susanna Au, Faculty
Lillian LaSpina and Chris Pagano, Administrative Secretaries
Eric Rabitoy, Dean of Science, Engineering, and Health Sciences

ENGINEERING PROGRAM REVIEW COMMITTEE MEMBERS 2007-2008

Richard J. Fernandes, Full-Time Faculty
Bruce Stoner, Full-Time Faculty
Eric Rabitoy, Dean of Science, Engineering, and Health Sciences
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Michelle Plug, Articulation Officer
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John Thompson, Dean of Library and Information Services
Linda Welz, Chief Information Services Officer

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FACULTY

FULL-TIME FACULTY:

Dr. Richard J. Fernandes AIA
Bruce Stoner

ADJUNCT FACULTY:

Susanna Au Associate AIA
Leigh Buchwald
David Endo
Catherine Gong
Michael Moore
Aaron Ruiz
Flint Tabata
Jose Villanueva
Jane Yu

ENGINEERING

Advisory Committee
Meets Annually
Average Attendance 30 Members

Susanna Au
Architecture
Citrus College

Michael Moore
East San Gabriel ROP

Bruce Stoner
Electronics Instructor
Citrus College

Dexter Tanksley AIA
Walt Disney Imagineering

Bernard Barroga
CSGV ROP

Jane Chu
Civil Engineer
Citrus College

Kim Holland
Director, Vocational Ed.
Citrus College

Adrian Erb
Architect
Long Beach Community College

Daryl Akioka
Drafting
Azusa High School

Dr. Virgil Seaman
Cal State University LA
Dept. of Technology

Sherry Griffes
Past Student President ASEA

Mary Ann Rachford
Art Professor
Citrus College

Jess Kuncar
Architect
Walt Disney Imagineering

Tom Paton
Paton and Associates
AutoCAD

Frank Paton
Paton and Associates
AutoCAD

Dr. William Husung
Retired Drafting Instructor
Citrus College

Kimberly Bowen AIA
Architect, Instructor
Citrus College

Ken Zamora AIA
Architect
Instructor, Fresno City College

Prof. George Proctor AIA
Department of Architecture
Cal Poly Pomona

Eric Rabitoy
Dean of Science and Engineering
Citrus College

Aaron Ruiz
Architect, Teacher
Glendora High

Elanie Moore
Art Professor
Citrus College

Matt Jackson
Art Professor
Citrus College

Joe Serar
Engineer
Glendora

Dr. Richard Fernandes AIA
Architect Professor
Citrus College

Sidney Pedraza
Architect
Diamond Bar

Troy Aday AIA
Aday Architects
Glendora

DEGREE AND LIST OF CERTIFICATES OFFERED

In addition to an AS degree in Engineering and a transfer program, the following certificates are available:

- **DIGITAL DESIGN MEDIA** (To be moved to the Art Department)
- **INFORMATION TECHNOLOGY**Required Courses: PHYS 110, ENGR 104, ENGR 107, ENGR 108, ENGR 109 (20 Units).
- **ENGINEERING CAD MANAGEMENT CERTIFICATE (Proposed)** Required Courses: ENGR 100, ENGR 104, ENGR 107, ENGR 108, ENGR 125, DRAF 101, DRAF 190, and ENGR 126 (New 3D CAD course) (26 or 27 Units).

SEQUENCE OF COURSES - ENGINEERING - General

ENGR 100 - Introduction to Technology
ENGR 122 - Engineering Drawing
ENGR 125 - Introduction to Engineering CAD
ENGR 126 - (New 3D CAD course)
ENGR 130 - Engineering Graphics
ENGR 135 – Statics
ENGR 136 – (New Dynamics course)

Drafting Ancillary Courses:

DRAF 101 - Mechanical Drawing

Math Ancillary Courses:

MATH 190 - Calculus with Analytic Geometry
MATH 191 - Calculus with Analytic Geometry II
MATH 210 - Calculus with Analytic Geometry III
MATH 211 - Differential Equations

Physics Ancillary Courses:

PHYS 201 Physics
PHYS 202 Physics
PHYS 203 Physics

SEQUENCE OF COURSES - ENGINEERING - Information Technology

PHYS 110 Introduction to College Physics
ENGR 104 PC Hardware and Maintenance
ENGR 107 Network Technology
ENGR 108 Networking Operating Systems
ENGR 109 Network and Computer Security

Drafting Ancillary Courses:

DRAF 101 Mechanical Drawing

Engineering Ancillary Courses:

ENGR 100 Introduction to Engineering
ENGR 130 Engineering Graphics

Math Ancillary Courses:

MATH 130 Elementary Algebra

Physics Ancillary Courses:

PHYS 110 Introduction to College Physics

Transferable Engineering Courses:

UC:	CSU:	USC:
ENGR 122	**ENGR 122**	**ENGR 122**
ENGR 125	**ENGR 125**	**ENGR 125**
ENGR 130	**ENGR 130**	**ENGR 130**
ENGR 135	**ENGR 135**	**ENGR 135**

Major Preparation:

ENGR 122	**UCB, UCR, UCSB**
ENGR 125	**UCSB**
ENGR 130	**CSUF, CSU SLO, UCB, UCI, UCR, UCSB**
ENGR 135	**UC**

The Engineering program has numerous classes that have not been offered in the last few semesters due to the Digital Design Media, Digital Web Design, and Advanced Digital and Web Design certificates being moved to Fine and Performing Arts Department. The Engineering department has recommended elimination of ENGR 110, 111,112, 113, 114, 115, 116, 117, 184, 185, 186, 187, 188 and 189 from the program. Therefore ENGR 105, 106, 110, 111,112, 113, 114, 115, 116, 117, 184, 185, 186, 187, 188 and 189 have ART equivalent classes in the Art Department.

ENGR 105 and 106 Visual Basic classes are no longer taught.

The Engineering Program has adopted the Institutional General Education Competencies of Citrus College. The General Education Competencies (as set forth in the Academic Senate minutes dated August 25th 2004) are as follows:

Institutional General Education Competencies- Part of Institutional Mission

General education competencies serve as a common set of core curricular components identified and defined by faculty. Student learning outcomes are behaviors based on these competencies.

Any student transferring, completing a degree or certificates from Citrus College, must demonstrate effectively assessed awareness, understanding, knowledge, skills, and abilities in the selected competencies.

1. Communication (personal expression and information acquisition)

   Examples

   Reading analytically and critically
   Writing with clarity and fluency
   Speaking articulately
   Listening actively

2. Computation

   Examples

   Technology
   Math proficiency
   Analyzing and using numerical data
   Application of mathematical concepts and reasoning
   Computer proficiency
   Decision analysis
   (Synthesis and evaluation)

3. Creative, Critical, and Analytical Thinking

   Examples

   Curiosity
   Analysis
   Synthesis
   Evaluation
   Creativity
   Research
   Learning Strategies
   Problem Solving
   Decision making
   Aesthetic awareness

4. Community, Critical, and Analytical Thinking

   Examples

   Respect for others beings
   Cultural awareness
   Ethics
   Community service
   Integrity
   Citizenship
   Interpersonal skills
   Lifelong learning
   Self esteem
   Empathy

5. Technology/information competency

   Examples

   Basic computing and word processing

6. Discipline/subject Area Specific Content Material - Project Plan

PROGRAM DESCRIPTION
The Engineering Program encompasses an area of study which includes basic and advanced engineering, design, management principles, CAD, and 3D animation software. The Engineering Program has outstanding dedicated faculty preparing students for transfer to universities, advancing professional careers, and personal development. The program combines classroom lectures, demonstrations, and an extensive use of state-of-the-art technology making certain training is always current.

PROGRAM HISTORY
Program indicator data illustrates a dramatic decline in Weekly Student Contact Hours beginning the Fall of ’03 to present (808 to 470 WSCH). This was largely due to Major budget cuts and a loss of most adjunct faculty from Fall of ’03 to Fall of ’06 (4.31 to 2.56 Full-Time Equivalent Faculty). Classes were cut from16 to 9 from Fall of ’03 to Fall of ’06. The Engineering program is currently in a rebuilding mode which began in the Fall of ’06 and should be finalized in the Fall of ’10. Please see program indicator data for greater detail.

It should also be noted that most of the Engineering Drawing and Engineering CAD classes are taught concurrently with the Drafting Technology classes. The positive view of this format is it allows students to be exposed to multiple uses of Engineering, Architecture and Computer Generated Imagery. Drafting is also known as Engineering Drawing, Architectural Drawing, and Mechanical Drawing.

The Engineering review is separate from the Drafting Technology review. However, in the future both reviews should be done concurrently.

PROGRAM STUDENT LEARNING OUTCOMES:
Engineering students will have a broad understanding of Engineering. Students will be able to design, interpret, analyze, and evaluate engineering projects.

Engineering students completing courses in the Engineering Program will have acquired understanding, knowledge, skills and abilities in the following competencies:

<u>Communication</u>
Engineering students will use proper vocabulary and notation when describing Engineering concepts. They will be able to communicate these concepts to others both verbally and in written form. They will be able to critically analyze Engineering information found in print, visual or online media such as engineering technical and non-technical books, journals, articles, web pages, television, and film.

<u>Computation</u>
Engineering students will apply Engineering concepts in mathematical form using the appropriate computational skills for the course. This may include numeric calculation using simple algebra, calculus with analytic geometry, graphical analysis, the evaluation of mathematical expressions and engineering technical drawings.

Creative, Critical, and Analytical Thinking
Engineering students will develop an understanding of and curiosity toward engineering through problem solving, decision making, and critical thinking skills. Engineering students will develop an understanding of interactions in the engineering world as evidenced by successful completion of engineering program courses.

Community, Global Consciousness
Engineering students will think logically and coherently about engineering issues and gain an appreciation for the global social and political impact of engineering endeavors. By working together in lab and/or on projects, students develop interpersonal skills and respect for others. Through team learning, they will acquire an understanding for the need of Lifelong Learning.

Technology/Information Competency
Engineering students will be adept at using computers for word processing, data analysis, tutorials, simulations and/or web-based research as appropriate for each course. For laboratory courses, students will demonstrate fundamental aptitudes in the proper use of mechanical and/or electrical devices. Specific skills such as Networking, AutoCAD and MAYA and other applications will be used in appropriate courses.

Discipline Specific Content
Engineering students will demonstrate an understanding of the fundamental principles of Engineering at levels appropriate to each course. Students will distinguish between engineering technical and non-technical questions and methods and understand Engineering as a process. Students will understand the complex problems involved in valid technology and engineering.

PROGRAM GOALS

- Comprehensive major preparation and transfer credit to four year colleges and universities.
- Meet the student learning outcomes and core competencies institutionalized by Citrus College.
- Provide basic knowledge and skills for student's success.
- Prepare students to enter the job market.
- Provide courses required for students to complete the certificates and/or Associate of Science degree.
- Provide classes for enrichment and upgrading of skills for currently employed students.
- Provide classes to support other curricular areas on campus.

SLO TIMELINE

The ENGINEERING Program will revise and develop student learning outcomes for all classes offered at Citrus College based on the following schedule:

Course Title	**Projected Date to Develop Course Outline**
ENGR 100 - Principles of Technology	August 2008
ENGR 104 - PC Hardware and Maintenance	August 2008
ENGR 107 - Network Technology	March 2009
ENGR 108 - Networking Operating Systems	March 2009
ENGR 109 – Network and Computer Security	Completed
ENGR 122 - Engineering Drawing	August 2009
ENGR 125 - Introduction to Engineering CAD	March 2009
ENGR 126 - Introduction to Engineering 3D CAD (Proposed)	March 2009
ENGR 130 - Engineering Graphics	March 2009
ENGR 135 - Statics	Completed
ENGR 136 – Dynamics (Proposed)	August 2008

Any new classes developed will have student learning outcomes developed when the curriculum is submitted to the curriculum committee.

The department will work with the curriculum committee to ensure the course outlines are being developed according to standards developed by the committee.

MISSION

COMMENDATIONS

1. The Engineering Program meets the mission and the core competencies of the District. Engineering courses deliver high quality instruction that empowers students to compete globally and to contribute to the economic growth of today's society. Engineering courses are dedicated to fostering a diverse educational community and cultural learning environment that supports student success in pursuit of academic excellence, economic opportunity, and personal achievement.
2. The Engineering Program stresses problem solving, teamwork, communication skills, computation, use of technology and critical/analytical thinking as part of each course.
3. Engineering Program continues to attract students from culturally diverse groups. (See Core Indicators Demographics)
4. The Engineering Program course sequence leads logically toward program goals as recommended by the advisory council.
5. ENGR 135 Statics was added to the curriculum.

PREVIOUS RECOMMENDATIONS COMPLETED

1. The Engineering Program should meet the mission and the core competencies of the District. Engineering courses should deliver high quality instruction that empowers students to compete globally and to contribute to the economic growth of today's society.

The Engineering Program achieved the mission and the core competencies of the District. Engineering courses deliver high quality instruction that empowers students to compete globally and to contribute to the economic growth of today's society.

2. The Engineering Program should stress problem solving, teamwork, communication skills, computation, use of technology and critical/analytical thinking as part of each course.

The Engineering Program stressed problem solving, teamwork, communication skills, computation, use of technology and critical/analytical thinking as part of each course.

3. The Engineering Program course sequence should lead logically toward program goals as recommended by the advisory council.

Engineering Program course sequences lead logically toward program goals as recommended by the advisory council.

RECOMMENDATIONS

1. List the Engineering Program Certificates in the College Catalog and update periodically to keep current.
2. List appropriate cross referencing in the College Catalog and class schedule.
3. Utilize marketing and recruitment techniques to attract students in our district and to ensure that the District's diversity continues to be represented in the Engineering Program. (See Core Indicators, Females only represent 30 to 13% of enrollment).

NEED

COMMENDATIONS

1. The Engineering Program is constantly changing to meet the demands of the workplace through Advisory Council recommendations.
2. The Engineering Program has course offerings scheduled in the day and evening to meet the needs of students.
3. The Engineering Program has articulated courses with local high schools.
4. The Engineering Program provides occupational education for students preparing for employment.

PREVIOUS RECOMMENDATIONS COMPLETED

1. Course sequencing should allow students to accomplish their goals in two years. A full-time student is able to complete either of the Engineering Program Certificates in two years.

Course sequencing allows students to accomplish their goals in two years. A full-time student is able to complete either of the Engineering Program Certificates in two years.

2. Clarify current Engineering Certificate structure with the Chancellor's Office personnel.

Current Engineering Certificate structure has been clarified with the Chancellor's Office personnel.

3. Evaluated and revised specific Engineering Program class content in order to better prepare students for employment or transfer.

Evaluated and revised specific Engineering program class content to better prepare students for employment or transfer.

RECOMMENDATIONS

1. Evaluate and revise specific class content in order to better prepare students for employment or transfer.
2. Work with Counseling and the Transfer Center to obtain an extensive understanding of the Engineering Program.
3. Review offerings during the day and evening as student demand increases.
4. Initiate contact with the local business community and the Advisory Committee to provide input that will enhance the Engineering Program.
5. Review and enhance the Engineering major for the Associate of Science degree (AS). Revise Engineering classes to facilitate expansion of the program and meet the demands of the workplace.
6. Initiate contact with the local business community and the Advisory Committee to provide input that will enhance the Engineering Program.
7. Provide additional promotion of the Engineering Program via engineering student ambassadors. Ambassadors should have the necessary communication skills.

QUALITY

COMMENDATIONS

1. Student learning outcomes are being developed for all Engineering Program classes in the program. Engineering Program classes are to be revised and developed according to the schedule stated in this document.
2. Engineering Program Faculty meet District qualifications.
3. Engineering Program faculty are diverse.
4. Engineering Program courses demand critical thinking at all levels to insure student success.
5. Faculty development is exemplary for the Engineering Program. Faculty are constantly updating skills via conferences, workshops and as presenters of workshops.
6. Students are very active members of the American Society of Engineers and Architects. Over the last five years students have won a minimum of $3,000.00 in scholarships per year.
7. The American Society of Engineers and Architects has recognized a Citrus professor as professor of the year for 2004, 2005 and 2006.

PREVIOUS RECOMMENDATIONS COMPLETED

1. Course should articulate with four year institutions.

Courses articulate with four year institutions.

2. The Engineering Program should continue to change to remain current with the needs of the industry, based on input from the Advisory Committee.

The Engineering Program remains current with the needs of the industry, based on input from the Advisory Committee.

3. Faculty members should attend certification classes, in-services, conferences, and conventions to update their expertise.

Faculty members attended certification classes, in-services, conferences, and conventions to update their expertise.

4. Labs should have state-of-the-art computer equipment and software programs.

Labs have state-of-the-art computer equipment and software programs.

5. Apply for grants to fund the purchase of equipment for the department.

Faculty members have applied for and received grants to fund the purchase of equipment for the department.

RECOMMENDATIONS

1. Maintain and expand the use of the Advisory Committee in setting the direction of the Engineering Program.
2. Work with Advisory Committee to establish a wider range of internships and job opportunities.
3. Work with the Citrus College Transfer Center to help students who seek to transfer to either public or private universities.
4. Develop, revise, and integrate Student Learning Outcomes into each Engineering Program course outline and syllabus according to the schedule stated in this document.
5. Engineering Program class descriptions should be reviewed and modified as needed.

6. ENGR 100 will be revised and made part of a survey course and be added to CAD Management Certificate in the near future.
7. ENGR 104 will be revised with new SLOs. More students are anticipated because of the new CAD Management Certificate. ENGR 104 will be required for 3 certificates.
8. ENGR 136 Dynamics will be added to the curriculum.
9. Seek expansion of articulation agreements with four year institutions. The major Universities to focus on are Cal Poly, Cal State LA, Cal State Fullerton, Berkley and UCLA.
10. Articulate with additional local high schools.
11. Review Engineering Program syllabi, course outlines, and course prerequisites, and the long-range plan in respect to State and District requirements.

FEASIBILITY

COMMENDATIONS

1. Labs have the latest audio-visual equipment
2. Students are currently able to use the lab facilities for class assignments during professor office hours.

PREVIOUS RECOMMENDATIONS COMPLETED

1. Continue to be leaders in incorporating technology into the instructional program.

Faculty members continue to be leaders in incorporating technology into their instructional program.

2. Upgraded software and equipment in labs is constantly to meet Engineering Industry standards.

Software and equipment in the labs is constantly being upgraded to meet Engineering Industry standards.

3. Evaluate the extent to which several separate discipline areas can integrate their courses into the overall Engineering Program.

Courses were revised and removed from curriculum.

RECOMMENDATIONS

1. Integrate state-of-the-art technology within the curriculum. Both software and hardware must be maintained at or above industry standards.
2. Provide access to the Citrus College web site for online student portfolio presentation.
3. Increase utilization of technology in Engineering Program courses. Both software and hardware must be maintained at or above industry standards. The cost per year is approximately $15,000.00 for software. However, the costs are shared with Drafting Technology.

COMPLIANCE

COMMENDATIONS

1. The Engineering Program transfers to the California State University, University of California, and private university systems. Three local

secondary institutions: Cal Poly, CSULA, and Cal State Fullerton are traditionally where students transfer.
2. Course requisites meet Federal, State and District requirements.
3. Existing Course Outlines are being updated to reflect new requirements.
4. Students in the Engineering Program are committed to community service – City of Hope, Save the Hollywood Bowl, shelters for the homeless, and many other projects.

RECOMMENDATIONS

1. Review the Engineering Program by faculty and the Advisory Committee to ensure relevancy to the needs of the business world and articulation with California State University, University of California, and private universities.

CITRUS COLLEGE
DRAFTING TECHNOLOGY / ENGINEERING
ADVISORY COMMITTEE MEETING MINUTES

Thursday, April 24, 2008 2:00 p.m. PC 306

Present:

Architecture	CGI	Engineering
Flint Tabata AIA	Susanna Au AIC	Jane C. Yu PE
Adrian Erb AIA	Bernard Barroga	Rick Graham
Carlos E. Hernandez	Glenn Croft	Richard Granger PE
Michael Moore	Chris Milar	Andrew Huettner
Micah Peterson	Lori Pezold	Dr. Bill T. Husung
Michael Richter	Matt Phillips	Glenna Johnson PE
Aaron Ruiz AIA	Eric Rodriguez	Jonathan Polasik
Jackson Walters PE	Daniel Stocking	Roya Ardelan PE
Dr. Richard J. Fernandes AIA		

Welcome and introductions by Dr. Fernandes.

Discussion on the proposed Tech Prep College and Career Pathway with Azusa High before breaking into groups, Dr. Fernandes asked for a vote on the proposed Tech Prep College and Career Pathway 2007-2008 Partnership. The vote was unanimous to adopt the Pathway Partnership.

Dr. Fernandes shared the 2008-2009 Tech Prep Meeting Schedule. It was approved unanimously.

Carlos Hernandez and Eric Rodriguez were nominated and confirmed as business representatives for the Tech Prep Committee. Carlos will attend the meeting for Architecture and Engineering. Eric will attend the meeting for Arts Media in the Entertainment Industry.

BREAKOUT GROUPS:

Architectural Group

1. Put yourself 5-10 years into the future. Visualize the **Design Technology Schools** you really want as if they exist now. What is life like?
   - Real office environment /experience
   - Design of Real life buildings
   - Higher emphasis on Technology
   - Current use of Technology/3D
   - Designers will do it ALL (Drafting, engineering, and production CAD drawings)
   - Students will use Critical Thinking

2. **List your accomplishment since 2005, with special reference to *"What Future for Design Technology Schools."***

    Advances in software:
        Digital Prototyping
        Software integration

3. **Spend enough time to imagine concretely the *Design Technology Schools* in which your group wants to work. This is an exercise in creative dreaming – of the kind of community you want to work toward…**

    Dedicated space for design, drafting, modeling, etc.
    Combined workstations

CGI Group

1. **Put yourself 5-10 years into the future. Visualize the *Design Technology Schools* you really want as if they exist now. What is life like?**

    Industry Networking:
        Gaming
        Studios
    Various course offerings and Career Pathways:

Gaming	Maya
Architecture	XSI
Engineering	CAD

    Department Branding:
        Animation School
        Gaming School
    Company Sponsorships

2. **List your accomplishment since 2005, with special reference to *"What Future for Design Technology Schools."***

    Software availability for students relative to the CGI industry
    Up to date hardware:
        Site licenses
        Ability to upgrade
    Faculty training
    Alternative teaching tools such as Digital tutors.com

3. **Spend enough time to imagine concretely the *Design Technology Schools* in which your group wants to work. This is an exercise in creative dreaming – of the kind of community you want to work toward…**

    Software availability for students relative to the CGI industry
    Up to date hardware with site licenses and the ability to upgrade hardware.
    Various course offerings/career pathways:

Gaming	Maya
Architecture	XSI
Engineering	CAD

    Company Sponsorships

Engineering Group

1. **Put yourself 5-10 years into the future. Visualize the *Design Technology Schools* you really want as if they exist now. What is life like?**
   - Imagines green-friendly schools that are self-sufficient (use rain water and solar power). The physical conditions of the learning environment such as natural lighting have a positive effect on student learning.
   - There is concern over the future of the Engineering and Drafting programs. There will be no more programs if things do not change. Community Colleges will help high school programs sustain themselves. No Child Left Behind and testing are killing drafting programs. More money is being spent on remedial programs and drafting is being cut.
   - A big change is going on in the world. Jobs are being sent out of the country.
   - How can we make student more globally marketable?
   - Start training students at a much younger age.
   - Students are graduating from high school with no skills. Many students are dropping out.
   - We need to get more serious with public education. Parents need to take an interest.
2. **List your accomplishment since 2005, with special reference to *"What Future for Design Technology Schools."***

   No discussion on this subject.

3. **Spend enough time to imagine concretely the *Design Technology Schools* in which your group wants to work. This is an exercise in creative dreaming – of the kind of community you want to work toward…**
   - Schools should have a fitness center, laptops for each student, wireless connections, more use of internet communication – DE classes.
   - Students need to learn to do the task by hand before the computer.
   - There needs to be more designated subject credentials. We need professionals in the field to train kids.
   - Student group member stated he had no hand drafting in High School and is learning it at Citrus.

SHORT AND LONG TERM GOALS:

Architectural Group

Decisions in short and long term action steps:

Short Term

Current Hardware and bigger working spaces

Design Competitions similar to the AIA 1:2 competition Citrus is invited to each year.

Long Term

More Respect for Community Colleges

Design Studios similar to 4 and 5 year schools

CGI Group

Decisions in short and long term action steps:

- Short Term
  - Software availability for students
  - Up to date hardware with the ability to upgrade
- Long term
  - Various course offerings/career pathways

Gaming	Maya
Architecture	XSI
Engineering	CAD

  - Company sponsorships

Engineering Group

Decisions in short and long term action steps:

- Short Term
  - Upgrade current Hardware
  - Hand Drawing
- Long Term
  - Emphasis on Green Building

Dr. Fernandes thanked everyone for coming. The meeting was adjourned at 3:45pm.

The next *CITRUS COLLEGE DRAFTING / ARCHITECTURE / CGI / ENGINEERING ADVISORY COMMITTEE* meeting will be held in the Spring Semester '09.

Key Program Performance Indicator	01-02 Year 1	02-03 Year 2	03-04 Year 3	04-05 Year 4	05-06 Year 5	06-07 Year 6
Program Access						
Majors	N/A	N/A	N/A	N/A	N/A	N/A
New Majors	N/A	N/A	N/A	N/A	N/A	N/A
Courses Offered						
Day	5	4	5	5	7	9
Evening	11	9	4	5	2	6
Weekend	0	0	0	0	0	0
Short Term	0	0	0	0	0	0
Distance Education	0	0	0	0	0	0
Classes Offered (# of sections)						
Day	5	4	5	5	7	9
Evening	11	9	4	5	2	6
Weekend	0	0	0	0	0	0
Short Term	0	0	0	0	0	0
Distance Education	0	0	0	0	0	0
Registrations						
Weekly Student Contact Hours	785	808	620	672	522	470
Full-Time Equivalent Students	26.17	26.93	20.67	22.40	17.40	15.67
Non-Traditional/Special Populations						
Available Jobs						
Program Resources						
Full-Time Equivalent Faculty	4.31	3.59	2.56	2.87	2.36	4.20
Credit Reimbursement Rate	2,794.76	2,850.73	2,790.53	2,922.30	3,259.71	3,476.34
Revenue-FTES x Reimbursement Rate	73,138	76,770	57,680	65,460	56,719	54,474
Total District Program Budget	94,938	148,476	82,153	56,653	63,060	73,095
Personnel (actual expenditures)	182,382	117,422	82,153	63,313	30,978	41,051
Grants						

Key Program Performance Indicator	01-02 Year 1	02-03 Year 2	03-04 Year 3	04-05 Year 4	05-06 Year 5	06-07 Year 6
Supplies	16,433	840	973	5,826	558	960
Industry Contributions						
VTEA	0	0	0	0	0	0
Program Efficiency						
Productivity – WSCH/FTEF (525=good)	182.13	225.09	242.18	234.14	221.19	111.90
Average Class Size (R. Fernandes' classes Scheduled concurrently With drafting classes)	9.5	11.31	12.7	11.7	11.00	5.87
Fill Rate at Census	57%	58%	89%	71%	71%	40%
FTES per FTEF	6.1	7.5	8.0	7.7	7.3	3.7
Cost per FTES	6,969	4,392	4,022	3,133	2,056	2,920
Cost per Major						
Program Success						
Course Retention (D or better)	84%	76%	77%	78%	73%	82%
Course Success – Any Course (C or better)	79%	73%	69%	75%	71%	80%
Course Success – Next Course (C or better)						
Course Success – Advanced Course (C or better)						
Major Persistence	N/A	N/A	N/A	N/A	N/A	N/A
Degrees Awarded	N/A	N/A	N/A	N/A	N/A	N/A
Certificates Awarded	0	0	0	0	0	1
Skills Awards	N/A	N/A	N/A	N/A	N/A	N/A
Licenses	N/A	N/A	N/A	N/A	N/A	N/A
Transfers	No Data					
Performance Following Transfer	No Data					
Student Satisfaction*						
Employment Rate*						
Employment Retention*						
Employer Satisfaction*						

*Vocational Programs Only

Key Performance Indicator		**01-02 Year 1**	**02-03 Year 2**	**03-04 Year 3**	**04-05 Year 4**	**05-06 Year 5**	**06-07 Year 6**
Student Demographic Data							
Gender	Female	83 (30%)	44 (18%)	20 (12%)	25 (16%)	13 (14%)	12 (13%)
Gender	Male	190 (70%)	203 (82%)	143 (88%)	133 (84%)	80 (86%)	78 (87%)
Age	< 17	2 (1%)	2 (1%)	0	0	0	0
Age	17 - 19	65 (24%)	69 (28%)	51 (31%)	61 (39%)	23 (25%)	24 (27%)
Age	20 - 24	67 (25%)	53 (21%)	66 (40%)	57 (36%)	38 (41%)	33 (37%)
Age	25 - 29	35 (13%)	36 (15%)	16 (10%)	16 (10%)	18 (19%)	20 (22%)
Age	30 - 39	51 (19%)	40 (16%)	14 (9%)	9 (6%)	7 (8%)	8 (9%)
Age	40 - 49	38 (14%)	22 (9%)	9 (6%)	7 (4%)	5 (5%)	2 (2%)
Age	50 - 59	13 (5%)	18 (7%)	2 (1%)	8 (5%)	2 (2%)	3 (3%)
Age	60 - 69	2 (1%)	5 (2%)	5 (3%)	0	0	0
Ethnicity	Hispanic	106 (39%)	87 (35%)	57 (35%)	58 (37%)	48 (52%)	33 (37%)
Ethnicity	Caucasian	96 (35%)	96 (39%)	56 (34%)	60 (38%)	15 (16%)	26 (29%)
Ethnicity	Black	6 (2%)	8 (3%)	7 (4%)	4 (3%)	4 (4%)	2 (2%)
Ethnicity	Asian	28 (10%)	27 (11%)	26 (16%)	13 (8%)	9 (10%)	10 (11%)
Ethnicity	Filipino	10 (4%)	8 (3%)	3 (2%)	8 (5%)	6 (6%)	7 (8%)
Ethnicity	Native American	1 (0%)	3 (1%)	3 (2%)	1 (1%)	2 (2%)	3 (3%)
Ethnicity	Pacific Islander	2 (2%)	1 (0%)	0	0	0	0
Ethnicity	Other Non White	5 (2%)	3 (1%)	1 (1%)	7 (4%)	1 (1%)	3 (3%)
Ethnicity	Unknown	19 (7%)	14 (6%)	10 (6%)	7 (4%)	8 (9%)	6 (7%)
ED Goal	AA or AS Degree	41 (15%)	22 (9%)	16 (10%)	14 (9%)	5 (5%)	8 (9%)
ED Goal	Degree & Transfer	77 (28%)	70 (28%)	74 (45%)	71 (45%)	36 (39%)	33 (37%)
ED Goal	Transfer No Deg	39 (14%)	47 (19%)	36 (22%)	32 (20%)	22 (24%)	20 (22%)
ED Goal	Certificate	27 (10%)	28 (11%)	11 (7%)	13 (8%)	14 (15%)	16 (18%)
ED Goal	Job Skills	46 (17%)	38 (15%)	11 (7%)	11 (7%)	8 (9%)	11 (12%)
ED Goal	Personal	36 (13%)	33 (13%)	13 (8%)	9 (6%)	4 (4%)	1 (1%)
ED Goal	Unknown	7 (3%)	9 (4%)	2 (1%)	8 (5%)	4 (4%)	1 (1%)