

AGGREGATE EMPLOYER SURVEY DATA REPORT

PROJECT REQUEST

A request was made to Career Services by Associate Vice President for Academic Programs (Cheryl Ney) to create an Aggregate Employer Survey Data Report for the GE Assessment Project and WASC on findings related to the following "targeted" learning outcome areas:

- Communications/Writing
- Life-Long Learning
- Problem Solving
- Diversity

PROJECT RESPONSE

Career Services has completed an Aggregate Employer Survey Data report which has been broken into three sections.

SECTION 1: **College-based Learning Outcome Areas**

Career Services outlined the college-based learning outcome areas for the following colleges and periods. Summary pages identify the learning outcomes and definitions. In addition, those areas related to the "targeted" learning outcomes have been highlighted in red for easier viewing.

A. College of Business (2005-07)

Two-year longitudinal study completed to measure skills and competencies aligned to AACSB accreditation. Twenty-one learning outcome areas were established for this report period.

This included the following targeted learning outcomes: *Communication, Listening, Communication and Solving Problems.*

B. College of Business (2008-09)

A new Employer Survey has been developed, reflecting new skills and competencies aligned to AACSB accreditation. Eleven learning outcome areas were established for this report period which will be implemented during 2008-09. There is not any current data secured at this point. This survey allows employers to assess skill attainment and importance (new development this report period).

This included the following targeted learning outcomes: *Writing, Communication, Life-Long Learning and Diversity.*

C. College of Engineering (2005-06)

Study completed to measure program outcomes aligned to ABET accreditation. ABET measures program outcomes as compared to learning outcomes. Thirteen program outcomes were established this report period. This included the following targeted program outcomes: *Communication (oral & written), Problem Solving, and Life-Long Learning.*

D. College of Engineering (2008-09)

A new Employer Survey has been developed, reflected new program outcomes aligned to ABET accreditation. Fourteen program outcome areas were established this report period which will be implemented during 2008-09. There is not any current data secured at this point. This survey allows employers to assess skill attainment and importance (new development this report period).

This included the following targeted program outcomes: *Communication (oral & written), Problem Solving, Life-Long Learning, and Diversity.*

E. College of Architecture & Environmental Design (2004-05)

Study completed to measure program outcomes aligned to four different accreditation sources (ACSA, CELA, ACSP, ASCM). Thirteen learning outcomes were established this report period for ARCE, ARCH, CRP and LA. CM added five additional learning outcomes. This survey allowed employers to assess skill attainment and importance. Importance factor was a new development and will be used in the future for other college-based employer surveying. This provides the college with employer feedback on how important each outcome is from an industry perspective.

This included the following targeted learning outcomes: *Oral Communication, Written Communication, Problem Solving Skills and Life-Long Learning (CM only).*

F. College of Education (2004-05)

Study completed to measure learning outcomes certified by the California Commission on Teacher Credentialing. Six learning outcomes were established for the single and multiple subject programs.

This included the following targeted learning outcomes: *Communication and Instructions Needs (diversity).*

SECTION 2: Targeted Learning Outcome Areas

Career Services created a summary of the targeted learning outcomes by college and period. This report format allows for easier review and comparison of learning outcomes and definitions between colleges.

In earlier surveys, each college established their own learning outcomes therefore you will not see any consistency among learning outcomes between colleges. As assessment became a greater part of the culture at Cal Poly, information been shared between colleges. As a result, Career Services has been able to apply new developments or strategies to other college surveys.

For instance, the CAED incorporate assessing the importance employers place on the learning outcomes. This provided the college with direct employer feedback on what is valued from an industry perspective. This new development has been applied to new surveys with the colleges of business and engineering.

Another instance is centered on the topic of diversity which is becoming important as we live in a global market. This is not only important to the accreditation sources, but supports institutional initiatives at Cal Poly. New surveys have all incorporated a series of questions on diversity so that results can be shared across colleges.

SECTION 3: Aggregate Employer Survey Data Analysis

Career Services completed an analysis of the aggregate employer survey data for the colleges of Business, Engineering, Architecture & Environmental Design and Education. All surveys were constructed using a five-point scale with five being the highest score. The chart is broken into two sets. The first set show the actual scale score averages for each of the learning outcomes. The second set show where the scores fell among the range of learning outcomes. For example, there are a total of fifteen learning outcomes on the survey. Communication scored a 4.05 scale score average, but placed tenth among the overall learning outcomes. Both the score and range can be analyzed.

In reviewing the data across colleges, there were two general observations:

1. Scale score averages were beyond the mid-range for all learning outcome areas.
2. Cal Poly graduates did better in the areas of problem solving as compared to communication, diversity and life-long learning.

SECTION 1
COLLEGE-BASED LEARNING OUTCOMES

COLLEGE OF BUSINESS 2005-07

LEARNING OUTCOMES

Theoretical Concepts	Skilled at appropriate applications of theoretical concepts specific to student's discipline
Inquiry	Capabilities for inquiry
Logical Thinking	Capabilities for abstract logical thinking
Reasoning	Capabilities for inductive and deductive reasoning
Critical Analysis	Capabilities for critical analysis
Solving Problems	Exercise judgment by identifying and solving unstructured problems in unfamiliar settings
Influence	Work well with others, particularly in groups, to influence them
Lead	Work well with others to lead them; to organize and delegate tasks
Motivate	Work well with others to motivate and develop them
Resolve Conflict	Work well with others to withstand and resolve conflict
Awareness	Demonstrate awareness of and a greater willingness to consider a wide range of ideas, attitudes, and behaviors different from their own regarding social, ethnic/racial, and gender/sexual diversity
Communication	Present, discuss, and defend views effectively through formal and informal written and spoken language
Listening	Listen effectively
Knowledge	Apply knowledge from various functional disciplines and perceived how that knowledge must be integrated in a cross-disciplinary and holistic fashion to reach managerial solutions
Org. Values	Recognize the importance of developing a personal value structure and an understanding and appreciation for organizational values when they might encounter
Ethics	Identify ethical issues and applied a value-based reasoning system to ethical questions
Technology	Recognize current and emerging technologies and their impact on organization and society
Technology Tools	Possess knowledge of the latest information technology tools
Information	Display the ability to locate, obtain, organize, report, and use information from human, print, and electronic sources
Global Development	Display awareness of global developments and impact on industry and organization
External Forces	Display awareness of external forces that impact business

COLLEGE OF BUSINESS 2008-09

LEARNING OUTCOMES

Business Fundamentals	Demonstrate breadth of knowledge and skill in general business fundamentals
Business Discipline	Demonstrate depth of knowledge, skills, and perspectives within their selected, specific business discipline
Ethics	Recognize the ethical dimensions of business decisions
Societal Context	Recognize the wider responsibilities of business organizations for society level context above and beyond firm level profit or loss
Problem Solving	Able to generate innovative solutions to business problems that are supported by appropriate data analysis and evaluation of alternatives
Diversity	Understand diverse perspectives and generate solutions that incorporate them
Writing	Demonstrate effective writing skills
Communication	Demonstrate effective speaking skills
Leadership	Demonstrate effective peer leadership
Team Work	Demonstrate effective participation in teams
Life-Long Learning	Engage in continuous education and keep current within the field

COLLEGE OF ENGINEERING 2005-06

LEARNING OUTCOMES

Knowledge	Ability to apply knowledge of mathematics, science and engineering
Technical Practice	Ability to design and conduct experiments
Design	Ability to design a system component or process subject to constraints (economic, environmental, social, political, ethical, health and safety, manufacturability, or sustainability)
Performance	Professional ability to analyze and interpret data to meet all requirements as an engineer
Tools	Ability to use techniques, skills and modern engineering tools
Team Work	Ability to function on multi-disciplinary teams
Problem Solving	Ability to solve engineering problems
Communication	Ability to communicate (orally) effectively
Communication	Ability to communicate (written) effectively
Ethical Behavior	Demonstrates ethical responsibility
Global/Societal Context	Accountable for the impact of engineering solutions in global, economic, environmental, and societal context
Life-Long Learning	Engages in continuous education and keeps current within the field
Contemporary Issues	Integrates awareness of current issues in implementing engineering solutions

COLLEGE OF ENGINEERING 2008-09

PROGRAM OUTCOMES

Knowledge	Ability to apply knowledge of mathematics, science and engineering
Technical Practice	Ability to design and conduct experiments
Technical Practice	Ability to analyze and interpret data
Design	Ability to design a system component or process subject to constraints (e.g. economic, environmental, social, political, ethical, health and safety, manufacturability, or sustainability)
Multi-Discp Teams	Ability to function on multi-disciplinary teams
Problem Solving	Ability to identify, formulate, and solve engineering problems
Ethical Behavior	Demonstrates professional and ethical responsibility
Communication	Ability to communicate (orally) effectively
Communication	Ability to communicate (written) effectively
Global/Societal Context	Accountable for the impact of engineering solutions in global, economic, environmental, and societal context
Life-Long Learning	Engages in continuous education and keeps current within the field
Contemporary Issues	Integrates awareness of current issues in implementing engineering solutions
Tools	Ability to use techniques, skills and modern engineering tools
Diversity	Understand diverse perspectives and generate solutions that incorporate them

COLLEGE OF ARCHITECTURE & ENVIRONMENTAL DESIGN 2004-05

LEARNING OUTCOMES

Graphic Skills	CAED graduates are able to employ appropriate representational media for their discipline, including freehand sketching and drafting, to convey concepts and essential formal elements at each stage of the programming, planning, design or construction process.
Computer Skills	CAED graduates are able to employ appropriate computer based representational media and software programs to analyze and/or convey written, 2-D and 3-D digital modeling, financial, business or other information expected of their profession.
Oral Communication	CAED graduates are able to speak effectively on subject matter and in presentation situations expected of their profession.
Written Communication	CAED graduates are able to write effectively on subject matter and in report situations expected of their profession.
Problem Solving Skills	CAED graduates are able to employ basic methods of problem identification, data collection, analysis, and articulation of conclusions and recommendations as required by their profession.
Critical Thinking Skills	CAED graduates are able to make a comprehensive analysis and evaluation of an existing or proposed urban plan, building, landscape, or other physical improvement and convey a supported judgment or opinion about the physical, environmental, financial, social, or aesthetic qualities and impacts, as appropriate to their profession.
Leadership Skills	CAED graduates are able to assume project management responsibilities when expected (e.g. coordinating communications among parties, managing personnel and budgets, controlling schedules and administering contractual agreements).
Collaborative Skills	CAED graduates are able to interact effectively with other professionals when working as members of a professional team.
Systems Coordination	CAED graduates are able to coordinate and integrate architectural systems with structural systems and mechanical, electrical, and plumbing systems, at the design, construction document, and construction phases of a project, as expected of their profession.
Design Knowledge	CAED graduates are able to understand and apply basic organizational, spatial, structural, and constructional principles related to building and landscape elements, as expected of their profession.
Detail Knowledge	CAED graduates are able to provide and interpret details and specifications related to the planning, design, or construction of buildings, landscapes, or infrastructure, as expected of their profession, and are familiar with appropriate building and landscape materials, systems, and construction techniques.
Public/Stakeholder Rep	CAED graduates are effective in making client, stakeholder group, and public presentations.
Professional Foundation	CAED graduates are knowledgeable of the general principles, history, achievements, and responsibilities of their profession, and are familiar with significant projects and role models that are part of the common knowledge base of their field.

Note: The Construction Management Department added the following learning objectives to their Employer Survey.

- Interdisciplinary Awareness** CAED graduates are aware of the interdisciplinary nature of the design and construction industry and understand and appreciate the various discipline roles required to plan, design, construct, and maintain projects in the built environment.
- Professional Behavior** CAED graduates understand the professional standards set forth within their respective discipline areas and demonstrate professional behavior within the context of their position.
- Ethical Standards** CAED graduates understand and exhibit the ethical standards expected of their profession.
- Life Long Learning & Service** CAED graduates possess an eagerness to learn and a propensity for life long learning, growth, and service to the industry and community at large.
- Faculty Engagement** CAED faculty and administration maintain a close working relationship with our firm by participating in field trips and site visits, inviting company representatives to participate in their classrooms by conducting guest lectures, workshops, or crits and by providing active support for our recruiting efforts.

COLLEGE OF EDUCATION 2004-05

LEARNING OUTCOMES

	MULTIPLE & SINGLE SUBJECT PROGRAMS
Subject Area	Prepare to teach the subject area(s) for which they are responsible
Lesson Plans	Prepare and teach lesson that influence student learning in a positive way
Instructional Needs	Meet the instructional needs of all students, including those who are culturally and linguistically diverse and with special needs
Manage	Manage a class and student behavior effectively
Technology	Use appropriate technology in their instruction
Communication	Communicate effectively with parents or guardians of students
	ADMINISTRATIVE SERVICES PROGRAM
Collaborate	Collaborate with stakeholders on a vision and plans to promote a positive school climate and student learning
Decision-Making	Use of various types of data for decision-making and assessment directed at school improvement
Team Work	Work with teachers and other staff to identify their needs for professional development focused on improving student outcomes
Technology	Encourage and support the use of technology for instruction and learning
	COUNSELING & GUIDANCE PROGRAM
Knowledge	Know and follow state/national standards, professional code of ethics and legal mandates
Understanding	Understand student learning and development, and multiple factors influencing these areas
Consultation	Consult where appropriate, to optimize student achievement and student success
Collaboration	Work collaboratively to offer and assess a comprehensive school counseling program
	SPECIAL EDUCATION PROGRAM
Referral	Use various screening instruments and data collection methods in the referral process
Long-Range Planning	Engage in long-range planning based on established Individualized Education Plans
Supervision	Supervise paraprofessionals in the delivery of education programs
Team Work	Work with teachers on instruction for students with disabilities in regular classrooms

SECTION 2

TARGETED LEARNING OUTCOME AREAS

College of Business – 2005-07		
<i>Category</i>	<i>Learning Outcomes</i>	<i>Definition</i>
Communication	Communication	Present, discuss, and define views effectively through formal and informal written and spoken language
	Listening	Listen effectively
Problem Solving	Solve Problems	Exercise judgment by identifying and solving unstructured problems in unfamiliar settings
Life-Long Learning	Life-Long Learning	None
Diversity	Diversity	None
College of Business - 2008		
<i>Category</i>	<i>Learning Outcomes</i>	<i>Definition</i>
Communication	Communication	Demonstrate effective speaking skills
	Writing	Demonstrate effective writing skills
Problem Solving	Problem Solving	Able to generate innovative solutions to business problems that are supported by appropriate data analysis and evaluation of alternatives Life-Long Learning – Engage in continuous education and keep current within the field
Life-Long Learning	Life Long Learning	Engage in continuous education and keeps current within the field
Diversity	Diversity	Understand diverse perspectives and generate solutions that incorporate them

College of Engineering – 2005-06		
<i>Category</i>	<i>Program Outcomes</i>	<i>Definition</i>
Communication	Communication	Ability to communicate (orally) effectively
	Communication	Ability to communicate (written) effectively
Problem Solving	Problem Solving	Ability to solve engineering problems
Life-Long Learning	Life-Long Learning	Engages in continuous education and keeps current within the field
Diversity	Diversity	None
College of Engineering - 2008		
<i>Category</i>	<i>Program Outcomes</i>	<i>Definition</i>
Communication	Communication	Ability to communicate (orally) effectively
	Communication	Ability to communicate (written) effectively
Problem Solving	Problem Solving	Ability to identify, formulate, and solve engineering problems
Life-Long Learning	Life Long Learning	Engage in continuous education and keeps current within the field
Diversity	Diversity	Understand diverse perspectives and generate solutions that incorporate them

College of Architecture & Environmental Design – 2004-05		
<i>Category</i>	<i>Program Outcomes</i>	<i>Definition</i>
Communication	Oral Communication	Speak effectively on subject matter and in presentation situations expected of their profession
	Written Communication	Write effectively on subject matter and in report situations expected of their profession
Problem Solving	Problem Solving	Employ basic methods of problem identification, data collection, analysis, and articulation of conclusions and recommendations as required by their profession
Life-Long Learning	Life-Long Learning (CM Department only)	Possess an eagerness to learn and a propensity for life long learning, growth and service to the industry and community at large
Diversity	Diversity	None

College of Education – 2003-04		
<i>Category</i>	<i>Learning Outcomes</i>	<i>Definition</i>
Communication	Communication	Able to communicate effectively with parents or guardians of students
Problem Solving	Problem Solving	None
Life-Long Learning	Life-Long Learning	None
Diversity	Need	Able to meet the instructional needs of students from diverse cultural backgrounds

College of Education – 2004-05		
<i>Category</i>	<i>Learning Outcomes</i>	<i>Definition</i>
Communication	Communication	Able to communicate effectively with parents or guardians of students
Problem Solving	Problem Solving	None
Life-Long Learning	Life-Long Learning	None
Diversity	Instructional Needs	Meet the instructional needs of all students, including those who are culturally and linguistically diverse and with special needs