CETYS UNIVERSIDAD

WASC Accreditation
Educational Effectiveness Review

**Bachelor's in Digital Graphic Design Engineering.
The program is currently offered in the following Campi:
Mexicali and Tijuana.**

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1. **Introduction.**

The Mission of the Bachelor's in Digital Graphic Design Engineering Program is to generate highly qualified professionals with profound knowledge of select fundamentals of graphic design and digital technology for production, as well as mastery of creative design methodologies for the development of a successful life as a professional in the graphic design industry focused on communications, either as an employee or independent.

The Vision of the Bachelor's in Digital Graphic Design Engineering Program is be the primary source in the region for professionals for the graphic design industry, focusing on the required abilities for creative design supported by digital technology.

The Bachelor's in Digital Graphic Design Engineering Program was launched in the Tijuana Campus in 1996 and in the Mexicali Campus is planned to begin on summer 2008. Since 1996, it has undergone 3 major reviews, the last one being in 2007. The alumni for this program is around 115, all from Tijuana Campus.

Some significant achievements relating to the Bachelor's in Digital Graphic Design Engineering Program are that the program is a pioneer in combining the elements of classic graphic design with digital technology for production, and its graduates have been key elements in supporting the development of the graphic design industry in the region, primarily in the creation of animation for marketing and for the educational sector.

2. Denomination and description of the academic program.

The Bachelor's in Digital Graphic Design Engineering Program is focused on the following Primary Areas of Knowledge, also called Professional Formation Lines:

a) Multimedia Systems.
b) Animation and Video Production.
c) Graphic Design Methodologies

To obtain the degree, a student must complete the following requirements:
- Accreditation of 42 courses (totaling 328 credits).
- Completing 400 hours of professional practice.
- Completing 500 hours of social service.
- Completing any of the degree obtainment requirements established by CETYS University.

The program has chairs by campus, who are full time faculty that are in charge of the program, and are involved in enrollment and promotional activities, student guidance and alumni follow up, program review, accreditation projects, etc. There are currently chairs in the Tijuana Campus and Mexicali Campus, and none in the Ensenada Campus because the program is not offered there. The chairs are:

- B.E. Miriam Bautista – Tijuana Campu.
- M.S. Dania Licea – Mexicali Campus

The Faculty that are associated with the program, and who are members of the Academy of Digital Graphic Design Engineering are:

- B.E. Miriam Bautista – Tijuana Campus
- B.E. Alejandro Paz – Tijuana Campus
- B.E. Rosa María Sánchez – Tijuana Campus
- B.E. Marco A. Martínez – Tijuana Campus
- M.S. Dania Licea – Mexicali Campus

The students of the program are full time, with an even distribution between male and female students, and most of the students receive some sort of financial aid, the primary one being the Pro-Engineering scholarship.

The program currently has the following laboratories by campus:

- Tijuana: Digital Art, Networks and Operating Systems.
- Mexicali: Digital Art, Networks and Operating Systems.

Student population - Tijuana			
Semesters	Male	Female	Total
1 and 2	18	23	41
3 and 4	19	20	39
5 and 6	20	15	35
7 and 8	23	19	42
Total	80	77	157
Percentage	50.9%	49.1	100%

August – December 2007 (SIA-CETYS)

3. Educational Objectives of the academic program.

The Educational Objectives that the Academy of Digital Graphic Design Engineering have established for the Bachelor's in Digital Graphic Design Engineering are the following:

- The alumni from this program will be able to participle in important manner in projects related with graphical design using digital technology.
- The alumni from this program will be able to pursue graduate studies with success.
- The alumni from this program will be able to find a professional job within 6 months after graduation.
- The graduate from this program will be able to start his/her own business.
- The graduate from this program will be able to fill middle or top manager positions with in 3 years after graduation.

These Educational Objectives will be the primary focus for alumni studies and follow up, which will be used for various purposes during the assessment cycle, as well as program review.

4. Learning outcomes of the program and metrics for assessment.

There are 5 Learning Outcomes for all Engineering Bachelor's Programs that have been established by the Academies of the Engineering College, that describe knowledge, abilities and attitudes that every engineering student must achieve by the end of the academic program. These are:

The student of a CETYS University Bachelor's in Engineering Program will…
- SLO_ENG1: …correctly apply to engineering, the tools provided by the basic sciences, such as physics, calculus, probability, statistics and programming to the solution of diverse problems.
- SLO_ENG2: …design analytic and functional models, quantitatively and qualitatively, for the analysis and improvement of systems for diverse applications.
- SLO_ENG3: … effectively use software tools and technologies to build solutions to engineering problems.
- SLO_ENG4: … effectively design and manage projects.
- SLO_ENG5: … (Clear and effective communication in English) … be able to express his ideas clearly and with an appropriate language, in a verbal, written, and visual way in English.

The Learning Outcomes that the Academy of Digital Graphic Design Engineering have established for the Bachelor's in Digital Graphic Design Engineering are:

The student of the Bachelor's in Digital Graphic Design Engineering program will…
- SLO_IDGD1: … generate graphic solutions for the development of a global image, directed towards a social or productive sector, based upon design methodologies, using current digital technologies as the primary tool.
- SLO_IDGD2: … develop web sites that integrate the structure and functional graphic design, database management, e-commerce and multimedia elements.
- SLO_IDGD3: … develop 2D and 3D animations, as well as digital production of short-films with visual effects for TV, movies and interactive media.

The above student learning outcomes are a work in progress and are a part of the assessment cycle and program review, however we are just beginning to understand and develop tools to measure them.

#	Student Learning Outcomes	Metrics to evaluate student performance	Evidence of achieved learning
1	SLO_ENG1	Currently the system that is in place to evaluate student performance is a scale of 0 to 100, where a grade above 70 is considered as "passing" and below as "failing". Rubrics for the Engineer College are being developed to evaluate these learning outcomes. The rubrics are being developed by the Academy of Basic Sciences in conjunction with the other Academies of the Engineering College.	Student Work and Final Projects from selected courses (i.e. Physics II and III, Statistical Inference, Programming Methods II, Numerical Methods). EGEL Examination (Basic Sciences areas).
2	SLO_ENG2		
3	SLO_ENG3		
4	SLO_ENG4		
5	SLO_ENG5	This learning outcome is measured by the English Language Center (ELC) using appropriate performance standards for the study of ESL.	Student work follow up administrated by ELC.
6	SLO_IDGD1	Currently the system that is in place to evaluate student performance is a scale of 0 to 100, where a grade above 70 is considered as "passing" and below as "failing". Rubrics to evaluate these learning outcomes are being developed by the Academy of Digital Graphic Design Engineering.	Student Work and Final Projects. EGEL Examination (Professional areas).
7	SLO_IDGD2		
8	SLO_IDGD3		

The Academy of Digital Graphic Design Engineering has the following members:

Name of the Academy or Faculty Coop: Academy of Digital Graphic Design Engineering.				
#	Name	Degree	Area of knowledge	Campus
1	Miriam Bautista	Bachelor's in Engineering	Digital Graphic Design	Tijuana
2	Alejandro Paz	Bachelor's in Engineering	Digital Graphic Design	Tijuana
3	Rosa María Sánchez	Bachelor's in Engineering	Digital Graphic Design	Tijuana
4	Marco A. Martínez	Bachelor's in Engineering	Digital Graphic Design	Tijuana
5	Dania Licea	Master's in Science	Computer Graphics and Database	Mexicali

5. Curriculum and faculty resources.

Bachelor's in Digital Graphic Design Engineering											
Semester	1	2	3	4	5	6	7	8	Full time faculty		
									Name	Degree	Area
Fundamentals for Bachelor's in Engineering	MA400	MA410	MA411		MA413				Alfredo Rodriguez David Sánchez Salvador Baltazar Susana Dominguez Jesús Sánchez Isaac Azuz	M.A. B.E. M.S. M.S. B.E. Dr.	Math, Stat Math, Phis Mah, Phis Math, Phis Math Math, Stat
	CC400	CC402									
	MC400			FI403							
Professional Formation in Digital Graphic Design Engineering	DG400	DG431	CC416	DG411	DG435	SI403	DG418	DG420	Miriam Bautista	B.E	Digital Graphic Design
		DG432	DG433	CC421	DG436	DG437	DG438	CE417	Alejandro Paz	B.A.	Graphic Design
			CC417	DG434	CC404	MK400	CC406	DG439	Rosa María Sánchez	B.A.	Graphic Design
				CC403			DG419	DG440	Marco A. Martínez	B.E	Digital Graphic Design
									Dania Licea	M.S	Comp. Graphics and Database
General and signature courses	CS401	CS400	ID400		EC400	CS402	HU401	HU402	Professors from Social Science Department.		
		CS403	CS404			HU400					

Legend for courses:

CODE	COURSE
DG400	Introduction to digital graphical design
CC400	Programming Methods I
MA400	Mathematics
MC400	Computer Aided Drawing
CC402	Programming Methods II
MA410	Selected Subjects of Math I
DG431	Contemporaneous Styles
DG432	Natural drawing
MA411	Selected Subjects of Math I
CC416	Multimedia Programming
DG433	Visual Composition
CC417	Ilustration and Animation for 2D
DG441	Design Methodology
FI403	Conceptual Phisics
CC421	Computer Graphics
DG434	General Typography

CODE	COURSE
CC403	Computationals Systems and Components
DG435	Global Image Manual
DG436	Digital Photography
CC404	Data Structures
MA413	Probability and Statistics
SI403	Databases
DG437	Design for Electronics Media
MK400	Administración de mercadotecnia
DG418	Video Production
DG438	Digital Modeling
CC406	Operating Systems
DG419	Multimedia
DG420	Animation for 3D
CE417	Networks and data transmision
DG439	Electronics Commerce
DG440	Strategic Business Devolpment

6. Curricular mapping.

CODE	COURSE	SEMESTER	SLO_ENG1 LEVEL	SLO_ENG2 LEVEL	SLO_ENG3 LEVEL	SLO_ENG4 LEVEL	SLO_IDGD1 LEVEL	SLO_IDGD2 LEVEL	SLO_IDGD3 LEVEL
			ENGINEERING BACHELOR'S PROGRAMS STUDENT LEARNING OUTCOMES				BACHELOR'S IN DIGITAL GRAPHIC DESIGN ENGINEERING STUDENT LEARNING OUTCOMES		
DG400	Introduction to digital graphical design	1					SU	SU	SU
CC400	Programming Methods I	1	SU		SU			SU	SU
MA400	Mathematics	1	SU	SU				SU	SU
MC400	Computer Aided Drawing	1		SU	SU				SU
CC402	Programming Methods II	2	SU	SU	SU			ME	SU
MA410	Selected Subjects of Math I	2	SU	SU				SU	SU
DG431	Contemporaneous Styles	2					SU		
DG432	Natural drawing	2					SU		SU
MA411	Selected Subjects of Math I	3	SU	SU				SU	SU
CC416	Multimedia Programming	3			ME			ME	ME
DG433	Visual Composition	3					ME	ME	SU
CC417	Ilustration and Animation for 2D	3		SU	ME	SU		ME	SO
DG441	Design Methodology	4			SU	SO		ME	
FI403	Conceptual Phisics	4	SU	SU					ME
CC421	Computer Graphics	4		ME	ME			SO	SO
DG434	General Typography	4					ME	SU	
CC403	Computationals Systems and Components	4			ME			SU	SU
DG435	Global Image Manual	5					SO		
DG436	Digital Photography	5						SU	SU
CC404	Data Structures	5		ME	ME			SU	ME
MA413	Probability and Statistics	5	SU	SU					SU
SI403	Databases	6		ME	ME			ME	
DG437	Design for Electronics Media	6		ME	ME			SO	SU
MK400	Administración de mercadotecnia	6				ME	SO	ME	SU
DG418	Video Production	7			ME				SO
DG438	Digital Modeling	7		SO	SO				SO
CC406	Operating Systems	7			SU			ME	SU
DG419	Multimedia	7			SO			SO	SO
DG420	Animation for 3D	8		SO	SO			SU	SO
CE417	Networks and data transmision	8			SU			SO	SU
DG439	Electronics Commerce	8			SO	ME		SO	
DG440	Strategic Business Devolpment	8				SO		SU	
CO-CORRICULAR ELEMENTS		SEMESTERS	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL
CETYS University College of Engineering Projects Expos in each Campus		2,4,6,8	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO
CETYS University College of Enginerring Simposiums in each Campus		1,3,5,7	SU	SU	SU	SU, ME, SO	SU	SU	SU
Scholarships awarded by external institutions		1,2,3,4,5,6,7,8	SU	SU	SU	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO
External engineering competitions		1,2,3,4,5,6,7,8	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO
Professional Practice		6,7,8	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	ME, SO	ME, SO	ME, SO
Social Sevice		6,7,8	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	ME, SO	ME, SO	ME, SO
Student Exchange		6,7,8	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	ME, SO	ME, SO	ME, SO
CENEVAL EGEL Examination		8	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	ME, SO	ME, SO	ME, SO

Legend for levels used for curricular mapping:
SU ("*SUFICIENTE*") = SUFFICIENT.
ME ("*MEJORABLE*") = IMPROVABLE.
SO ("*SOBRASALIENTE*") = OUTSTANDING.
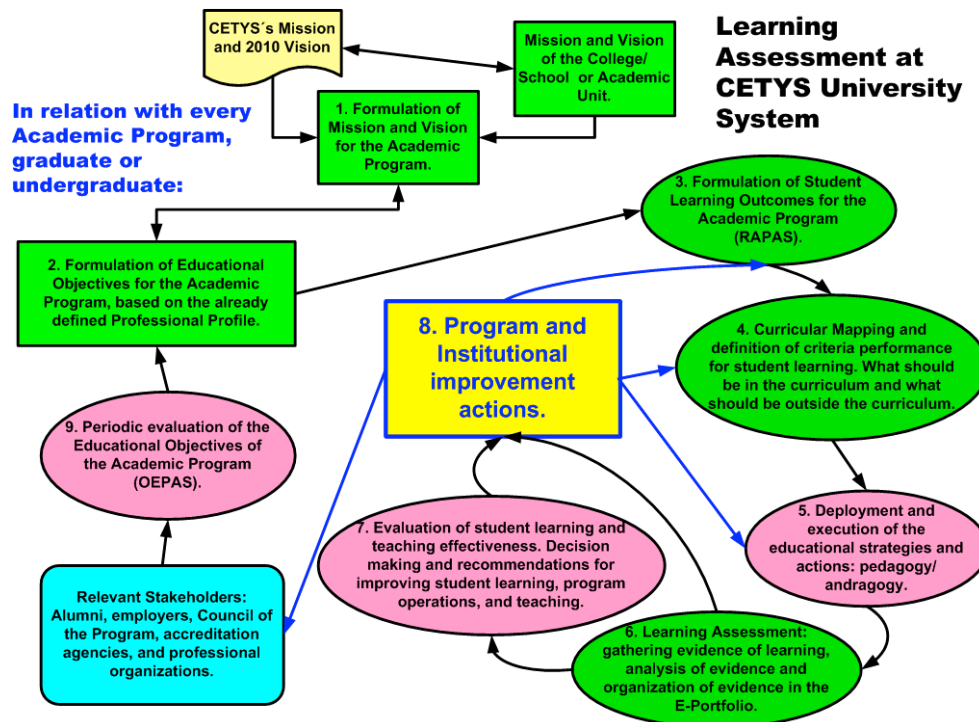
Legend for Student Learning Outcomes:

Engineering Bachelor's Programs.	Bachelor's in Digital Graphic Design Engineering
The student of a CETYS University Bachelor's in Engineering Program will…	The student of the Bachelor's in Digital Graphic Design Engineering program will…
SLO_ENG1: …correctly apply to engineering, the tools provided by the basic sciences, such as physics, calculus, probability, statistics and programming to the solution of diverse problems.	**SLO_IDGD1**: … generate graphic solutions for the development of a global image, directed towards a social or productive sector, based upon design methodologies, using current digital technologies as the primary tool.
SLO_ENG2: …design analytic and functional models, quantitatively and qualitatively, for the analysis and improvement of systems for diverse applications.	**SLO_IDGD2**: … develop web sites that integrate the structure and functional graphic design, database management, e-commerce and multimedia elements.
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SLO_ENG4: … effectively design and manage projects.	

SLO_ENG5: … (Clear and effective communication in English) … be able to express his ideas clearly and with an appropriate language, in a verbal, written, and visual way in English.

This learning outcome is developed primarily via the co-curricular ESL program that all students must go through, and which is managed by the English Language Center. Some curricular courses contribute to the improvement of this learning outcome, like Advance Communication in English and selected courses from 5th semester onward.

7. Assessment plan.

Based on the Assessment Plan for CETYS University System:

Currently, the following actions have been done, with regards to the Bachelor's in Digital Graphic Design Engineering Program, with the participation of faculty members from the Academy of Digital Graphic Design Engineering:

1) Formulation of the Mission and Vision.
2) Formulation of the Educational Objectives.
3) Formulation of Student Learning Outcomes.
4) Curricular Mapping.

The assessment components that are currently in the process of being defined, but have not yet been developed and therefore have not been implemented are:

a) Definition of assessment tools for student learning to be used in the assessment of the Student Learning Outcomes.
b) Identification of key courses where evidence of student learning can be gathered.
c) Systematic gathering of evidence of learning and the analysis and organization of the evidence.